



# **GOA STATE POLLUTION CONTROL BOARD**

**ANNUAL REPORT  
2020-21**





Never doubt that  
a small group of  
thoughtful, committed  
citizens can change  
the world



**It's not yours,  
not mine,  
It's Ours.  
So, Protect your  
mother who,  
nourish you**









# GOA STATE POLLUTION CONTROL BOARD गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015. ISO 45001:2018 Certified Board)

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Shri. Ganesh Shetgaonkar  
Chairman



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## CHAIRMAN'S MESSAGE

Since its foundation in 1988, the GOA STATE POLLUTION CONTROL BOARD (GSPCB) has strived to achieve a harmony between development and environmental concerns under the Air (*Prevention & Control of Pollution*) Act, 1981, Water (*Prevention & Control of Pollution*) Act, 1986 as amended and their related Rules frames thereafter. The year under review was marked by considerable improvement in the fact that major decisions were taken to encourage the use of greener technology and eco-friendly processes coupled with environmental audit schemes that is being pursued for industries. This will help improve preservation, protection of the environment and promote sustainable development in the State of Goa.

The Board has started working in its own Green building well equipped with State of Art Laboratory maintaining all its Quality System Accreditations like ISO-9001:2015 (Quality Management Systems), ISO-14001:2015 (Environment Management Systems) and ISO-45001:2018 (Occupational Health and Safety Assessment Standards) and certificate from MOEF&CC has provided a more constructive path forward.

In order to maintain the clean and fresh air and water in the state of Goa, Board monitors quality of Air through its NAMP (National Air Monitoring Programme) at 18 stations in the State Goa along with the use of two Mobile van monitoring the air quality as and when required. Board also monitors the water quality through its NWMP (National Water Monitoring Programme) at 64 locations in the State of Goa. All the water samples drawn under this programme are analysed in its state of Art Laboratory in the new premises which is NABL accredited. During the year, Board laboratory has collected and analysed 674 no. of water samples and 10513 no. of Air Samples.



The Goa State Pollution Control Board aims to develop all-round capabilities of the Boards employee's in the field of pollution prevention and control, Board imparted knowledge based trainings through virtual mode due to Pandemic to its Officers and staff through CPCB and other National as well as International Organizations as a continual improvement. Board's staff were also awarded with Promotions and lifting their pending Probation period for long time. Board has given its full out-put during the Pandemic period by following all the Guidelines issued by Directorate of Health and keeping the social distancing in working area.

I also take this opportunity to extend my sincere appreciation to the Board staff and the entire people of Goa for sharing in our endeavors of maintaining the clean and fresh air and water of Goa in our march towards the future. Rest assured, the Board will continuously seek and strive to improve and maintain the quality of the environment and society at large.

On behalf of Goa State Pollution Control Board, it is my pleasure in sharing the performance of the Board through this Annual Report for the year 2020-21.

  
(Ganesh B Shetgaonkar)  
CHAIRMAN

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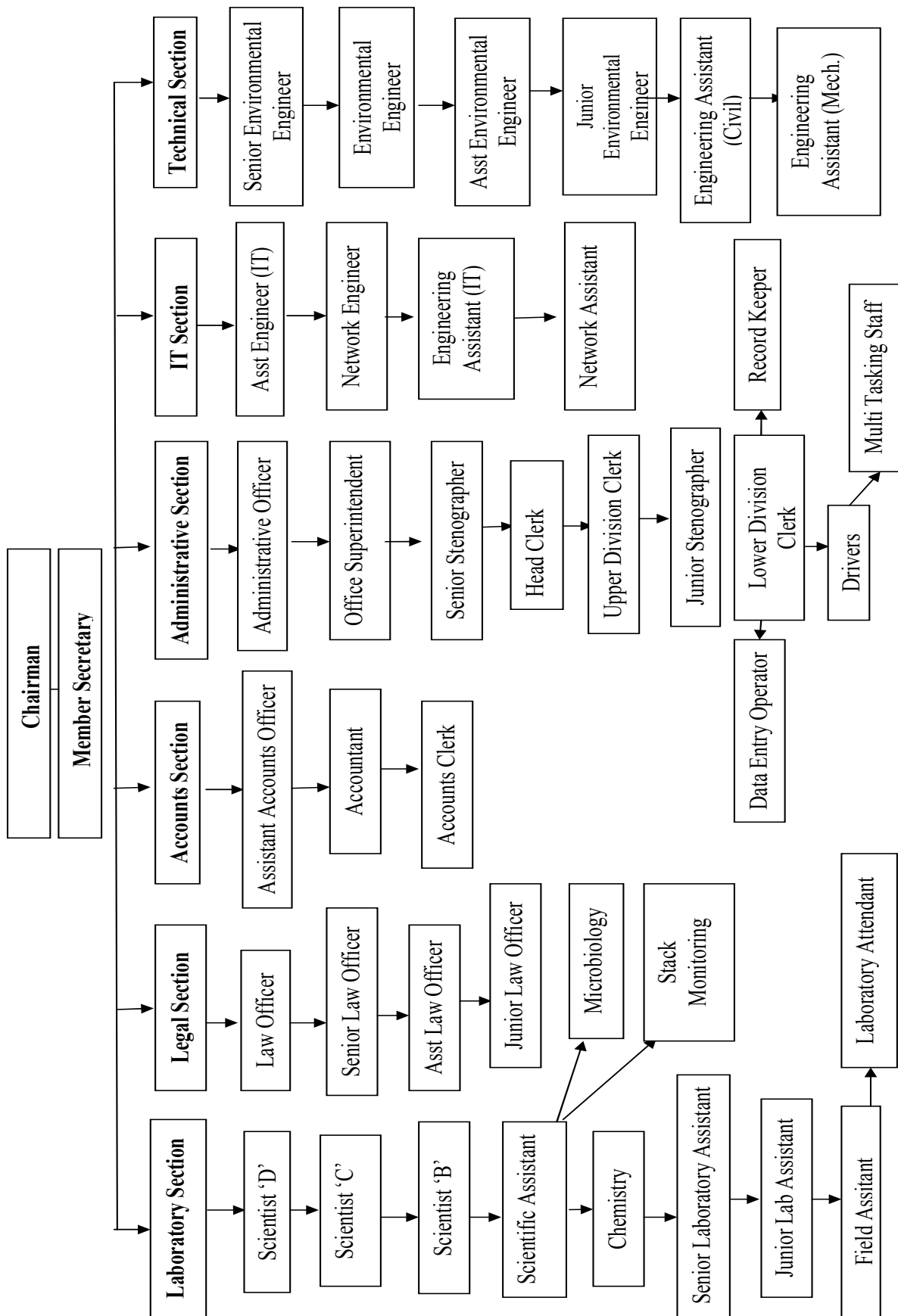
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# ORGANISATIONAL CHART OF THE GOA STATE POLLUTION CONTROL BOARD







## CHAPTER 1

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### INTRODUCTION

#### 1.1 GENERAL INTRODUCTION

The Goa State Pollution Control Board (GSPCB) is an autonomous statutory organization constituted on 1st July, 1988 under the Water (Prevention & Control of Pollution) Act, 1974. Prior to that, when Goa formed part of the erstwhile Union Territory of Goa, Daman and Diu, the Central Board for the Prevention and Control of Water Pollution was performing the functions of the State Board in Goa. The Central Pollution Control Board (CPCB) at Ponda-Goa had established a Section Office for the purpose. The same arrangement continued till the constitution of the State Board. In the meanwhile, the Section Office was re-constituted as West Zonal Office and shifted to Baroda on 4th April, 1988. All the relevant records pertaining to Goa were transferred to the Goa State Pollution Control Board on 12th September, 1988.

The GSPCB, after its constitution, established its office in the Goa Medical College (GMC) Complex at Bambolim. In June 1991, the Government of Goa allotted independent premises for the Board at Patto- Panaji, where the Board shifted its office at House no. 243, Patto, Panaji in September 1991.

On 15th August, 2002 the Board acquired a new premises on the 1st floor in Dempo Tower at Patto Plaza, Panaji and shifted its full set-up to this new premise. The office as well as the laboratory was operating from here. Subsequently, on 15th August, 2005, additional premises measuring 311.86 Sq. mt. was acquired on the 4th floor of the same building which was dedicated to the Board Laboratory.

The Board has shifted its Administrative, Accounts, Legal, Information and Technology, Scientific and Technical section to the new Board premises located at Saligao, Bardez – Goa on 8th August, 2018, the laboratory along with analysts was shifted at the new premises in July 2019.

#### 1.2 THE BOARD OFFICE

The GSPCB is presently operating from its own premises in Saligao. The Offices of the Chairman, Member Secretary, Technical section, Legal section, Accounts section, Scientific section, Information and Technology section & Administrative Section are currently operating from the new Premises at Saligao, Bardez - Goa. The Board laboratory and entire Board office is assessed under ISO: 9001, ISO: 14001 and OHSAS: 18001. Additionally, the Board laboratory has obtained accreditations under the Ministry of Environment, Forest and Climate Change (MoEF & CC), and National Accreditation Board for Testing & Calibration Laboratories (NABL). The renewal of the same is under process.

Presently, there are one hundred and nine staff employed in the Board under the various sections.

## 1.3 FUNCTIONS OF THE VARIOUS SECTIONS

### 1.3.1 SCIENTIFIC SECTION

The Board has a full fledged laboratory, operating on the 1st and 2nd floors of the Office Building at Saligao. The laboratory is well equipped with instruments and equipments needed for carrying out analysis of water, air and soil, industrial effluents, rivers, wells, etc., for chemical, physical and bacteriological parameters including trace and toxic metals, pesticides and organic components. The Board laboratory follows the procedures / stipulated, protocol and guidelines in accordance with the MoEF and NABL accreditations. The laboratory has conducted periodical Internal Audits and External Audits of the Board Laboratory processes through NABL approved Auditors. Assessment of the Board laboratory is also conducted every two years under ISO: 17025 and every five years under the MoEF & CC requirement.

The Board has set up 19 Ambient Air Quality (AAQ) and 64 water quality monitoring stations under the Central Pollution Control Board sponsored projects National Air Monitoring Programme (NAMP) and National Water Monitoring Programme (NWMP). Of the 19 AAQ stations, operation of 14 locations are outsourced to MoEF&CC approved laboratories and 5 locations are operated by the GSPCB. The Ambient Air Quality is measured in terms of parameters such as PM10, PM2.5, SO<sub>2</sub>, NO<sub>x</sub>, CO, O<sub>3</sub> and Pb along with meteorological parameters. The Board has two mobile CAAQMS, which are being used for Continuous Ambient Air Quality Monitoring. Also in addition to NAMP conducted at 19 locations, AAQM has been conducted along transportation routes of e-auctioned ores to address complaints regarding dust pollution. Number of stack emission monitoring have also been conducted during the year.

The 64 NWMP stations are all monitored by GSPCB staff. These stations are monitored at defined intervals and the samples collected are analyzed at the Board laboratory for physical, chemical, metals, pesticides and microbiological parameters. During the year under report the Board laboratory collected 1766 water samples from various sources such as ETP, STP, mine discharge (settling pond, mining pit, etc.), river water, well water, canal water, etc. and analyzed the same for various parameters i.e pH, Turbidity, Dissolved Solids, Conductivity, Dissolved Oxygen, Nitrate Nitrogen as NO<sub>3</sub>-N, Nitrite Nitrogen as NO<sub>2</sub>-N, Nitrate as NO<sub>3</sub>, Nitrite as NO<sub>2</sub>, Chloride as Cl, Sulphate as SO<sub>4</sub><sup>2-</sup>, Hardness as CaCO<sub>3</sub>, Calcium as Ca, Magnesium as Mg, Suspended Solids, Oil & Grease, Chemical Oxygen Demand, Biochemical Oxygen Demand, Phosphate, Ammonical nitrogen, Acidity, Alkalinity, Fluoride, Boron (B), Chromium (Cr) Hexavalent, Potassium (K), Sodium (Na), Total Organic Carbon (TOC), Phenolphthalein Alkalinity, Total Fixed Solids, Cadmium as Cd, Copper as Cu, Nickel as Ni, Chromium as Cr, Zinc as Zn, Cobalt as Co, Lead as Pb, Iron as Fe, Manganese as Mn, Arsenic as As, Total Coliform, Fecal Coliform, E. Coli, Total plate count, Organo Chlorine Pesticides (OCPS) (Aldrin, Dieldrin, Heptachlor, Hexachlorobenzene, Methoxychlor, o,p' DDT, p,p' DDT, p,p'-DDE,  $\alpha$ -BHC,  $\beta$ -BHC,  $\gamma$ -BHC), Organo Phosphorous Pesticides (OPPs) (Chlorpyrifos, Profenophos, Malathion, Parathion-methyl).

### 1.3.2 TECHNICAL SECTION

The Technical Section handles the consent management. The industries, hazardous waste handling facilities, health care facilities, municipal solid waste facilities, etc. are inspected and monitored on regular basis. The inspection reports and analysis reports are put up online through Online Consent Management and Monitoring System (OCMMS) software which are scrutinized by the Technical Advisory Committee (TAC) for Red and Orange category of industries and subsequently approved by the Chairman (in case of Red-category of industries) upon which consents under the relevant acts and authorization under relevant rules are issued. Further, as per the decision taken during

the Board, Environmental Engineer – Mr. Sanjeev Joglekar is delegated Authority (DA) for issuance of Orange-category of industrial units, while RO (North) – Mr. Keshav Fadke (Asst. Env. Engr.,) is a DA for Green-category of industrial units located in North Goa district and Mrs. Nandan Prabhudessai (Asst. Env. Engr.,) is a DA for Green-category of industrial units located in South Goa district. During the year under report, 1,357 consents have been granted for operation and establishment of the above facilities under the Water and Air Acts, Hazardous Waste Rules, Bio-Medical Rules, Solid Waste Rules, Construction and Debris Management Rules, E-waste Management Rules, Plastic Waste management Rules and Battery Rules (refer Annexure XVIII).

Besides, periodic inspections to monitor red category industries are also conducted to check the consent compliance by the units. Samples of waste water, ambient air and stack emissions are monitored and analyzed in the Board laboratory.

Additionally, inspections in response to public complaints are also conducted as and when required after initially scrutinizing the complaints through the 'Complaint Committee'. The complaints are monitored by inspection, samples are collected and analysed where required and action deemed fit is initiated if required.

### **1.3.3 LEGAL SECTION**

The Legal section handles all the legal / Court matters related to the functions of the Board. The matters are filed before the Hon'ble Supreme Court, the Hon'ble High Court, the National Green Tribunal (NGT), the Administrative Tribunal the Appellate Authority under the Air Act and the Water Act and other Lower Courts.

The Personal hearings for industries, Public Hearing (in case of industrial sectors mandating environmental clearance – EC) and matters related to Right To Information (RTI) Act are also looked after by this Section.

Complaints are scrutinized and examined by the legal section before initiating action in the matter. Notices/directions/clarifications are issued to the defaulting units under the Environment (Protection) Act, 1986 i.e. Municipal Solid Waste Rules, Hazardous Wastes Rules, Bio-Medical Rules, E-Waste management Rules, Noise Pollution Rules etc. whenever required to seek compliance for the defaultings.

### **1.3.4 ADMINISTRATIVE SECTION**

The Administrative Section deals with all the administrative matters of the Board Preparation of agenda and minutes for the Board meetings and subsequent follow up for the implementation of the decisions taken herein for smooth functioning of the Board.

### **1.3.5 ACCOUNTS SECTION**

The Accounts section of the Board deals with all the accounting and financial matters of the Board such as monitoring of Revenue and Expenditures, preparation of Annual Budget and to advise the Board on financial matters in accordance with the Government Rules and Procedures for smooth functioning.

### **1.3.6. INFORMATION AND TECHNOLOGY**

The Information and Technology section provides service to Industry in Online Registration for obtaining various Consents and Authorizations through Online Portal. The entire Board e-governance activities, support for Hardware and Software Infrastructure and troubleshooting are managed and executed successfully by IT Department. The implementation of Office Automation System by SAP Enterprise Resource Planning for the paperless office is achieved by the Board.

### **1.3.7 OTHER FACILITIES**

#### **1.3.7.1 LIBRARY FACILITIES**

The Board has a spacious library of its own on the 3rd Floor. It has varied publications from different departments/institutions, such as MOEF, CPCB, other State Boards' Annual Reports, etc. Scientific, Legal, Accounts and Technical books, ISI Specifications, etc. are also available in the Board library.

#### **1.3.7.2 CONFERENCE ROOM**

The Board has a spacious Conference Room with a seating capacity for 40 people. It is fully air conditioned and has facilities like whiteboard, and over head projector. All Board Meetings and other important meetings are held in the Conference Room.

#### **1.3.7.3 SOLAR PANEL**

The Goa Energy Development Agency has installed and commissioned 45 kWp Grid connected rooftop solar PV Power Plant at the Goa State Pollution Control Board as an effective measure towards 'Energy Audit'.

#### **1.3.7.4 ACTIVITIES DURING COVID -19**

The Board arranged for sanitization of the Office building with the assistance of the Department of Fire and Emergency Services. The office distributed masks to its staff, free of cost and ensured following of social distancing at work place. Facility of Oxi-meter, Thermal scanning, Steamer and Apparatus for checking blood pressure were also made available in the Board for its staff in the event of emergency. Sanitization at regular intervals was also carried out, besides cleaning on daily basis.

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## CHAPTER 2

### CONSTITUTION OF THE BOARD

#### 2.1 CONSTITUTION OF THE BOARD INCLUDING CHANGES THEREIN

The present Board was constituted under the chairmanship of Shri. Ganesh Budhu Shetgoankar. This Board was constituted vide Order No. 5/20/87-STE/P-IV/741 dated 15th December, 2017 and the composition is as given below:-

##### Chairman

1. Shri. Ganesh Shetgoankar, Deputy General Manager, Excel Crop Care Limited, Mumbai.

##### Members

2. Director, Directorate of Industries, Trade and Commerce
3. Chief Engineer, Water Resource Department
4. Director, Directorate of Mines & Geology, Panaji
5. Director, Department of Tourism
6. Director, Directorate of Health Services
7. Shri Shawn Brian Martins, Panch Member, Village Panchayat Calangute
8. Shri. Shubham Chodankar, Corporator, Corporation City of Panaji
9. Smt. Unnati Sahastrabudhe, Panch Member, Village Panchayat of Velguem
10. Shri. Rajsingh Rane, Councilor, Mapusa Municipal Council
11. Shri. Sanjay Naik, Panch Member, Village Panchayat Savordem
12. Chairman, Confederation of Indian Industries (Goa Chapter)
13. Chairman, Goa Bagaytdar Sahakari Kharedi Vikri Saunstha
14. President, Travel & Tourism Association of Goa
15. Managing Director, Goa State Infrastructure Development Corporation
16. Managing Director, Goa Tourism Development Corporation

##### Member Secretary

17. Dr. Shamila Monteiro, (w.e.f. 18/07/2018)

The tenure of the Board which was due to expire on 12th December, 2020 was extended by the State Govt. for a period of three months i.e. upto the date of notification for the reconstitution of the GSPCB whichever is earlier.

##### Resignation of Board Members :-

Sr. no. 8 Shri. Shubham Chodankar – Corporator – Corporation of the City of Panaji - Member of the Board resigned from 26/02/2021, citing personal reasons.

Sr. no. 10. Shri Rajsingh Rane – Councillor, Mapusa Municipal Council - Member of the Board – resigned with effect from 22/02/2021 citing personal reasons.

## CHAPTER 3

### MEETINGS OF THE BOARD

- 3.1** During the year under report, the Goa State Pollution Control Board held four Board Meetings under the reconstituted Board. The details of the meetings held during the year are presented in the Table below:-

| Sr. No. | Sr. No. of Meeting | Date of meeting | Venue                        | No. of members who attended the meeting |
|---------|--------------------|-----------------|------------------------------|-----------------------------------------|
| 1.      | 143 <sup>rd</sup>  | 22/05/2020      | Conference Hall of the Board | 14                                      |
| 2.      | 144 <sup>th</sup>  | 06/07/2020      | Conference Hall of the Board | 14                                      |
| 3.      | 145 <sup>th</sup>  | 14/10/2020      | Conference Hall of the Board | 14                                      |
| 4.      | 146 <sup>th</sup>  | 15/10/2020      | Conference Hall of the Board | 13                                      |

### 3.2 EXTRACTS OF MINUTES OF BOARD MEETINGS HELD DURING THE YEAR UNDER REPORT

#### MINUTES OF THE 143<sup>rd</sup> MEETING OF THE GOA STATE POLLUTION CONTROL BOARD HELD ON 22<sup>nd</sup> MAY, 2020 AT 3.00 pm IN THE CONFERENCE HALL OF THE BOARD.

- The 143<sup>rd</sup> meeting of the Goa State Pollution Control Board was held on 22<sup>nd</sup> May 2020 at 3.00 pm in the Conference hall of the Board.

The following members attended the meeting:

|     |                                                                                            |
|-----|--------------------------------------------------------------------------------------------|
| 1.  | Mr. Ganesh B. Shetgaonkar, Chairman                                                        |
| 2.  | Director of Industries, Trade and Commerce was represented by Shri Prashant Kamat, F.M - I |
| 3.  | Chief Engineer, Water Resource Dept. was represented by Mr. M.K. Kurbet – S.W              |
| 4.  | Director of Mines was represented by Mr. J.M. Veluskar, T.A                                |
| 5.  | Director of Tourism was represented by an official of his department                       |
| 6.  | Director of Health Services was represented by Chief Medical Officer                       |
| 7.  | Mr. Shawn Brian Martins, Panch Member, Village Panchayat Calangute                         |
| 8.  | Mrs.Unnati Sahastrabhudhe, Panch Member, Village Panchayat Velguem                         |
| 9.  | Mr.Shubham Chodankar, Councillor, Corporation of the City of Panaji                        |
| 10. | Mr.Rajsingh Rane, Councillor Mapusa Municipal Council                                      |
| 11. | Mr. Sanjay Naik, Panch Member, Village Panchayat Sanvordem                                 |
| 12. | Mr. Blaise Costabir, Chairman, Confederation of Indian Industries                          |
| 13. | Mr. Savio Messias, President Travel and Tourism Association of Goa                         |
| 14. | Dr. (Mrs.) Shamila Monteiro, Member Secretary                                              |

- II. Member Secretary welcomed the members for the meeting. She informed the members that the Board meeting was scheduled to be held on 1<sup>st</sup> June, 2020 but was pre-poned as some of the members desired that the meeting be convened on 22/05/2020, accordingly, the agenda was taken up for discussion. Member Secretary further informed the members that the Agenda could not be forwarded to them earlier, as the same was under preparation.
- III. Member Secretary informed the members that Central Pollution Control Board has forwarded guidelines for handling. Treatment and disposal of waste generated during treatment / diagnosis / quarantine of COVID-19 patients. Copy of the guidelines were forwarded to the members during the meeting for perusal and information of the members.

**Agenda Item no. 01**

Confirmation of the minutes of the 142<sup>nd</sup> meeting of the Goa State Pollution Control Board held on 28<sup>th</sup> February, 2020.

The minutes of the 141<sup>st</sup> meeting of the Board held on 11<sup>th</sup> December, 2019 were forwarded to all the members vide this office letter no. 4/141/19-PCB/Admn./14019 dated 17/12/2019, and addendum issued vide letter no. 4/142/20-PCB/Admn/21674 dated 19/03/2020 were confirmed, so as to enter in the Minutes Book.

**Agenda Item no. 02**

Follow up action on the decision taken at the 142<sup>nd</sup> meeting of the Board held on 28/02/2020.

Agenda item no. 02 – The members noted that the Officer under the Enforcement cum Training Cell constituted by the Board is required to be delegated powers under section 43(a) of the Air (Prevention and Control of Pollution) Act, 1981 and section 49(a) of the Water (Prevention and Control of Pollution) Act, 1974 and accordingly approved for the same.

**Agenda item no. 3** – The members noted the same.

**Agenda item no. 4** – The members noted the same.

**Agenda item no. 5** – The members noted the same.

**Agenda item no. 6** – The members noted the same.

**Agenda item no. 7** – The members noted the same.

**Agenda item no. 8** - The members noted the same.

**Agenda item no. 9** – The members noted the same.

**Agenda item no. 12** – The members noted the same

**Agenda item no. 13** – The members noted the same.

**Agenda item no. 3**

Representation from Mormugao Port Trust for permission for coal handling at Mooring Dolphin 1, 2 and 3

Member Secretary informed the members that the Board had granted Consent to Operate

to 3 nos. mooring dolphins (1, 2 and 3) vide consent dated 18/07/2018 for dry bulk cargo and Break Bulk Cargo. Accordingly the Board directed the MPT to carryout Source Apportionment Study through IIT and Particle Dispersion Modelling study. The same was carried out by Prof. Manjare of BITS Pilani Goa Campus and the reports were presented before the Board at the 139<sup>th</sup> Board meeting. She further informed the members that on considering the reports, the Board granted permission on trial basis to utilize mooring dolphin no. 1 upto a period of 31<sup>st</sup> May, 2019 and mooring dolphin no. 3 upto 15<sup>th</sup> June, 2019, to handle two cargo vessels of coke /coke, with certain specific conditions and amendments issued thereafter for validating the results of the Modelling study.

Member Secretary further informed the members that the Board also received complaints from Mr.Sherwyn Correia for granting permission for trial basis of mooring dolphin and presently there is a Petition no. 24/20118 filed by Mr. Sherwyn Correia in the High Court and by Mr. Abhijit Prabhudessai vide no. 8/18 in the Administrative Tribunal.

It was also informed to the members that during the trial operations, MPT had provided fog cannon mounted on the barges and tarpaulin between the barge and vessel during the operations instead of mayura curtains. Further, the Board also carried out Ambient air quality monitoring at MPT, Sada, Khariwada, and also monitoring of sea water samples during the operation of the mooring dolphin's.

Member Secretary further informed the members that MPT has applied for the Renewal of the Consent to Operate for the mooring dolphin 1, 2, 3. The same was valid upto 21/04/2020, however due to lockdown the validity of all such applications has been extended till 30/06/2020.

On perusal of the agenda notes and after deliberations, the members noted that since the air quality monitoring reports are within the limits, the Board could permit MPT to allow handling of two ships of consignments of coal / coke till June, 2020 at mooring dolphin no. 2 and 3 incorporating the conditions that the Port will have to monitor the air quality, analyse the water and sediment samples during the said period. The Board will take a call on the requested quantity for handling 2 MMTPA after the Port makes a detailed presentation before the TAC of the Board and after the IIT Source Apportionment Study is completed. Further, the Renewal of Consent to Operate for other cargo shall be as per the decision taken at the 133<sup>rd</sup> meeting of the Board for validity of Consent.

#### **Agenda item no. 04**

Communication received from the Directorate of Industries, Trade & Commerce forwarding the request of Goa State Industries Association for waiver of rent / fees and renewal of licences.

Member Secretary informed the members that a communication has been received from the Directorate of Industries, Trade and Commerce forwarding a letter from Goa State Industries Association, for waiver of rent / fees and renewal of licences by State Government departments / Undertakings in view of the Covid 19 Pandemic, for comments of the Board.

The members were further informed that the Board grants Consents under the Air and water Acts and all the Rules under the Environment (Protection) Act and the Board is a self funding body. The salaries and other expenditure is met from the fees generated from these Consent applications and monitoring carried out by the Board. The Board does not received any grants / funds from the State Government.

After discussions on the prevailing situation arisen due to the pandemic, the members agreed to grant relaxation in payment of Consent fees on an annual basis.



The members were also informed that the units could opt for auto renewals.

#### **Agenda item no. 5**

Harmonization of classification of Industrial Sectors into Red, Orange, Green and White category.

Members Secretary informed the members that the Board at its 120<sup>th</sup> Board meeting held on 28/04/2016 had adopted Revised Categorization of Industries as directed by Central Pollution Control Board (CPCB). Further, she informed that the Board is now in receipt of Directions from CPCB under 18(b) of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Pollution Control of Pollution) Act, 1981 for Harmonization of Classification of Industrial Sectors into Red, Orange, Green and White categories.

After deliberations, the Members approved for Harmonization of classification of Industrial Sectors into Red, Orange, Green and White category as per the directions of the Central Pollution Control Board.

#### **Agenda item no. 6**

Inventorization of Hazardous waste in the State of Goa.

Member Secretary informed the members that in compliance to the provisions of Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 under rule 20 (3) the State Pollution Control Board based on the Annual Returns received from the occupiers and the operators of the facilities for disposal of hazardous and other wastes shall prepare an Annual Inventory of the waste generated; waste recycled, recovered, utilised including co-processed; waste re-exported and waste disposed and submit to the Central Pollution Control Board by the 30th day of September every year.

In this regard, the State Pollution Control Board shall also prepare the Inventory of hazardous waste generators, actual users, and common and captive disposal facilities and shall submit the information to Central Pollution Control Board every two years.

It was further informed that CPCB has issued directions to the Goa State Pollution Control Board, to make necessary arrangement to ensure that the Inventory of hazardous waste generators, actual users, and common and captive disposal facilities is carried out and the same is submitted to CPCB every two years in compliance with provision stipulated under the Rule 20(3) of the HOWM Rules.

Member Secretary further informed the members that in view of the above directions and for timely compliance of the above, the services of M/s Paradigm Environmental Strategies (P) Ltd, Bangalore, shall be availed to carryout hazardous waste inventorization study for GSPCB for the State of Goa as they are in tune with the ground situation, and are proficient and specialised in this field, at the cost of Rs. 19,18,500/- ( if any man days are envisaged, it will be charged extra. ).

Member Secretary briefly explained the report to the members and informed that the report provides details of hazardous waste generated by Industries in Goa and its disposal procedure followed presently. The Report also states that out of 3340 industries in the State of Goa, 1587 industries generate hazardous waste. Emphasis is laid to create treatment facilities of these hazardous waste in Goa itself instead of sending this waste to other neighbouring States. Regular updating of information is also stressed to find if any non-hazardous waste units may need authorization for hazardous waste

in future. Importance of organizing of training programmes on handling hazardous waste and step to minimize hazardous waste production is also stressed in the report. She further informed that the report so prepared is forwarded to the Central Pollution Control Board as per the directions of the Hon. Supreme Court.

Member Secretary further informed the members that the Hazardous Waste site at Cuncolim Industrial Estate of M/s Sunrise Zinc Limited is presently being surveyed for quality and categorisation and the waste shall be remediated.

Members noted and approved the Report so as to forward to the Central Pollution Control Board.

#### **Agenda item no. 7**

Application for Consent to Operate under the Air Act and Water Act from M/s Siemens Limited (Vacuum Interrupter Factory Siemens Ltd), Plot no.L-6, Verna Industrial Estate, for manufacturing Vacuum Interrupter.

Member Secretary informed the members that the Board is in receipt of an application from M/s Siemens Limited, Plot no.L-6, Verna Industrial Estate for Consent to Operate, for the manufacture of Vacuum Interrupter. Consent to Operate was granted for a period of six months for trial operation of the unit.

The members perused the details of the unit and its process for treatment of the wastes generated. After deliberations the members approved for grant of full validity of Consent to the unit.

#### **Agenda item no. 8**

Water Audit of Casinos in River Mandovi

Member Secretary informed the members that the Hon`ble National Green Tribunal as per the discussion held in the matter of O.A. 606/2018 had directed Goa State Pollution Control Board to carry out water audit of casinos. The same was carried out by M/s. TUV-SUD.

She informed the members that this exercise was required to be carried out since a matter had come up in the Hon. High Court and the National Green Tribunal that the river Mandovi was stressed due to discharge of sewage by the Casino operator. As per the Orders of the Hon. High Court, monitoring of the water quality was carried out. She further informed that casino / cruise vessels are required to mount a tank for collection of sewage generated in the vessel. The said tank is locked and the same is opened in the presence of the officials of the Board and the Captain of Ports for discharge into the sewage tankers for treatment in the Sewage Treatment Plant. The records of the sewage so collected and transported is maintained by the Board.

Member secretary informed the members that M/s. TUV-SUD has submitted the final report and the findings of the report state that there is no pollution from casinos into River Mandovi. Members approved for placing the said Report before the Hon. National Green Tribunal.

#### **Agenda item no. 9**

Remedial action for compliance of Environmental norms by the Dairy units

Member Secretary informed the members that the Board in its 118<sup>th</sup> Board meeting held on 10/07/2015 had resolved that cow sheds would not come under the purview of the Board, and any complaints received in this regard were forwarded to Directorate of Health Services and the concerned

local bodies for action.

She further informed that the Hon'ble National Green Tribunal in the matter of O.A. No. 46/2018 has now passed an order on 24/01/2020 wherein the Tribunal has directed Central Pollution Control Board to undertake a study and lay down appropriate guidelines for management and monitoring of environmental norms for dairy units throughout the Country, further the local bodies in all States were directed to file inventory of dairy units in their jurisdiction.

The members deliberated and decided that farms having 01 to 25 cattle should not be brought within the purview of these guidelines and they shall be categorised under White category, and they be directed to forward the compliance with regard to solid waste management, waste management to the Dte. of Animal Husbandry department. For farms having more than 25 cattle, it was decided that the Local Panchayat / Council / Corporation shall give an undertaking that the waste will be collected. The Members also decided to inform Central Pollution Control Board to list this activity under White category of industries.

**Agenda item no. 10**

**Review of Polluter Pays Penalty**

- A. Member Secretary informed the members that the Board is in receipt of guidelines for imposition of Environmental Compensation Charges against Healthcare Facilities and Common Biomedical Waste treatment facilities for non compliance and taking cognizance on the following aspects.
- i. Authorization under BMW Rules 2016
  - ii. No arrangement with CBWTF for disposal of biomedical waste
  - iii. Improper segregation of generated biomedical waste as per colour coded system prescribed under BMW Rules 2016
  - iv. No facility for pre-treatment of yellow (h) category waste (microbiology, biotechnology and other clinical laboratory waste)
  - v. Storage facility not provided for segregated biomedical waste (applicable for bedded hospitals)
  - vi. Not provided Effluent Treatment Plant for treatment of waste water, in case when city sewerage network is not connected to terminal STP and non-compliance to other responsibilities as stipulated for Healthcare Facilities under BMW Rules 2016.

After deliberations, it was decided to fix the minimum Environmental Compensation in respect to Health Care Facility at Rs. 1200/- per day so as to make scale of environmental compensation deterrent in rendering violations of rules to be non-profitable, a deterrent factor has been introduced in case of recurrent violations. EC charges may increase by multiple times when:

Health care facility fails to comply with action points within stipulated time as may be directed by CPCB / SPCB/PCC

**OR**

Fails to comply during re-inspections

It was also decided to adopt the Guidelines for imposition of Environmental Compensation

## Charges against Healthcare facilities and Common Biomedical Waste Treatment facilities.

- B. Member Secretary informed the members that the Board is in the receipt of a letter from Central Pollution Control Board regarding Enforcement Framework for effective enforcement of Hazardous and Other Wastes (Management and Trans - boundary Movement) Rules, 2016, in compliance with order dated 12/04/2019 of the Hon'ble National Green Tribunal in the matter of O.A. No. 804/2017 with M.A. No. 1302/2018 in Interlocutory Application No. 63 in W.P. (C) No. 57/1995. She further informed that as per one of the recommendations of the Monitoring Committee, there is need to have an Enforcement Framework for effective enforcement of Rules based on Principle of proportionality and also, precautionary principle, which will remove ambiguity in regularity actions predictability and consistency and bring transparency for actions.

Member Secretary further informed that in compliance to the above mentioned order, the CPCB has prepared "Enforcement Framework for Effective Implementation of H &OW(M&TM) Rules 2016 to be followed by State Pollution Control Boards, which includes background, salient features of the Rules, various enforcement tools, tracking /monitoring of non-compliance, categorization of violations, approach for predictability and consistency in financial penalty & environmental compensation calculation methodology which will be helpful in preparing the required enforcement framework for the State Pollution Control Board.

Members agreed to adopt the framework as prepared by the Central Pollution Control Board.

### **Agenda Item no. 11**

Application for Consent to Operate (expansion) under the Air Act and the Water Act from M/s. MRF (unit I) located at Plot no. Survey no. 258/0, 253/1, 259/1 & 259/2A, Dhatwada, Tisk, Usgao, Goa for increase in production of flap & tyre.

Member Secretary informed the members that the Board is in receipt of an application from M/s MRF (Unit – I), Usgao, for the expansion in the production of flaps – 2500000 nos. /annum and tyres – 2500000 nos./annum.

The members perused the details of the unit and its process for treatment of the wastes generated. Members highlighted that there was concern from the residents as the unit was discharging its effluent in the water stream. It was clarified that the Board conducted inspections on several occasions and no illegalities were noticed. It was also informed to the members that the unit is classified as Green category, however, the members were of the opinion that this activity be classified under Orange category.

After deliberations, the members approved for grant of Consent to Operate (expansion) to the unit.

### **Agenda Item no. 12**

Application for Consent to Establish (expansion) under the Air Act and the Water Act from M/s. MRF (unit II) located at Plot bearing Survey no. 254/0, 255/1-A, 255/2, 255/3, 256/1A, Dhatwada, Tisk, Usgao, Ponda, Goa for expansion of production to 3 lakh per annum.

Member Secretary informed the members that the Board is in receipt of an application from M/s MRF (Unit – II), Usgao for the expansion in the production of tubes – 2500000 nos. /annum.

The members perused the details of the unit and its process for treatment of the wastes



generated. Members highlighted that there was concern from the residents as the unit was discharging its effluent in the water stream. It was clarified that the Board conducted inspections on several occasions and no illegalities were noticed. It was also informed to the members that the unit is classified as Green category, however, the members were of the opinion that this activity be classified under Orange category.

After deliberations the members approved for grant of Consent to Establish (expansion) to the unit.

### **Agenda Item no. 13**

Compliance to Order of the Hon. National Green Tribunal in OA No 199/2014 in the matter of Almitra Patel v/s. Union of India and others

The members noted that the Board has levied fines on 51 cases for burning of waste and has directed Respective Collectors to collect the fines.

Members desired to know about the fines collected in respect to Sonsoddoo garbage dump which was under fire. The members were informed that the Board has levied a fine of Rs. 1 Crore on Margao Municipal Council and they are yet to make payment.

### **Agenda Item no. 14**

Applications recommended by Technical Advisory Committee in its meetings

Member Secretary informed the members that the Board has constituted a Technical Advisory Committee comprising of Retired Scientist of NIO, Environmental Consultants, Professionals of BITS Pilani and Goa Engineering College besides Scientists and Environmental Engineers of the Board to scrutinise the applications received by the Board in respect of Red category of industries, and of new Sewage Treatment Plants/Effluent treatment plants. Further, technologies for new Sewage Treatment Plants, effluent treatment plants, River rejuvenation, Solid waste management facilities are placed before the TAC for their comments and recommendations. The Committee also calculates the score for categorization of industries as per CPCB guidelines.

The members noted and accorded its ex post facto approval for the Technical Advisory Committee to be the Committee for calculation of score for categorisation of industries as per the CPCB guidelines.

### **Agenda Item no. 15**

Application for exemption from the limits specified in the draft G.S.R.894 (E) entry under serial number 24 B. from M/s Chowgule & Company Private Limited (Mandovi Pellets Division) located at Survey no. 190, 192, 373, 354, 355, 340, 348, 354 Near Borim Bridge, Shiroda Goa.

Member Secretary informed the members that M/s Chowgule & Company Private Limited (Mandovi Pellets Division) has requested to grant exemption from the limits specified in the draft G.S.R.894 (E) entry under serial number 24 B. Sintering and pelletising plants and to comply to present Consent to Operate condition at serial no. 4 i.e conditions required to be complied under the Air Act.

After deliberations it was decided that the Technical Advisory Committee scrutinise the application and thereafter forward the findings to the Ministry of Environment, Forest and Climate Change for their recommendations.

**Agenda item no. 16**

Request received from M/s South West Port Ltd., for increase in the handling volume of the steel cargo (green cargo) for M/s South West Port Limited Terminal in view of the Covid 19 pandemic.

Member Secretary informed the members that the Board is in receipt of a representation from M/s SWPL requesting permission to allow them to handle steel cargo beyond the permitted quantity of 1.0MMTPA as mandated by the Consent condition, as there is decrease in the domestic market for the steel cargo.

Member Secretary further informed that the unit has submitted that handling additional quantity of steel products beyond the current Consent to Operate of 1.0 MMTPA will have negligible impact on air and water pollution levels, as the commodity being handled is considered as green cargo, brought through rakes (as return cargo) and handled by electric gantries and loaded using ship cranes. The original Environmental Clearance received from the ministry of Shipping (Port Wing) vide their letter under reference no. PD-26018/2/2000-PDZ (CRZ) dated 24/01/2001 defines neither the cargos to be handled nor the volumes to be handled, ostensibly sanctioning the projected volumes as indicated in the submitted EIA (feasibility report). They have further submitted that immediately after the mechanization of Berth no. 6A was completed in the year 2005, the GSPCB granted M/s SWPL a Consent to operate to handle 5.5 MTPA coal / coke 1.0 MMTPA limestone and 1.0 MMTPA steel and have now requested for steel cargo handling from 1 MMTPA to 2.0 MMTPA.

After deliberations the members were of the opinion that the application be processed by the Technical Advisory Committee and based on the findings/ recommendations of the Committee, the Chairman may approve the same.

**Agenda item no. 17**

Accommodating the Scientific Assistant against the vacant post with regard to drawing of salary.

Member Secretary informed the members that Shri Nilesh Parsekar was promoted on ad-hoc basis as Scientist 'B' and was reverted back to the post of Scientific Assistant (Chemistry). As, the Board abolished the vacant posts of Scientific Assistants, including the post of the official which was promoted on adhoc basis, there was no vacant post on his reverting him back to the post of Scientific Assistant which was held by him earlier, he was drawing his salary as Scientific Assistant (Chemistry) from the vacant post of Scientist 'B' to the extent of his entitlement as Scientific Assistant'.

She further informed that there now exists two vacant posts of Scientific Assistants arisen due to resignations of the officials. As such Shri Nilesh Parsekar could now be adjusted against one vacant post of Scientific Assistant and draw his salary against the vacant post of Scientific Assistant (Chemistry).

Members agreed for the same.

**Agenda item no. 18**

Request received from the Canteen Operator for reduction of the monthly rent towards providing canteen facility.

Member Secretary informed the members that the Board had rented its premises for running of canteen facilities on rent of Rs. 5000/- per month, plus Rs. 1000/- towards electricity and water consumption (totalling to Rs. 6000/-) for a period of one year, which could be further renewed, as per the decision taken at the 139<sup>th</sup> meeting held on 08/05/2019. She further informed that the Canteen

operator has made a request to lower the mostly rent to Rs.2,000/-, owing to very limited customers vis-a-vis higher cost involved towards providing snacks / tea and refreshments / lunch, as it has become unsustainable.

Members after deliberations agreed to lower the rent to Rs. 2000/- per month plus Rs. 1000/- towards electricity and water consumption – totalling to Rs. 3000/- per month, subject to a condition to lower the rate of food items for the Board staff

### **Agenda item no. 19**

Notification in respect of the creation of posts and amendments in Recruitment Rules.

Member Secretary informed the members that the Director of Environment had issued a notification in respect to amendment to the Recruitment rules of the Goa State Pollution Control Board. She informed the members that there were a number of discrepancies in the said Notification, which were not in line as per the decision taken by the Board, as such the Department of Environment was requested to keep the said notification in abeyance till such time a fresh decision is taken by the Board. The members noted the same.

- A. Member Secretary informed the members that after detailed assessment of the staff requirement and the general work load and based on the recommendations of the Committee for conducting Environmental Audit, the Board is required to be strengthened with adequate staff.

She further informed that as per Rule 19 of the Goa Water (Prevention and Control of Pollution) Rules, 1988 the Board may create such posts as it considers necessary for the efficient performance of its functions.

In terms of this powers conferred on the Board in order to streamline the smooth functioning of the Board, she proposed for creation of the following new posts, as follows:

1. Scientist 'B' – 02 nos. of posts
2. Additional 2 nos. of posts to be filled by promotion. Accordingly serial no. 2 of the R.R.s to be amended as '5' and serial no. 10 to be read as 80% by promotion of Scientific Assistant of the Board with atleast 5 year's experience, failing which by direct recruitment and 20% by direct recruitment'.
3. Junior Environmental Engineer  
Amendment to the Recruitment Rules with regard to serial no. 12 of the R.Rs, to be read as 'Two by direct recruitment and four by promotion of Engineering Assistants'.
4. Law Officer – 01 no. of post ( new post)
5. Administrative Officer – 01 no. of post (new post)
6. Assistant Engineer (Information Technology) – 01 (new post)

The members approved for creation of new posts and amendment to the Recruitment Rules as conferred to it under Rule 19 of the Goa Water (Prevention and Control of Pollution) Rules, 1988, and to forward the same to the State Government for according sanction to the posts.

- B. Member Secretary informed the members that presently, the Notification of 14<sup>th</sup> July, 2011 is being implemented for which proposal is put up before the members to carry out amendments in the Recruitment Rules notified in the Official Gazette dated 14<sup>th</sup> July, 2011. She further informed that approval of the State Government for creation of these posts was accorded by the State Government vide letter no. 5/20/87/STE-dir/Part-VII/639 dated 10<sup>th</sup> August, 2011.

She informed the members that a proposal for amendment in the Recruitment Rules to various posts in the GSPCB is made under section 12 (3 a) of the Water Act which states that 'the method of recruitment and terms and conditions of service (including scales of pay of officer ( other than Member Secretary) and other employees of the State Board shall be such as may be determined by regulations made by the State Board.'

Member Secretary informed the members that a detailed proposal for creation of new posts, amendments in the Recruitment Rules and Recruitment Rules for the new posts has been prepared. Member Secretary brought to the notice of the members that there was a typographical error in serial no. 11 and serial no. 12 of the Recruitment Rules which may be read as follows:

Serial no. 11 – column no. 12 be read as " By promotion of Engineering Assistant of the Board with 8 years of service in the grade.'

Serial no. 12 – column no. 5 be read as Rs. 9300 – 34800 + 4200 and column no. 12 be read as 'By promotion of Engineering Assistant (Computer) (proposal has been made to rename as Engineering Assistant of the Board with 5 years service in the grade'.

Members perused the same and approved for forwarding to the State Government for according necessary approvals.

### **Agenda item no. 20**

#### **Appointment of Legal Retainer**

Member Secretary informed the Board that Adv. S.B. Faria, Special Prosecutor, Government of Goa and also Special Public Prosecutor for National Investigation Agency, Government of India was appointed by the Board as a Legal Retainer in respect of all criminal matters concerning the Board on a retainerhip fee of Rs. 25,000 (Rupees Twenty five thousand only) per month, with entitlement of fee of Rs. 3000/- ( Rupees Three thousand only) per effective hearing for appearance per case, consolidated transportation allowance of Rs. 10,000/- per month in addition to his retainerhip fee for attending the Board office and attending the Courts from his headquarters. Member Secretary further informed the members that his contract term is due to expire on 30/06/2020. She further informed that the Legal Retainer also handles Inquires as necessitated by the Vigilance Department against the officials of the Board, for which a fee of Rs. 6000/- is paid to him for conducting Inquiry and submission of Report.

After deliberations the members desired to know the amount of criminal cases handled by him and the outcome of the cases, and as to whether the Board has benefited in filing the closure proceedings against the defaulting units. It was clarified that in some cases, the criminal proceedings did not find grounds due to lack of evidence, as such some criminal cases collapsed.

Members decided that the services of the Legal Retainer for the Board be discontinued and the Board could appoint a Advocate from the panel constituted by the Board for appointment of Advocates for defending the interest of the Board. It was also decided that the cases presently handled by Adv. S.B. Faria be retained with him and he be paid a fee of Rs. 3000/- per effective hearing for appearance

per case. It was also decided to provide him with a vehicle to attend these cases in the Court of Law.

**Agenda item no. 21**

Reply received from the State Government on the decision taken by the Board

Member Secretary informed the members that the Board at its 141<sup>st</sup> meeting held on 11/12/2019, vide Agenda item no.04- Requisitioning the services of the staff of the Board by the State Government had decided that henceforth no staff of the Board other than those already deputed in addition to their own work in GSPCB should be deputed to any other department or for election related works. The decision of the Board was sent to the Department of Environment & Climate Change, vide this office letter dated 27/01/2020. The Department of Environment and Climate Change, vide their letter dated 04/05/2020 has communicated that the decision of the Board was placed to the Government for consideration and the State Government has declined to accept the decision taken by the Board. Members noted the same.

Member Secretary further informed the members that the services of the Driver of the Board were requisitioned by the Department of Science & Technology & Waste Management in the year 2017. The office had made several requests for relieving the Board Driver, however they have informed that the services of the Driver be sent on deputation. Further, the office had sought clarifications with regards to the service benefits, for which the department has agreed to bear the same and comply to the points raised by the Board. After deliberations, the Board agreed to sent the Driver of the Board on deputation to the Department of Science & Technology, for a period of one year, subject to the condition that all the service benefits applicable to him in the Board shall be borne by the Department, for which the Board shall raise a bill to the Department of Science & Technology for making necessary payments like Employees Provident Fund ( Employers share and employees share, Savings Fund, Insurance, Gratuity, leave encashment, Earned leave, may be reimbursed to the Board.

It was also unanimously decided to recover all dues paid by the Board from the Department of Science and Technology from the date the Driver was deputed. The pre-receipt for the same will be forwarded to the Department for onward submission to the Pay and Accounts Officer of the Dte. of Accounts, Panaji for effecting of payment.

**Agenda item no. 22**

Application for amendment in the Consent to Establish under the Air Act and the Water Act from M/s Ponda Envocare Ltd. (earlier known as M/s SMS Envocare Ltd) located at Plot no. 5, Phase 1, Pissurlem Industrial Estate, Pissurlem, Satari, Goa for pre-processing of Hazardous Waste of capacity 25000 MTPA

Member Secretary informed the members that the Board is in receipt of an application from M/s Ponda Envocare Ltd. (earlier known as M/s SMS Envocare Ltd) located at Plot no. 5, Phase 1, Pissurlem Industrial Estate, Pissurlem, Satari, Goa for pre-processing of Hazardous Waste of capacity 25000 MTPA

The members perused the details of the unit and its process for treatment of the wastes generated. After deliberations the members approved for grant of amendment in the Consent to Establish.

- IV. With the permission of the Chair, Member Secretary placed before the members the issue of transportation of e-auctioned ore and royalty paid ore. She informed the members that the transportation routes are being monitored by the Board through NABL and MoEFCC Accredited laboratories and the ambient air quality reports on some days at some locations are on a higher side. She further informed the members that the Board had taken a Bank



Guarantee of Rs. 1 lakh and Rs. 5 lakhs from the e-auctioned ore transporters depending on the quantity of ore and forfeited the same for exceedances in the air quality. Further, with respect to the royalty paid ore, no Bank Guarantee was taken from the transporters and hence a penalty based on Polluters Pay Principle shall have to be imposed on the transporters who have used the routes where the air quality parameters have exceeded.

She further informed that the Department of Mines and Geology has been requested to share the data of transportation of royalty paid ore and e-auctioned ore. However, no reply has been received from them. .

After deliberations, the members agreed to levy a fine of Rs. 5 lakhs on the transporters of ore where the exceedances have been observed on two consecutive days. It was informed to the representative of the Director, Directorate of Mines and Geology, who was present for the meeting, to make available the data by 26<sup>th</sup> May, 2020, failing which it was proposed to levy a fine on the Department for non submission of data.

The meeting ended with thanks to the Chair.

#### **MINUTES OF THE 144<sup>th</sup> MEETING OF THE GOA STATE POLLUTION CONTROL BOARD HELD ON 6<sup>th</sup> JULY, 2020 AT 3.00 pm IN THE CONFERENCE HALL OF THE BOARD.**

- I. The 144<sup>th</sup> meeting of the Goa State Pollution Control Board was held on 6<sup>th</sup> July at 3.00 pm in the Conference hall of the Board.

The following members attended the meeting:

|     |                                                                                            |
|-----|--------------------------------------------------------------------------------------------|
| 1.  | Mr. Ganesh B. Shetgaonkar, Chairman                                                        |
| 2.  | Director of Industries, Trade and Commerce was represented by Shri Prashant Kamat, F.M – I |
| 3.  | Mr. Shrikant Patil, Chief Engineer, Water Resource Dept.                                   |
| 4.  | Director of Mines was represented by Ms. Nelita D'Silva, Assistant Geologist               |
| 5.  | Director of Tourism was represented by Mr. Subhash Kavlekar, Asst. Director                |
| 6.  | Director of Health Services was represented by Dr. S. Parulekar Chief Medical Officer      |
| 7.  | Mr. Shawn Brian Martins, Panch Member, Village Panchayat Calangute                         |
| 8.  | Mrs. Unnati Sahastrabudhe, Panch Member, Village Panchayat Velguem                         |
| 9.  | Mr. Rajsingh Rane, Councillor Mapusa Municipal Council                                     |
| 10. | Mr. Sanjay Naik, Panch Member, Village Panchayat Sanvordem                                 |
| 11. | Mr. Blaise Costabir, Chairman, Confederation of Indian Industries                          |
| 12. | Mr. Nilesh Shah, President Travel and Tourism Association of Goa                           |
| 13. | Mr. Nikhil Dessai, Managing Director, Goa Tourism Dev. Corpn.                              |
| 14. | Dr. (Mrs.) Shamila Monteiro, Member Secretary                                              |

- II. Member Secretary welcomed the members for the meeting. The agenda items for the meeting were then taken for discussion.

#### **Agenda Item no. 01**

Confirmation of the minutes of the 143<sup>rd</sup> meeting of the Goa State Pollution Control Board held on 22<sup>nd</sup> May, 2020.

The minutes of the 143rd meeting of the Board held on 22<sup>nd</sup> May, 2020 were forwarded to all the members vide this office letter no. 4/143/20-PCB/Admn./2093 dated 28/05/2020 and letter no. 4/143/20-PCB/Admn/2360 dated 03/06/2020 were confirmed, so as to enter in the Minutes Book.

**Agenda Item no. 2**

Follow up action on the decision taken by the Board at its 143<sup>rd</sup> meeting held on 22/05/2020

Agenda item no. 2 of 142<sup>nd</sup> Board meeting – The members noted that office Order is issued to the Enforcement cum Training Cell delegating powers.

Agenda item no. 3 – Members noted that Consent has been issued to Mormugao Port Trust for permission to handle coal at Mooring Dolphin.

Agenda item no. 4 – Members noted that letter has been issued to Dte. of Industries, Trade and Commerce conveying the decision taken by the Board.

Agenda item no. 5 – Members noted that letter is issued to Department of Environment for issue of notification for harmonization of classification of industrial sectors into Red, Orange, Green and White categories.

Agenda item no. 6 – The members noted that the agency has been directed to submit hard copies of the Inventorization.

Agenda item no. 7 – The members noted that Consent to Operate is issued to M/s Siemens Limited for the manufacture of vacuum interruptor for a period of six months.

Agenda item no. 8 – The members noted that the agency is directed to submit hard copies of the Inventorization in respect of water audit of casinos.

Agenda item no. 9 – Members noted that the decision of the Board has been conveyed to the Directorate of Animal Husbandry, Directorate of Municipal Administration and Dte. of Panchayat. Member Secretary informed the members that the Director of Panchayat has informed that the waste generated in the dairy unit will not be possible for the Village Panchayats to collect and dispose the waste as there is no proper waste disposal facility set up. After deliberations it was decided to fix the responsibility and direct the dairy unit to set up facilities for disposal of their dairy waste within their premises / areas.

Agenda item no.10 – The members noted the same.

Agenda item no. 11 – Members noted that Consent to Operate has been issued to M/s MRF (unit I ) for increase in production of flap and tyre.

Agenda item no. 12- Members noted that Consent to Establish has been issued to M/s MRF (unit II ) for production of tubes.

Agenda item no. 14 – Members noted that an ex post facto order has been issued to the TAC of the Board for calculation of scores for categorisation of industries.

Agenda item no. 15 – The members noted in respect of M/s Chowgule and Company Pvt. Ltd., awaiting comments of the TAC.

Agenda item no. 16 – The members noted that the application for increasing steel handling capacity of \_M/s South West Port Ltd. from 1 MMTPA to 2 MMTPA was placed before the TAC and

comments of TAC are awaited. Member Secretary informed the members that once the comments are received, Consent will be issued.

Agenda item no. 17- Members noted that office order is issued to Mr. Nilesh Parsekar, SA of the Board

Agenda item no. 18 – Members noted that the Canteen Operator has been conveyed the decision of the Board and further decided to renew the contract for a period of one year.

Agenda item no. 19 – Members noted that letter is forwarded to the Department of Environment for obtaining Government approval for amendment in the Recruitment Rules and for creation of new posts.

Further, Member Secretary informed the members that due to oversight there is a discrepancy in the Recruitment Rules with regard to the following posts which shall be read as:

|                                                 |                                                                                                                                                                                      |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Serial no. 5 – Assistant Environmental Engineer |                                                                                                                                                                                      |
| Colum no. 12                                    | By promotion of Junior Environmental Engineer of the Board having a minimum of 8 years service in the grade or Engineering assistant of the Board with 12 years service in the grade |
| Serial no. 11 – Junior Environmental Engineer   |                                                                                                                                                                                      |
| Colum no. 3                                     | 09 (Nine) subject to variation depending on work load                                                                                                                                |
| Serial no. 20 – Engineering Assistant (Civil)   |                                                                                                                                                                                      |
| Colum no. 3                                     | 03 (Three) subject to variation depending on work load                                                                                                                               |

Members approved for changes as proposed above, so as to forward the same to the Department of Environment.

Agenda item no. 20 – The members noted that order is issued to Adv. S.B. Faria conveying the decision of the Board. However, the matter was deliberated and it was decided that the Board could continue the services of the Legal Retainer for another year. However, keeping in mind the current financial position of the Board, the payment to the Legal Retainer would be fixed at a consolidated amount of Rs. 30,000/- per month as Retainership fee. It was also decided that there will be no separate payments for appearances before Courts/ Forums or for conducting inquiries. Further, it was also decided that since the Retainership fee is enhanced, no provision will be made by the Board to provide him with a vehicle. However, he is required to attend the board office twice a month.

Agenda item no. 21 – Members noted that letter is forwarded to Director, Science, Technology & Waste management with respect to placing the Driver of the Board on deputation.

Agenda item no. 22 – Members noted that Consent to establish is issued to M/s Ponda Envocare Ltd.

### **Agenda item no. 03**

Complaint of Mr. Gabriel Fernandes against M/s Jolly Metals ( a stone crushing unit)

The Advocate for M/s Jolly Metals Advocate Kaif Noorani remained present before the Board. The Complainant Mr. Gabriel Fernandes was absent.

The Advocate for M/s Jolly Metals stated that the Complainant has remained absent before the Board in the matter of the present hearings on a number of occasions and that the Board should proceed in the matter in his absence.

The Advocate for M/s Jolly Metals stated that in so far as the matter pertaining to WP/501/2019 was concerned; the letter of the WRD dated 30/10/2019 renders the Show cause notice dated 4/4/2019 infructuous. In so far as the issues in WP/504/2019 and WP/437/2019 are concerned i.e. issues regarding imposition of Polluter Pays Penalty and initiation of criminal proceedings for operating the stone crushing unit without the Consent of the Board; the same would have to be argued on merit for which he was prepared to address the Board.

However Members sought to know and peruse the material and evidence available with the Board that indicated that the stone crushing unit of M/s Jolly Metals initially operated without the consent of the Board. This was required as all the issues for determination before the Board primarily relate to this aspect. It was also decided that this material and evidence would have to be provided to M/s Jolly Metals prior to the next date of hearing in order to enable him to deal with the same during his submissions to the Board.

In this regard the hearing in the matters arising out of WP/501/2019, WP/504/2019 and WP/437/2019 was deferred till the next meeting in order to enable the material and evidence available with the Board that indicated that the stone crushing unit of M/s Jolly Metals initially operated without the Consent of the Board; to be placed before the Board members and also to be provided to M/s Jolly Metals.

#### **Agenda item no. 04:**

Review of Polluter Pays Penalty:

- A. Member Secretary informed the members that the Board had approved the Polluter Pays principle in its 138<sup>th</sup> Board meeting. However, it was noticed that the PPP levied per day violation amounts to more than the investment of the industries / establishments. Member Secretary also brought to the notice of the members that Central Pollution Control Board has prepared an in-house Report on Methodology for Assessing Environmental Compensation and Action Plan to utilize the funds. It was informed that since CPCB has come out with a detailed report, it would be advisable to follow the report prepared by CPCB, as the same would hold grounds in the Court of Law. After deliberations it was decided to adopt the report as prepared by Central Pollution Control Board
- B. Member Secretary informed the members that the Board at its 139<sup>th</sup> meeting had decided to levy penalty to industrial sectors based on the category that is Red, orange and Green and Scale of industry that is Large, medium and Small. She further informed the members that the Board is now in receipt of latest Directions that certain units are categorized under Non Industrial Sectors such as cannot be classified under Large, Medium and Small based on cost of Plant and machinery. Similarly, residential complexes cannot be classified as Large, medium and Small. Members perused the Classification prepared for such sectors and approved the same and decided to penalise the below mentioned sectors as per the Polluter Principle Pay as adopted from the Central Pollution Control Board.

| Sr. No. | Sector | Category | Scale |
|---------|--------|----------|-------|
|---------|--------|----------|-------|

|    |                                                                                                                                   |        |        |
|----|-----------------------------------------------------------------------------------------------------------------------------------|--------|--------|
| 1  | Airports and Commercial Strips – waste water generation more than 100 KLD                                                         | Red    | Large  |
| 2  | Airports and Commercial Strips - waste water generation less than 100 KLD                                                         | Orange | Large  |
| 3  | Health-care Establishments - waste water generation more than 100 KLD OR incinerator                                              | Red    | Medium |
| 4  | Health - care Establishments - waste water generation less than 100 KLD but having beds above 50                                  | Orange | Medium |
| 5  | Health - care Establishments - Having beds below 50                                                                               | Orange | Small  |
| 6  | Hotel - waste water generation more than 100 KLD                                                                                  | Red    | Medium |
| 7  | Hotel - waste water generation less than 100 KLD and rooms more than 20                                                           | Orange | Medium |
| 8  | Hotel - waste water generation less than 10 KLD, having no boiler, No Hazardous waste generation and rooms less than 20           | Green  | Small  |
| 9  | Railway locomotive workshop / Integrated road transport workshop / authorized service centre - more than 100 KLD                  | Red    | Medium |
| 10 | Workshops - waste water generation less than 100 KLD                                                                              | Orange | Medium |
| 11 | Ports and Harbours - major                                                                                                        | Red    | Large  |
| 12 | Ports and Harbours - Minor                                                                                                        | Red    | Medium |
| 13 | Jetties and dredging operations                                                                                                   | Red    | Small  |
| 14 | Common Treatment and Disposal Facilities (CETP, TSDF,CBWTF, effluent conveyance project, incinerator, MSW sanitary landfill site) | Red    | Large  |
| 15 | Residential and Commercial complexes - waste water generation more than 100 KLD and built up area more than 20000 sq.m            | Red    | Large  |
| 16 | Residential and Commercial complexes - waste water generation less than 100 KLD and built up area more than 20000 sq.m            | Orange | Medium |
| 17 | Residential and Commercial complexes – built up area less than 20000 sq.m                                                         | Green  | Small  |

Member Secretary further informed the members that a Committee needs to be constituted to calculate the penalty so as to maintain uniformity. After deliberations, it was decided to entrust the said responsibility to the Technical Advisory Committee of the Board.

#### **Agenda item no. 05**

Representation received from M/s IFB Industries Ltd. requesting to change in category of industry from Red to Green Category.

Member Secretary informed the members that Agenda item no. 5 be taken along with Table item no. 2 as the matter refers to the same unit.

Member Secretary informed the members that the unit of M/s IFB Industries Ltd was earlier issued Consent under the Green category. However during inspection of the unit for Renewal of Consent it was noticed that the unit had established a powder coating unit/ surface treatment and has also installed 30 KLD effluent treatment plant for the treatment of the industrial effluents. Samples of the ETP collected by the Board failed for (BOD).

Member Secretary further informed the members that with regards to sample failure, the Board separately issued penalty under Polluter pay Principle to the unit. Further, since the unit also dealt with powder coating/ metal surface treatment as part of production, the unit was re-categorised



from Green category to Red category as per the revised CPCB guidelines/classification.

Since the unit was re-classified as Red category, the unit represented the Bard for re-categorisation under Green category stating that the is not liquid spray painting and is different from normal powder coating process and the process consists of water spray rinsing, degreasing, water spray rinsing, heating in oven, electrostatic powder coating and oven for curing and surface cleaning agents used are Sodium Meta silicate 30 - 60% tetra sodium Pyrophosphate 10 - 30%, Sodium carbonate 10 - 30%, alkyl phenol ethoxylate 5 - 10% in one stage cleaning.

Member Secretary further informed that on perusal of the process details submitted by the unit, it is seen that the basic process is similar as that of surface treatment / powder coating as classified by CPCB. Further, TAC on calculation of the scores of the unit has recommended that the unit be categorised as Green category.

Members approved for re-classification of the unit of M/s IFB Industries Ltd to Green category of Industry.

**Agenda item no. 06**  
Environmental Audit Scheme

Member Secretary informed the members that the Board grants Consent to Operate to industries under Water and Air Act, with a validity period for Consents as 5 years for Red category, 10 years for Orange category and 15 years for Green category. In this regard the Board at its 129<sup>th</sup> Board meeting held on 20<sup>th</sup> December 2017, had approved to carry out Environmental Audit of the industries. The Environmental Audit Scheme will be notified by the Department of Environment & Climate Change, Govt. of Goa along with the Goa Water and Air rules.

Member Secretary further informed the members that in order to carry out the said Audit, the Board is required to empanel a list of Auditors. Further, she proposed that the panel be constituted comprising of the following to carry out field as well as verification of documents, however, the duration of the audit will depend on the scope of the project. She further informed that the cost of the audit will be borne the industry / establishment:

1. Senior Official of the Scientific Section or as deputed by Chairman
2. Senior Official of the Technical Section or as deputed by the Chairman
3. Concerned Taluka JEE / EA
4. Expert in the field from reputed Engineering Colleges, NIO, Auditors or any other experts appointed by the Chairman

Member Secretary further proposed that the Auditors (non official members) be paid a fee of Rs. 3000/- per day (depending on the category of the industry and scale) which shall include travelling and other allowances.

Members approved for constituting the panel as proposed by the Member Secretary and also the honorarium. Members also highlighted that in the event an Expert is nominated from CPCB/ other State, the Expert member shall be paid to and fro fare and accommodation besides the honorarium.

**Agenda item no. 07**  
Distance Criteria for Permitting Stone Quarrying

Member Secretary informed the members that the Board is in receipt of a letter from Central

Pollution Control Board (CPCB) with regard to the directions of the Hon'ble National Green Tribunal Order in O.A. No 304/2019, which were examined by the Central Pollution Control Board, and a report prepared on Distance Criteria for Permitting Stone Quarrying for consideration and adoption by the State Pollution Control Boards.

Members perused the report as prepared by the Central Pollution Control Board and it was noted that the report as for the State of Goa states

- that a minimum distance of 200 metres be maintained where blasting is involved from the boundary of any railway line, any reservoir, canal, road, river, nallah, irrigation works or public works or building and
- a minimum distance of 50 metres where no blasting is involved from the boundary of any railway line, any reservoir, canal, road, river, nallah, irrigation works or public works or building.

The members deliberated on the said findings of the CPCB and it was pointed out by the member that the same is not in line with the Goa Daman and Diu Minor Mineral Concession Rules, 1985.

Member Secretary further informed that the office is in receipt of clarifications received from :

1. The Chief Town Planner stating that the distances for locating of stone crushers are prescribed in the Goa Daman and Diu Minor Mineral Concession Rules, 1985. Further, it is stated in the letter that the distance of 50 metres from stone quarry can have effect on noise and air pollution, environment and public health. Similarly the distance criteria of 100 mtrs. without blasting may not be practical in some cases.
2. Chief Engineer, Water Resource Dept. stating that the criteria proposed by CPCB of 100metres where blasting is not involved and 200 metres where blasting is involved appears to be reasonable. However section 78 of the Goa Irrigation Act, 1973 prohibits mining or quarrying operation requiring the use of explosives within a distance of 1.00 km from the boundary of a canal.
3. The Directorate of Mines and Geology has clarified that 'As per the Minor Mineral Concession Rules, 1985, Rule 22 (viii), the lessee shall not carry on or allow to be carried on any quarrying operations at any point within a distance of 50metres, if no blasting is involved and 200 metres, if blasting is involved from the boundary of any railway line except with the written permission of the Railway Authorities concerned or from the boundary of any reservoir, canal, road or public works or buildings except with the prior permission of the Government. The Railway Administration or the Government may while granting permission, impose such conditions as it may deem fit. In case of national monuments, such distance shall be 300 metres whether blasting is involved or not.'

After deliberations the members approved for grant of conditional Consent to the stone quarries, subject to obtaining prior permission from concerned State Government departments. The members also approved to forward the report of the Central Pollution Control Board to all the concerned departments.

#### **Agenda item no. 8**

Water and Environmental Audit of M/s Zuari Agro Chemicals Ltd.

Member Secretary informed the members that the Board was in receipt of various complainants from Mr. R. G Furtado, resident of Fatorda against M/s Zuari Agro Chemicals Ltd (ZACL) regarding

environmental pollution caused by the unit by discharging effluents into the sea through pipe line. In this regard the unit was directed to conduct environmental and water audit and the same was carried out by BITS Pilani, Goa. She further informed that the report of Environmental and water audit of the unit to the complainant and to Hon. Lokayukta, with details of actions proposed to be undertaken by the unit.

Members, after perusal of the environmental measures and specific conditions to be complied by the unit, decided that the Board shall verify the conditions for compliance or alternately seek the time line for complying of the conditions.

Member Secretary further informed the members that the unit carries out at their own cost analysis of the effluent samples before and after treatment through a laboratory recognized by Ministry of Environment, Forest and Climate Change under the Environment Protection Act, 1986 and Rules and results are submitted regularly to this Board, by 15th of the succeeding month. The analysis report so submitted are verified randomly with the reports of the Board.

III. With the permission of the Chair, Member Secretary took the following Table items for discussion.

**Table item no. 1**

Revision in the Delegation of powers

Member Secretary informed the members that the Board at its 135<sup>th</sup> meeting held on 2<sup>nd</sup> November, 2018 had delegated powers to its Officers with regard to Green category of units which was delegated to Scientist 'C' (Dr. Mohan Girap) of the Board. She further informed that the DSC/DPC of the Board has promoted two Junior Environmental Engineers of the Board against the vacant post of Assistant Environmental Engineer. In this regard it was proposed to delegate the powers to the two Assistant Environmental Engineers of the Board the units categorised under Green category (North Goa) to Mr. Keshav Fadke and Green category (South Goa) to Mrs. Nandan Prabhudessai. Similarly the Batteries (Management and Handling) Rules shall be handled by Mr. Keshav Fadke and the E-Waste Management rules shall be handled by Mrs. Nandan Prabhudessai

Further, Member Secretary also informed that Dr. Mohan Girap, Scientist 'C' shall be allotted works with respect to monitoring of the compliances to the directions of CPCB /MoEF, / Hon. Courts and National Green Tribunal

Members approved for the re-delegation of powers

**Table item no. 02**

Representation received from M/s IFB Industries Ltd, requesting for change from Red category of industry to Green Category of industry.

This Table item was read with Agenda item no. 5

**Table Item no. 3**

Application of M/s Deccan Fine Chemicals (I) Pvt. Ltd. for change in product mix

Member Secretary informed the members that the Board is in receipt of an application from M/s Deccan Fine Chemicals (I) Pvt. Ltd. located at Survey no. 28, Santa Monica Works, Corlim, Ilhas Goa for Consent to Operate under the Air Act and Water Act and the Hazardous and Other Waste Rules for change in the product mix – to utilize the consented capacity of 1600 TPA Thiomethoxam (TMX) /

Metabromuron for the manufacture of 1600 TPA of MAT – 26 / Thiomethoxam (TMX) / Metabromuron.

The members perused the details of the production process and also noted the recommendations of the TAC for grant of Consent to Operate with a condition that the Board carries out regular monitoring to ensure that parameters do not exceed the permissible limits and the company should monitor the pollution load over a period of time to ensure that the pollution load is within the permissible limits.

Members approved for grant of Consent to Operate incorporating the recommendations of the TAC.

#### **Table Item no. 4**

##### **Report of the Internal Complaints Committee**

During discussion of this Table item, Chairman recused himself from the discussion.

Member Secretary informed the members that the Board was in receipt of a complaint from its official of a case of sexual harassment filed against the Chairman of the Board in December, 2018. She further informed the members that the report of the Internal Complaints Committee was placed before the Board at its 141<sup>st</sup> meeting held on 11<sup>th</sup> December, 2019. The members accepted the report as submitted by the Committee. She further informed that a copy of the report has also been handed over to the Complainant by the Committee. She further informed that the office has till date not received any objections from the complainant to the Report of the Committee.

Member Secretary informed the members that the recommendation of the Committee states ;

1. As there is no evidence of sexual harassment the case is closed and no action is proposed against the Respondent.
2. The complainant should approach the Member Secretary of GSPCB on issues relating to leave / salary and alleged harassment at work.
3. The Member Secretary should take appropriate action on the complaint of complainant, as deemed fit under the service rules regarding leaves / salary and alleged harassment at work.

On perusal of the recommendations of the Committee, the members desired that action under CCS CCA (Conduct Rules) be initiated against the official for lodging a false and frivolous complaint against the Chairman of the Board. The members authorised the Member Secretary to carry out disciplinary proceedings against the Official. Further, the members approved for appointment of an Inquiry Officer, preferably a Lady Officer in Group 'A' of the State Government to carry out the inquiry, so as to give equal opportunity to the complainant to place her submissions.

#### **Table Item no. 5**

Application submitted by Goa Waste Management Corporation for registration as Producer Responsibility Organization.

Member Secretary informed the members that Goa Waste Management Corporation (GWMC) has submitted an application to the Board to register as Producer Responsibility Organization (PRO) as provided in the Solid Waste Management Rules, 2016, to ensure establishment of collection centre's and disposal of waste which the GWMC is already carrying out on behalf of the State Government.

Members agreed for registration of Goa Waste Management Corporation (GWMC) as Producer Responsibility Organization (PRO)

Further, Member Secretary also informed that if any other agency desiring to associate with GWMC, the Board should fix a registration fee. The members approved a fee of Rs. 15,000/- per annum. The members also approved a fee for granting authorization to waste collectors to Rs.10,000/- for the first time and Rs. 5,000/- per year thereafter.

IV. The meeting ended with thanks to the Chair

**MINUTES OF THE 145<sup>th</sup> MEETING OF THE GOA STATE POLLUTION CONTROL BOARD HELDON 14<sup>th</sup>OCTOBER, 2020 AT 3.00 pm IN THE CONFERENCE HALL OF THE BOARD.**

I. The 145<sup>th</sup> meeting of the Goa State Pollution Control Board was held on 14<sup>th</sup>October at 3.00 pm in the Conference hall of the Board.

The following members attended the meeting:

|     |                                                                                            |
|-----|--------------------------------------------------------------------------------------------|
| 1.  | Mr. Ganesh B. Shetgaonkar, Chairman                                                        |
| 2.  | Director of Industries, Trade and Commerce was represented by Shri Prashant Kamat, F.M – I |
| 3.  | Chief Engineer, Water Resource Dept. was represented by Mr. R.S. Godi, E.O., WRD           |
| 4.  | Director of Mines was represented by Mr.Abhish Hede, DD-II                                 |
| 5.  | Director of Tourism was represented by Mr. Subhash Kavlekar, Asst. Director                |
| 6.  | Director of Health Services was represented by Dr. Surekha Parulekar                       |
| 7.  | Mr. Shawn Brian Martins, Panch Member, Village Panchayat Calangute                         |
| 8.  | Mr.ShubhamChodankar, Corporator, Corporation of the City of Panaji                         |
| 9.  | Mrs.UnnatiSahastrabudhe, Panch Member, Village Panchayat Velguem                           |
| 10. | Mr. Rajsingh Rane, Councillor Mapusa Municipal Council                                     |
| 11. | Mr. Sanjay Naik, Panch Member, Village PanchayatSanvordem                                  |
| 12. | Mr. Blaise Costabir, Chairman, Confederation of Indian Industries                          |
| 13. | Mr. Nilesh Shah, President Travel and Tourism Association of Goa                           |
| 14. | Dr. (Mrs.) Shamila Monteiro, Member Secretary                                              |

II. Member Secretary welcomed the members for the meeting. The agenda items for the meeting were then taken for discussion.

**Agenda Item no. 01**

Confirmation of the minutes of the 144<sup>th</sup> meeting of the Goa State Pollution Control Board held on 06/07/2020.

The minutes of the 144<sup>th</sup> meeting of the Board held on 06/07/2020 were forwarded to all the members vide this office letter no. 4/143/20-PCB/Admn./5148 dated 14/07/2020, were confirmed, so as to enter in the Minutes Book.

**Agenda Item no. 2**

Follow up action on the decision taken by the Board at its 144<sup>th</sup> meeting held on 06/07/2020.



Agenda item no. 3- Complaint of Mr. Gabriel Fernandes against the unit of - M/s Jolly Metals –The reports from Commercial Taxes Dept. the Consent to Operate granted by the Board and No objection Certificate of the Village Panchayat as submitted during the submission of application were placed before the Members as evidence.

The members noted the same and decided to seek the electricity bills from M/s. Jolly Metals and further verify the same from the Electricity Department.

Agenda item no. 19 (of the follow up action of the 143<sup>rd</sup> Board meeting) – The Members noted to the typographical error with regards to '*Junior Laboratory Assistant of the Board with atleast 5 years regular service in the Board and possessing the qualifications of M.Tech in Environmental Engineering, failing which by Direct recruitment*'. The members approved the proposal for amendment of the Recruitment Rules for the post of Assistant Environmental Engineer, Junior Environmental Engineer and Engineering Assistant (Civil).

It was further resolved to send a proposal to the State Government/ Department of Environment, Government of Goa conveying the present decision of the Board for creation of 3 additional posts of Assistant Environmental Engineer and 8 additional posts of Junior Environmental Engineer in the GSPCB. It was also decided to inform the State Government/ Department of Environment, Government of Goa to abolish 1 vacant post of Engineering Assistant (civil). It is decided that along with the above proposal, the Board will also submit the proposal for creation of the following new posts as decided at its 143<sup>rd</sup> meeting; as the government has not yet conveyed its approval for the same namely;

1. Scientist 'B' – 02 nos. of posts  
Additional 2 nos of posts to be filled by promotion. Accordingly serial no. 2 of the R.R.s to be amended as '5' and serial no. 10 to be read as 80% by promotion of Scientific Assistant of the Board with atleast 5 years experience, failing which by direct recruitment and 20% by direct recruitment.
2. Law Officer – 01 no. of post (new post)
3. Administrative Officer - 01 no. of post (new post)
4. Assistant Engineer (Information Technology) – 01 (new post)

Agenda item no. 4 (B) – The Members noted that the Office order is issued to the Technical Advisory Committee of the Board for calculating the penalty under Polluters Pay Principal.

Agenda item no. 6 – The Members noted that the Office order has been issued appointing a panel of Auditors to carry out Environmental Audit of Industries.

Agenda item no. 20- The Members granted ex-post facto approval for the corrigendum issued to Adv. S.B.Faria.

Table item no. 1 – Members noted that the Office order has been issued delegating the powers to the Assistant Environmental Engineers with respect to Green categories of industries.

Table item no. 4 – The Members noted that the proposal for appointment of Inquiry Officer has been sent to the Department of Environment in this respect.

### **Agenda item no. 03**

Constitution of a Committee to frame conditions for use of ETP/ STP treated water.

The Member Secretary informed the members that, it has been observed that many a times the soak pits fail due to impervious rock strata, high water table near coastal regions, improper design and maintenance etc., they also cause are known to cause groundwater pollution. Hence an alternative solution is required to be identified for use of this waste water for sub- surface irrigation for plants in gardens after treatment hence eliminating their use.

The Member Secretary further informed the Members that, it has been also observed that many housing complexes are not utilizing their STP treated water effectively due to lack of garden area hence one can use sub-surface irrigation method with special water consuming plants as it utilizes much more water than the conventional surface irrigation. Such systems have been already installed in multiple households. The question regarding scientific effectiveness, validity and safety of these systems remain unexplored. Hence it was proposed to have Expert committee to study existing systems and suggest improvements/precautions/modifications and guide the Board set guidelines to scientifically execute, use and maintain proposed systems with aim of finally bringing it within the legal framework for state wide implementation.

As per Rule 9 of the Goa Water Section 9 of the Water (Prevention and Control of Pollution) Act, 1974, as amended, an Expert Committee comprising of the following Officers of the various Departments / Offices to assist the Board has been constituted by the Chairman.

The Members granted an ex-post facto approval to the order issued for the constitution of the Expert Committee.

**Agenda item no. 04:**

Application of M/s Salgaonkar Mining Industries Pvt. Ltd. for refund of Consent fees.

The Member Secretary informed the members that the Board is in receipt of an application from M/s Salgaonkar Mining Industries Pvt. Ltd. (Barge loading Jetty at Digashi) for refund of Consent fees, made for renewal of the Consent to Operate under the Air Act and the Water Act in October 2012 from M/s. Salgaonkar Mining Industries Pvt. Ltd., located at Survey no. 218/1 & 219, Panchwadi, Ponda Goa for the operation of barge loading facility.

The Member Secretary further informed that the applications of mining and related activities were not processed due to suspension of mining operations in response to the Hon`ble Supreme Court decision. Application for refund of Consent fees of the application made for Renewal of the Consent to Operate under the Air Act and the Water Act was made by the company vide letter dated 01/07/2019 .

Members agreed to the refund of fees to the applicant upon verification of any administrative cost incurred.

**Agenda item no. 05**

Request of the Canteen Operator for reduction in the rent charges.

The Member Secretary informed the Members that, the Board vide its 139<sup>th</sup> meeting held on 08/05/2019 had approved for setting up of a Canteen facility at the Board premises through a Self Help Group on a rent of Rs. 5000/- per month plus Rs. 1000/- towards electricity and water consumption, totalling Rs. 6,000/- per month of a period of one year to be renewed further. Accordingly an agreement to this effect was signed.

The Member Secretary further informed that, vide letter dated 23/012020 the Canteen operator had made a request for reduction in rent to Rs. 2000/- per month. The said request was placed before

the Board meeting held on 22/05/2020 and it was agreed to reduce the rent to Rs. 3000/- per month i.e Rs. 2,000/- as rent and Rs. 1,000/- towards electricity and water consumption, with a condition to lower the rate of food items for the Board staff, to be applicable from the month of June, 2020.

Further, the Canteen Operator vide letter dated 01/07/2020 has requested to waive the monthly rent during the lock down period, which was agreed upon. The Canteen operator has an outstanding rent for the months of October, 2019 to December, 2019, January, February, March and May, 2020. Vide her letter she has also requested to renew the contract for a further period of one year, @ Rs. 3000/- per month.

As regard to lowering the rates to the Board staff she has informed that if the number of the canteen users is increased, she will be in a position to work out better rates. She was informed that this request cannot be considered.

The Member Secretary informed the Member that the Canteen Operator has now vide letter dated 22/07/2020 has requested to make the reduced monthly rent of Rs. 3000/- per month be made applicable for the months of October, 2019 to December, 2019, January, February, March, May, 2020, citing number of canteen users were less.

Members approved the request of Canteen operator for the reduction of monthly rent to Rs. 3,000/- for the months of for the months of October, 2019 to December, 2019, January, February, March, May, 2020.

#### **Agenda item no. 06**

Application for Consent to Operate under Air and Water Acts (Expansion) from M/s Mormugoa Port Trust (MPT) for the operation of mooring dolphin 1,2,3

The Member Secretary informed the members that MPT has applied for Consent to Operate (expansion) for the Consent issued under no. 12/2020-PCB/447716/R0003496 dated 27/05/2020 for coal/coke handling at mooring dolphin 1, 2, 3. MPT has requested permission for total dry bulk ( such as ores and minerals of all types, including iron ore, limestone, bauxite, manganese, river sand, coal/coke etc) and break bulk ( such as pig iron and iron ore pellets) handling of 5 MMTPH quantity at mooring dolphin 1, 2, 3. MPT vide letter dated 30/07/2020 has also requested for full term Consent upto 5 years.

Earlier MPT had submitted representation for coal handling at Mooring dolphin 1,2,3. The same was placed at 143<sup>rd</sup> Board Meeting. On perusal of the agenda notes and after deliberations, the members at the 143<sup>rd</sup> Board meeting noted that since the air quality monitoring reports were within the limits, the Board could permit MPT to allow handling of two ships of consignments of coal / coke on trial basis till June, 2020 at mooring dolphin no. 2 and 3 incorporating the conditions that the Port will have to monitor the air quality, analyse the water and sediment samples during the said period. It was decided that the Board will take a call on the requested quantity for handling 2 MMTPA after the Port makes a detailed presentation before the TAC of the Board and after the IIT Source Apportionment Study is completed. The Board had granted permission for two consignments only. Accordingly, the Board had granted permissions to MPT for coal handling upto 30/6/2020 for 100000 MT (Two cargo vessels) only with stringent environmental measures and monitoring conditions.

As per the Consent conditions, MPT had conducted AAQM at three locations (Khariwadda - location I, Opposite MPT workshop - location II and MPT 'D' quarters- location III) during the coal Handling at mooring dolphin during the above permission. The unit had submitted the monitoring reports.

The unit has now requested for total dry bulk ( such as ores and minerals of all types, including iron ore, limestone, bauxite, manganese, river sand, coal/coke etc)and break bulk ( such as pig iron and iron ore pellets) handling to 5 MMTPA.

The Member Secretary further informed the members that, there are also complaints and petitions filed by NGO against the coal/coke handling at the mooring dolphin by MPT. Presently there is a Petition no. 24/20118 filed by Mr. Sherwyn Correia in the High Court and by Mr. Abhijit Prabhudessai vide no. 8/18 in the Administrative Tribunal. IIT has not yet submitted the Source Apportionment study report.

On behalf of the MPT, Shri. Sudin Prabhudessai, Superintendent Engineer, made a presentation seeking permission to handle 2 MMT/annum of coal/coke. In the presentation, Shri. Prabhudessai highlighted the pollution control measures adopted by MPT during the previous trial handling period i.e. from 10/06/2020 to 29/06/2020, as per the permission granted by the Board. Shri. Prabhudessai also submitted that BITS had carried out a modelling study which indicates that at 3 mtrs/seconds wind speed, the particles will transmit a maximum distance of 800 meters to 1 KM from Dolphins to land. He also submitted that all necessary data as sought by Dr. Sethi, IIT Mumbai for the purpose of Source Apportionment Study has been submitted to Dr.Sethi.

It was submitted that the request is for coal/coke handling for the local consumption/processing within the state of Goa and will reduce the load on the road transportation.

After detailed deliberation and discussion on weighing the aspects of pollution that would be caused in case the coal is transported by road, the Board decided to permit 2 ships per month, not exceeding to 0.2 MMT/month for loading of coal at Mooring Dolphins nos. 2 &3 restricted upto 31<sup>st</sup> December 2020, subject to the following conditions;

- i) The unit shall ensure that machinery and equipment operated for handling of cargo shall be done by skilled persons so that cargo spillage is avoided and generally the ship gears only are used for cargo.
- ii) The Unit shall ensure that the cargo is fully covered during transportation through barges.
- iii) Unit shall ensure that the during loading/unloading operation of dry bulk cargo, necessary dust suppression system to the extent feasible would be taken up on barges to make the cargo wet so as to reduce the flow of particle carried away with wind. The cargo will be dropped from the lowest possible height within the hatches of ship/barges which will help to control the air pollution if any within the permissible limits.
- iv) The facility should obtain Environmental Clearance for the mooring dolphins 4, 5 and 6.
- v) Cargo handling operations can be carried out at wind velocities upto 8m/s. and all materials handling operations should be stopped at wind speed beyond 8m/s. Wind monitoring should be carried out at the Mooring Dolphin.
- vi) Operation at Mooring Dolphin may be carried out at either Mooring Dolphin3 or Mooring Dolphin2 to ensure that particles do not reach city due to dispersion.
- vii) Cargo handling operations can be carried out at release height of the material between 2m to 3m.

- viii) Moisture content of material should be kept on higher (minimum 10%) side to ensure suppression of particles.
- ix) Water sprinkling and mist cannon has to be used to control dust pollution .
- x) The unit shall provide tarpaulin sheet in between the vessel and barge to prevent spillage in the sea.
- xi) The unit has to carryout Ambient Air Quality Monitoring from Ministry of Environment, Forests and Climate Change approved laboratory at MPT premises, Sada area and Khariwada area during cola/coke handling and data has to be submitted to the Board. The Board shall also carry out Ambient Air Quality and water quality analysis at cost to the unit.
- xii) The unit has to carry out water and sediment monitoring from Ministry of Environment, Forests and Climate Change approved laboratory near the mooring dolphin during coal/coke handling and data to be submitted to Board.
- xiii) BITS should revalidate its modelling study during the unloading process. Necessary arrangements for BITS study has to be done prior to handing. The same will have to be intimated to the Board
- xiv) The Board should be intimated at least one week in advance before carrying out the monitoring.
- xv) Cargo should be transported only through barges from Mooring Dolphin to Jetty at Plant of Vedanta.

#### **Agenda item no. 07**

Restricting use of Methyle Bromide for controlled use i.e fumigation.

The Member Secretary informed the members that the Board is in receipt of letter dated 18/08/2020 from Department of Environment & Climate change forwarding the D.O No. 35/3/2020/PMU-OC dated 28/07/2020 received from the Joint Secretary, Ministry of Environment and Climate Change, New Delhi, regarding ban on Ozone Substances (ODS). It is submitted that the Ozone Depleting Substances (Regulation and Control) Rules, 2000 (ODS Rules) and its amendments, issued under the Environment (Protection) Act, 1986, inter-alia regulate the production/consumption of Ozone Depleting Substances (ODSs) mentioned in Schedule-I of the said Rules. Globally, the use of ODSs are regulated and controlled under the Montreal Protocol on Substances that Deplete the Ozone Layer. India is Party to the Montreal Protocol.

The Member Secretary informed that Methyl bromide is one of the ODSs and its production and consumption is controlled under the Montreal Protocol. India became party to the Vienna Convention for Protection of the Ozone Layer on 19<sup>th</sup> June, 1991 and the Montreal Protocol on Substances that Deplete the Ozone Layer on 17<sup>th</sup> September 1992.

As per the phase-out schedule of the Montreal Protocol for methyl bromide non Articles-5 parties (Developed countries) and Article 5 Parties (Developing countries) have already phased-out the production and consumption of methyl bromide as on 1<sup>st</sup> January, 2005, and 1<sup>st</sup> January, 2015 respectively. Under the Montreal Protocol there are two types of uses viz. Controlled uses and exempted uses. In compliance with the Montreal Protocol, India has phased out controlled use of methyl bromide i.e. fumigation.



The use of methyl bromide for Quarantine and pre-shipment (QPS) application is exempted under the Montreal Protocol. The phase-out date for production and consumption for controlled uses (non-QPS uses) is 1<sup>st</sup> January, 2015.

The Ozone Depleting Substances (Regulation and Control) Rules 2000, under the Environment (Protection) Act, 1986 has been notified in the Gazette of India on 19<sup>th</sup> July, 2000. These Rules set the deadlines for phasing out of various ODSs, besides regulating production, consumption, trade, import and export of ODSs and the products containing ODSs. The ODS Rules were amended in 2001, 2003, 2004, 2005, 2006, 2007 2014 and 2019 to facilitate implementation of ODS phase –out by the enterprise in various sectors.

As per the Ozone Depleting Substances (Regulation and Control) Amendment Rules, 2014, production and consumption of Group VIII substances (methyl bromide) specified in column (4) of Schedule I have been prohibited except for use in quarantine and pre-shipment applications from the date of commencement of the Ozone Depleting Substances (Regulation and Control) Amendment Rules, 2014. The same requires to be noted for any future use of Methyl Bromide keeping in view the International obligations and domestic Law.

After deliberation, the members approved to regulate the restricted /phased out controlled use of methyl bromide i.e. fumigation.

#### **Agenda item no. 8**

Application for renewal of Consent to Establish for handling and storage of Liquefied Petroleum Gas.

The Member Secretary informed the Members that M/s Ganesh Benzoplast Ltd. is located at Headland sada, Upper jetty area, Bogda Road, Mormugao. The unit deals in warehousing facility for storage of imported and exported liquid products, petroleum and petrochemical of Class A, B and C such as SKO, HSD, Naphtha, Furnace oil, caustic soda, Ethanol, Methanol, Sulphuric acid, edible oil. Earlier, the unit had taken CTE for the installation of LPG storage tanks. The same was valid till 20/4/2019. The Unit has now applied for Renewal of Consent to Establish . The unit has proposed to expansion of handling and storage of LPG. The projects involves construction of two storage tanks for storage of propane and butane, MS pipeline from berth no. 8 to the premises at Sada (the M/s Ganesh benzoplas), pump house for road loading, bullet loading, ethylemercaptant dosing, and fire water, 8 bay truck loading gantry, 02 nos. of weigh bridge, DG room and compressor room. The unit has also proposed two tank of cup in cup double wall tanks of 10000 MT capacity each for storage of propane and butane. Propane and butane will be imported through vessels/ship at berth no. 8, manifold will be connected to vessel and the LPG/Propane /Butane will be transported to storage tanks through pipe lines. The same pipe line will be passing through MPT area and nearby residential area. The products will be transported to plant from the jetty using booster pumps. Two 40 tons capacity each bullets will be used for storage of liquids vapors. The propane, butane and liquid from the bullets will be mixed as per the customers requirements and will be loaded/filled into trucks through truck loading bay. The LPG loaded in trucks will be transported via road. The unit has proposed to install fire fighting system, gas monitoring system. Fire water tank of 4700 m3 is proposed for fire fighting. For existing facility, the unit has provided 2700 KL of water storage tank. Also unit has provided 80 KL capacity two water storage tanks.

**The Member Secretary informed that there are many residential house located next to the existing underground pipeline of M/s Ganesh Benzoplast Ltd. Office of Fisheries Survey of India is located next to the Eastern Boundary wall of the unit. Food Corporation of India**

warehouse is located on the western side of the unit. Holiday home of HPCL is located on the northern side across the road. There is an open space on the southern side of the unit (rear side). Apart from the above there are many residential house and Educational Institute in the vicinity of the unit.

The Member Secretary further informed that the unit has applied for the Mormugoa Municipal Council NOC, however the same is not yet issued. Earlier with regards to the storage of naphtha from the vessel NU SHI NALINI, the Board had granted main Consent only for six months which was valid till 03/07/2020 with specific conditions and submission of Bank Guarantee. Later, the same was extended to another six months due to COVID 19. The unit has obtained EC from the GSEIAA. The same is valid upto May 2021.

The Member Secretary further informed that the Board has also issued direction on 07/05/2020 under Polluter Pay Principal for causing environmental damage for make payment of Rs. 31428/-. The unit submitted its reply stating that no details of the operations of the unit without Consent is mentioned. Unit has also requested to represent its case. Board vide letter 1/20/19-PCBHF/Tech /2610 dated 05/06/2020 communicated the unit to obtain approval from South Goa Collector for the on-site and off- site plan and the application will be considered only after the approval of on-site and off-site plan by the Collector South Goa. Also it was proposed in the OCMMS to reject the application by placing before the Board.

Compliance status to main Consent issued by Board vide order dated 03/01/2020 and 15/07/2020

|   | Specific Conditions                                                                                                                                                                                                                                                                 | Compliance                                                                                                                                                                                                                                                                               |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | The unit has to submit safety report and mock drill report to the office as per the Manufacture storage and import of the Hazardous chemical Rules 1989 within 15 days.                                                                                                             | Unit vide letter dated 22/01/2020 has submitted the safety report, mock drill report and Bank Guarantee of Rs. 3 lakhs.                                                                                                                                                                  |
| 2 | The unit has to provide oil water separator for the monsoon runoff for the dyke wall and also provide oil water separator for the storm water drain outlet. The area inside the dyke wall has to be concreted and the flow to be diverted in oil water separator/trap with 3months. | Unit has not yet provided the oil and grease trap. The inside of dyke wall is not yet concreted.                                                                                                                                                                                         |
| 3 | The wash water generated during the tank cleaning activity will have to be collected in a tank and to be sent for recycling or should be treated within the facility. Records of the same will have to maintained. The same facility has to be provided within 3 months.            | Unit has maintained the manifest copy of disposal of tank cleaning.                                                                                                                                                                                                                      |
| 4 | The facility shall obtain approval of District Magistrate for off-site emergency plan.                                                                                                                                                                                              | Unit has submitted the offsite emergency plan to south Goa collector vide letter 20/12/2019. Also Board vide letter dated 05/06/2020 had communicated the Unit to obtain approval from South Goa Collector for the onsite and offsite plan. However the same is not obtained by the unit |
| 5 | The facility shall dispose the stored Naptha as soon as possible.                                                                                                                                                                                                                   | Naphtha stored has been disposed. Presently there is no storage of naphtha.                                                                                                                                                                                                              |

|   |                                                                                                                                                                                       |                                                                                                                            |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| 6 | The unit shall have valid TREM cards in case the cargo is transported by road.                                                                                                        | Unit has not yet started the road transportation. Submitted that they usually prepare the TREM card during road transport. |
| 7 | The unit shall ensure that the pipeline near Berth No.8 is passed underground and submit compliance report to this office within three months from the date of issue of this consent. | The same is not yet complied.                                                                                              |
| 8 | The unit will have to submit Bank Guarantee of rupees 3 Lakhs with a validity of one year for the compliance of the above conditions within 10 days.                                  | Unit has submitted bank guarantee of Rs. 3 lakhs for the compliance valid upto January 2021.                               |

After deliberation, the members decided to defer Renewal of Consent to Establish to M/s Ganesh Benzoplast Ltd., for handling and storage of LPG upon compliance to all the specific conditions mentioned above.

### **Agenda Item no. 9**

Revocation of Polluter Pay Principal penalty for Calcinied Petroleum Industries.

The Member Secretary informed the member that, the Board had conducted stack monitoring of the kiln stack of M/s Goa Carbon Ltd. on 30/05/2019. The report indicated that the parameter for SO<sub>2</sub> had exceeded the permissible limits mentioned in the Consent to Operate. Accordingly, directions were issued by the Board vide order 1/25/19-PCB/LD-232 dated 17/06/2019 and show cause notice 1/25/19-PCB/SCN-88 dated 17/06/2019. The unit vide letter dated 27/06/2019 submitted their reply with regards to the directions and show cause notice. The unit submitted that at present there are no national standards specified for the SO<sub>2</sub> emission for calcined petroleum industries. It was submitted that CPCB and MoEF&CC are in the process of estimating the norms/standards for the calcined petroleum industries. It was also submitted that during the initial start-up, Furnace oil is utilised and the SO<sub>2</sub> mentioned is only for the furnace oil emission and no standards specified for SO<sub>2</sub> emission from the calcined petroleum coke manufacturing industries.

The Member Secretary further informed the members that the application/representation was placed before the TAC of the Board. The unit was directed to make detailed presentations of the same before the TAC. The unit submitted that latest Supreme Court order dated 13<sup>th</sup> September 2019 in the matter WP(Civil) no.13029 of 1985 along with the Affidavit filed by MoEF&CC in the matter regards to SO<sub>2</sub> and the use of FGD for calcined industry. The TAC opined to wait till MoEF&CC prescribes the standards for SO<sub>2</sub> as per the Supreme Court order.

After deliberation, the members approved to the revocation of SCN and Polluter Pay Penalty as presently no standards are specified for SO<sub>2</sub> emission for calcined industry.

### **Agenda item no. 10**

Guidelines for Environmental Management of Dairy Farms and Gaushalas and Categorization

The Member Secretary informed the members that the Board is in receipt of directions from Central Pollution Control Board (CPCB) for implementation of Guidelines for Environmental Management of Dairy farms and Gaushalas. This is in compliance to National Green Tribunal order in OA No 46/2018 in the matter of Nugehalli Jaysimha V/s Government of NCT of Delhi.

As per the guidelines:

|    |                                                                                                                                                                                                                                                                                                                                                                                                               |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Dairy farms where milching animals (cows/buffaloes) are housed to produce milk for distribution and supply to milk processing plants.                                                                                                                                                                                                                                                                         |
| 2. | The disposal of waste generated from the dairies and gaushalas is non-toxic and basically organic in nature. The waste should be handled properly and treated using composting/vermin-composting, biogas or compressed biogas production or manufacture of dung wood for use of fuel. The domestic hazardous waste generated should be disposed of as per the provision in Solid Waste Management Rules, 2016 |
| 3. | Waste water generated should be adequately treated so as to meet the standards prescribed by the SPCBs/PCCS.                                                                                                                                                                                                                                                                                                  |
| 4. | The dairy farms /gaushalas control odour and noise as per the guidelines. The dairy farms and gaushalas should improve/modify the quality and dosage of feed/forage/supplements in order to reduce enteric methane gas generations from livestock                                                                                                                                                             |
| 5. | Siting policy stated in the guidelines should be implemented by the Local Bodies, Town & Country Planning dept., Animal Husbandry Dept.                                                                                                                                                                                                                                                                       |
| 6. | The local bodies and the SPCBs/PCCs should comply to the regulatory/monitoring mechanisms stated in the guidelines                                                                                                                                                                                                                                                                                            |
| 7. | <b>Stand alone or isolated dairy farms having 15 animals &amp; above shall obtain CTE/CTO under Orange Category.</b>                                                                                                                                                                                                                                                                                          |
| 8. | <b>Dairy Farms in colonies/clusters should obtain CTE/CTO in Orange Category</b>                                                                                                                                                                                                                                                                                                                              |
| 9. | <b>Gaushalas where sick, weak, injured, handicapped and homeless cattles/cows are house for rehabilitation are categorized under Green category. If the overall waste water generation exceeds 100KLD then the gaushalas shall be categorized under Orange Category.</b>                                                                                                                                      |

The Member Secretary further informed the member that the said guidelines and the NGT order are already forwarded to concerned departments for implementation. Further, the Board has also issued Public notice in local dailies on 05<sup>th</sup> September 2020 for implementation of the guidelines and also directing units to apply for Consent to establish / Consent to operate of the Board.

Upon deliberation, the members decided that the Chairman may call the representatives from the dairy farm operators, gaushalas and Department of Animal Husbandry and decide on how to achieve the directions of the Hon. NGT and accordingly propose to the Government some welfare measures, if at all required.

#### **Agenda item no. 11**

Criteria for operation of stone quarries.

The Member Secretary informed the members that the Board is in receipt of Order from Central Pollution Control Board in the matter of OA NO 304/2019 which has approved the minimum distance criteria for operation of stone quarries close to residential and public roads and directing that the same minimum criteria has to be followed throughout the Country.

As per the Order, the minimum safe distance for permitting stone quarries by the SPCBs is as follows:

| Mining Type | Minimum distance | Locations |
|-------------|------------------|-----------|
|-------------|------------------|-----------|

|    |                               |        |                                                                                           |
|----|-------------------------------|--------|-------------------------------------------------------------------------------------------|
| A. | When Blasting in not involved | 100m   | Residential/Public buildings/<br>Inhabited sites, locations to be<br>considered by States |
| B. | When Blasting in involved     | 200m** |                                                                                           |

\*\* Note: The regulations for danger zone (500 m) prescribed by Director General of Mines Safety also have to be complied compulsorily and necessary measures should be taken to minimize the impact on environment.

The Member Secretary further informed the members that, if any State is having stringent criteria than the above for minor mineral (i.e. more prescribed distances than the above), then the same shall be applicable.

The Members approved to regularise the said criteria for operation of stone quarries.

### **Agenda item no. 12**

Guidelines for setting up of new Petrol pumps.

The Member Secretary informed the members that, in compliance to NGT order in OA no 86/2019: gyanprakash@pappusingh V/s Gol&Ors, guidelines are required to be implemented and monitored by District Administration, State Pollution Control Boards and other concerned departments. The guidelines are forwarded to the Collectors (North/South). Meeting is conveyed by Collector South in this regard.

The Member Secretary further informed the members that, as per the CPCB Categorization of 29<sup>th</sup> February, 2016 the automobile fuel outlets (only dispensing) are categorized under White Category. Hence the Petrol Pumps are only required to register with the Board and the main department for monitoring is the District Administration. However the proponents shall bear the cost of monitoring that is required to be carried out by the Board as per the guidelines.

The Members noted the same.

### **Agenda item no. 13**

Mechanism / Guidelines for control of pollution and enforcement of Environmental norms at Individual Establishments

The Member Secretary informed the members that the Board is in receipt of the mechanism / guidelines for control of pollution and enforcement of Environmental Norms at Individual Establishments and the area /cluster of restaurants/hotels/motels/banquets etc. from Central Pollution Control board for implementation. The same is prepared by CPCB in lieu of the NGT order in OA No 400/2017. (Guidelines are enclosed herewith)

The Member Secretary further informed the members that the guidelines highlights measures on environmental issues related to restaurants/ hotels/ motels/ banquets etc and mitigation measures.

However, with regard to STP standards it is proposed to approve the standards as per directions issued by Central Pollution Control Board vide order File No. A19014/43/06 – Mon dated 21<sup>st</sup> April 2015, which are as follows:

| pH               | Between       | 5.5 & 9.0        |
|------------------|---------------|------------------|
| Suspended Solids | Not to exceed | Not more than 20 |



|                    |               |               |
|--------------------|---------------|---------------|
| BOD, 3 days, 27° C | Not to exceed | 10 mg/l       |
| COD                | Not to exceed | 50 mg/l       |
| Oil & Grease       | Not to exceed | 10mg/l        |
| NH4-N              | Not to exceed | 5mg/l         |
| N-total            | Not to exceed | 10mg/l        |
| Fecal Coliform     | Less than     | 100 MPN/100ml |

Upon deliberation, the Members approved to implement the guidelines and standards.

#### **Agenda item no. 14**

Requisite measures to study mechanism for stone crushers

The Member Secretary informed the Members that as per the Order by Hon'ble NGT in OA No 739/2018, Central Pollution Control Board (CPCB) was directed to develop the requisite mechanism for stone crushers to study:

- i. Damage to the Air Quality,
- ii. Damage Assessment of Health issues and
- iii. Agricultural Production Loss.

Accordingly, CPCB has developed the mechanism and forwarded to State Pollution Control Boards / Pollution Control Committees for implementation.

Members approved to adopt the said mechanism.

#### **Agenda item no. 15**

Classification of the unit of M/s Khedekar Industries

The Member Secretary informed the members that the Board is in receipt of a letter from M/s. Khedekar Industries engaged in making papad and pickles. They have stated that their activity is not clearly specified in the revised CPCB categorization. They have also given reference of Gujarat Pollution Control Board in which this activity has been categorized under White category and exempted from obtaining Consent.

The Member Secretary further informed the members that, as per revised CPCB categorization, although papad and pickle making is not specified, activity of **Food and food processing including fruits and vegetable processing** is mentioned in ORANGE category and the same is followed so far.

The Member Secretary further informed the members that, the request of the unit was placed before the Technical Advisory Committee and the score was calculated based on CPCB directions. As per Score Calculation and as recommended by TAC the unit is categorized under GREEN CATEGORY.

Members approved the recommendation of TAC to classify the unit under GREEN CATEGORY.

#### **Agenda item no. 16**

Preparation of Seniority list of the staff

The Member Secretary informed the Members that;

In the matter of Scientific Assistants appointed in the year 2007 - Advertisement was issued

in the newspaper for filling up three posts of Scientific Assistants in the Board office. Interview for the said post was conducted on 12/03/2007. As per the available photocopy of the marking list, Mrs. Anny has scored 69 marks, Mrs. Livia has scored 64 marks and Mr. Nilesh has scored 64 marks. The noting as prepared has got the following listed (1) Nilesh (2) Livia (3) Anny. Actually, where Anny should have been listed 1<sup>st</sup>, Nilesh as 2<sup>nd</sup> (since both Nilesh and Livia has scored the same marks and Nilesh being senior in age) and Livia as 3<sup>rd</sup>.

A Memorandum was issued dated 23/12/2010 preparing the tentative seniority list inviting objections. Mrs. Anny and Mrs. Livia vide their applications dated 24/12/2010 had sought time to submit their objections. However, as seen from the records, extension of time was permitted. No communication is found on record conveying the said extension. As seen from the notings on the file, since no objection was received by the due date, a final seniority list was drawn listing (1) Nilesh (2) Livia (3) Anny.

A tentative seniority list including the staff recruited in 2011 was drawn, whereby objections were raised by Livia and Anny for the seniority drawn in 2011, based on the photocopy of the noting and the marks obtained during their selection process. The original file where the selection process conducted in the year 2007 is not available in the office records. As per the decision taken by the Board, the records of the selection process were reconstructed based on the photocopies in the office.

On perusal of the photocopy of the marking sheet during the selection process it is noticed that Anny has scored 65 marks, Livia has scored 64 marks and Nilesh has scored 64 marks.

Upon deliberation the members resolved to draw the Seniority list as per the re-constructed records.

In the matter of Scientific Assistants ( Chemistry, Microbiology, Stack Monitoring), Senior Laboratory Assistants, Junior Laboratory Assistants appointed in the year 2011

The Board had recruited candidates for the post of Scientific Assistants (Chemistry, Microbiology, Stack Monitoring), Senior Laboratory Assistants, Junior Laboratory Assistants appointed in the year 2011. Accordingly, after the recruitment process, which was done and selection order issued, one aggrieved candidate, who have applied for all the referred posts and did not find merit in the said posts preferred to move to the Hon. High Court with regard to the selection process stating the same is illegal.

Accordingly as per the orders of the Hon. High Court, an Inquiry was initiated by the Board through an Inquiry Officer to look into the selection process of the selected candidates. The Inquiry officer submitted its report with its findings. The Report of Inquiry Officer has re-allotted marks to the candidates based on the qualifications and experience of the candidate, however the marks as allotted by the Departmental Selection Committee during the Oral interview were not touched upon. A discrepancy was noticed in the marks allotted by the Departmental Selection Committee and that of the marks of the Inquiry Officer

The said report was placed before the Hon. Court and also the Board, which accepted the Report of the Inquiry Officer. Since observations were made in the Report, show cause notices were issued to the selected candidates. The selected candidates replied to the show cause notices and were also heard by the Chairman of the Board, as per the Order of the Hon. High Court. On hearing the submissions and the reply received to the show cause notice, the show cause notice was discharged on merit.

The Members resolved that the Departmental Selection Committee minutes will be considered while preparing the seniority list of the officials in their respective designations.

**Agenda item no. 17**

**Revision of Guidelines for Rural Garbage Disposal Sites (RGDS)**

The Member Secretary informed the members that the Board is in receipt of a representation from M/s Goa Waste Management Corporation requesting the Board for the amendment of guidelines formulated by the Board for Rural Garbage Disposal sites.(RGDS)

The Member Secretary also informed the members that the Central Pollution Control Board has published Guidelines on the provision of buffer zone around waste processing and disposal facilities in the year 2017, which states that *‘Ideally a distance of 500mts from the boundary of the solid waste processing and disposal facility (sanitary landfill) should be maintained. However, on case-to-case basis a distance of minimum 200mts from the solid waste processing facility (sanitary landfill) can be considered subject to conditions that such facility meets the stipulated standards prescribed by state pollution control board with respect to ambient air as well as for stack emission’.*

The Member Secretary further informed the members that the Board in its 141<sup>st</sup> Board meeting has formulated guidelines for RGDS in which a distance of the site from residential areas / schools / temples / churches / mosques / cemetery and other ecological sensitive sites should be at least 500mts for wet waste handling of above 100MT/day. This is in contradiction to the CPCB guidelines cited above.

As such, M/s GWMC has requested that the guidelines formulated by the Board be amended in tune with the CPCB guidelines. The matter was placed before TAC on 05/10/2020. TAC felt that it does not have mandate to re-consider/re-visit the Board decision in 141<sup>st</sup> meeting. However, with the due consideration, it was decided to adopt CPCB’s Guidelines (2017) with the liberty to maintain 200 mtrs. buffer, subject to the following:

|    |                                                                                                                                                                                     |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a. | Area does not fall within the ambit of Coastal Zone Regulation / Wild Life Sanctuary/protected areas/notified wetlands etc.                                                         |
| b. | Waste treatment adopts ‘Best available technology’                                                                                                                                  |
| c. | Air pollution control (APC) device should comply with the prescribed stack height, as applicable                                                                                    |
| d. | Plant to carry out AAQM at a distance upto 500mt from plot boundary along which some facility are located such as residential house/educational institutions/places of worship etc. |
| e. | Solid waste should not be dumped/stacked within the premises and be processed directly into the plant.                                                                              |

Members approved to adopt the CPCB’s Guidelines (2017).

**Agenda item no. 18**

**Review of Approved Fuels**

The Member Secretary informed the members that the Board is in receipt of request from M/s. MRF Ltd., M/s. Marpol Pvt. Ltd., M/s. Chowgule & Co. Pvt. Ltd., Mandovi pellets Division, M/s. Zuari Agro Chemical Ltd., requesting for review of approved fuels.

The Member Secretary further informed the members that the Board was in receipt of a

Direction from Central Pollution Control Board to notify the Approved Fuels as per Section 2 of the Air (Prevention and Control of Pollution) Act, 1981 (no. 14 of 1981). The Board had perused the Approved Fuels of Rajasthan pollution Control Board, Delhi Pollution Control Committee and Gujarat Pollution Control Board. The Board has then formulated a list of approved fuels which is placed below for approval.

List of approved Fuels:

|     |                                                                                                                                                                                              |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.  | Coal with low sulphur (less than 0.4%)                                                                                                                                                       |
| 2.  | Coke / Lignite                                                                                                                                                                               |
| 3.  | LDO / LSHS                                                                                                                                                                                   |
| 4.  | Petrol (BS-IV with 50ppm Sulphur with effect from April1,2010 and BS VI with 10ppm Sulphur vide Government of India GSR 889 (E) dated September 16,2016 to be implemented w.e.f. 01/04/2020) |
| 5.  | Aviation turbine fuel                                                                                                                                                                        |
| 6.  | Liquified Petroleum Gas (LPG)                                                                                                                                                                |
| 7.  | Compressed Natural Gas (CNG) / LNG                                                                                                                                                           |
| 8.  | Kerosene                                                                                                                                                                                     |
| 9.  | Naphtha                                                                                                                                                                                      |
| 10. | Fire wood / Dung cake                                                                                                                                                                        |
| 11. | Bio – gas                                                                                                                                                                                    |
| 12. | Agro waste / bio fuel / briquettes                                                                                                                                                           |
| 13. | RDF, as per the provision of Solid Waste Management Rules, 2016                                                                                                                              |
| 14. | Charcoal                                                                                                                                                                                     |
| 15. | Hydrogen / Methane                                                                                                                                                                           |

The Member Secretary informed the members that the same was approved in the 142<sup>nd</sup> Board meeting of the Board and a Circular was issued by the Board on 29/05/2020. The Board forwarded the Circular to the Department of Environment & Climate Change for Notification. The Notification was issued on 18/06/2020 for Approved Fuels and ban of Petcoke and furnace oil on 22/06/2020. As per the Notification, the industries are required to change from petcoke./ furnace oil to natural gas or approved fuels by 31/12/2020.

1. M/s. Chowgule & Co. Pvt. Ltd. (Mandovi Pellets) – request is for exemption for use of furnace oil in Pellet Plant
2. M/s. Zuari Agro Chemicals Ltd. – addition of Very Low Sulfur Furnace Oil (VLSFO) in the list of approved fuels and extension of period upto 31/12/2021.
3. M/s. MRF Ltd. – addition of LSFO (low sulfur fuel oil) also called marine fuel with < 0.5% Sulfur
4. M/s. Marpol Pvt. Ltd. - addition of Very Low Sulfur Furnace Oil (VLSFO) in the list of approved fuels

5. M/s. Indian Oil – Adani Gas Pvt. Ltd. – extension of deadline for the discontinuation of Furnace Oil (FO) and Pet Coke for the industries till 31<sup>st</sup> March 2021.

The Member Secretary further informed the members that the proponents presented before TAC on 05/10/2020 and the Committee has recommended as under:

- a. Furnace Oil as approved fuel and include it in the approved list cannot be considered as it will be non-compliance to Hon'ble Supreme Court Order as it is Pan India and not State specific (as per representation made by Mandovi Pellets)
- b. Very Low Sulfur Furnace Oil (VLSFO) with 0.5% of sulfur by weight (as proposed by M/s Zuari & M/s Marpol) and low sulfur fuel oil with < 0.5% sulfur (i.e. Marine fuel as proposed by MRF) be considered to include in the list of approved fuels. But be made effective only after issuance of 'amendment' by Department of Environment, Govt. of Goa.
- c. Threshold timeline of 31<sup>st</sup> Dec 2020, for discontinuation of Furnace Oil/Petcoke may be extended for further period of six months (i.e. upto 30<sup>th</sup> June 2021) on case-to-case basis as per the request made by M/s Zuari and M/s Indian oil – Adani Goa Gas Pvt. Ltd., with strict monitoring and ascertaining compliance to permissible emission standards, failing which Legal proceedings be initiated.

Upon deliberation the members have approved to forward the request from M/s. Chowgule & Co. Pvt. Ltd. (Mandovi Pellets), M/s. Zuari Agro Chemicals Ltd., M/s. MRF Ltd. and M/s. Marpol Pvt. Ltd. for exemption to CPCB. Further the members also approved to grant an extension of time to M/s. Indian Oil – Adani Gas Pvt. Ltd. for the discontinuation of Furnace Oil (FO) and Pet Coke for the industries till 31<sup>st</sup> March 2021.

### **Agenda item no.19**

#### **Re-constitution of the Panel of Board Advocates**

The Member Secretary informed the Members that, in supersession of all earlier decisions and Orders etc. of the Board on this subject; the Board is required to re-constitute its Panel of Advocates that are currently empanelled by the State Government for defending its interests before the High Court of Bombay at Goa. In this regard, the Board will request Advocate Devidas Pangam to either appear on the Boards behalf or decide on allotment of existing as well as new matters pertaining to the Board before the High Court of Bombay at Goa to the Advocates empanelled by the State Government. Based on such decision the Board will have to formally allot the matters to the concerned Advocates. The Terms and conditions governing the appointment of the above Advocates as well as the Professional fees paid by the State Government to these Advocates shall be followed by the Board.

The Member Secretary further informed the Members that Accordingly Circulars/Office orders/Memorandums issued by the State Govt. stand adopted by the Board. In so far as matters pertaining to the Board before Courts at New Delhi including the Supreme Court, National Green Tribunal etc.; the Board will allot such matters to Advocate Ruchira Gupta to appear on the Boards behalf and defend its interests. Advocate Joaquim Godinho and Adv. Wilbur Menezes shall continue to be on the Panel of the Boards Advocates and will appear in matters pertaining to the Board as allotted by the Member Secretary.

Members approved to re-constitute its Panel of Advocates that are currently empanelled by



the State Government for defending its interests before the High Court of Bombay at Goa.

**Agenda item no. 20**

Payment of pending bill of M/s. Puroshottam Bhagwan and Associates.

The Member Secretary informed the Members that the Board had empanelled M/s Puroshottam Bhagwan & Associates, Panaji for booking of travel tickets (air and rail) with respect of Officers / officials of the Board and Board appointed Advocates / Officers of other Dept. who were invited to the Board for official purpose.

The Member Secretary further informed the Members that during the last five years several official trips were carried out by the Board officials / Officers and Board appointed Advocates. It is seen that the travel bills have been misplaced / not submitted which has resulted in non – payment towards the booked tickets to the agency.

The Member Secretary also informed the members that the Chairman of the Board has condoned the officials from submitting the boarding pass for their travel.

Upon deliberation the members approved for the settlement of the pending dues of M/s Puroshottam Bhagwan & Associates, upon submission of self-declaration from the traveler. The Members further decided that the bills of the advocates may be certified by the concerned section official upon verification of the issue of office order for the said travel on behalf of the Board.

III. With the permission of the Chair, Member Secretary took the following Table items for discussion.

**Table item no. 1**

Amendment in respect of Child Care Leave

The Member Secretary informed the members that the Board at its 118<sup>th</sup> meeting held on 10/07/2015 had framed guidelines for the staff of the Board availing Child Care leave as per the Government Circular dated 29/06/2015. Considering the work load and the responsibilities entrusted to the Board, and the staff proceeding on leave, it is proposed to streamline / modify the guidelines for availing Child Care Leave. Hence it is proposed to amend the Office Circular dated 17/08/2015 as follows:

|    |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | A Female Government servant and single Male Government servant may be granted Child Care Leave by an Authority competent to grant leave for a maximum period of seven hundred and thirty days during entire service for taking care of two eldest surviving children, lesser than 18 years, whether for rearing or for looking after any of their needs, such as education, major sickness and the like.          |
| 2. | CCL of minimum one month and maximum six months will be granted for attending to the personal needs of the child as specified above .                                                                                                                                                                                                                                                                             |
| 3. | Preference for sanction of leave shall be given to the official having a 'special child' or a single parent.                                                                                                                                                                                                                                                                                                      |
| 4. | Application for grant of CCL shall be submitted to the leave sanctioning Authority atleast one month in advance prior to the leave or prior to the extension of leave except during an emergency condition like sudden illness, in which case it shall be regularized by the applicant with supporting medical record within 1 month of intimation or last date of earlier approved leave, whichever is earlier . |

|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. | <p>Grant of child care leave shall be subject to the following conditions, namely:-</p> <ul style="list-style-type: none"> <li>(i) It shall not be granted for more than three spells in a calendar year , subject to a maximum of 6 months</li> <li>(ii) In case of a single Female Government servant, the grant of leave shall be extended to six spells in a calendar year subject to a maximum of 6 months</li> <li>(iii) The time gap between two leave spells should not be less than 90 days.</li> <li>(iv) It shall not ordinarily be granted during the probation period except in case of certain extreme situations at the discretion of leave sanctioning authority who is satisfied about the urgency of the need of child care leave to the probationer, provided that the period for which such leave is sanctioned is 5 days at the discretion of the Sanctioning Authority.</li> <li>(v) With respect to a Child with Disability there will be no restriction of age limit of the Child as per DoPT OM No 13018/6/2013 –Estt.(L) dated 22/06/2018.</li> <li>(vi) CCL may be sanctioned to a women employee in continuation to maternity leave, as per the request of the official.</li> </ul> |
| 6. | <p>Leave Sanctioning Authority: Power to sanction the CCL, shall be exercised by the Competent/Final Sanctioning Authority from the time to time.</p> <ul style="list-style-type: none"> <li>a. Request of Child Care Leave on account of sickness of the eligible Child duly supported by a Medical Certificate issued by a Registered Medical Practitioner.</li> <li>b. In normal circumstances, the leave sanctioning Authority shall ensure that the normal functioning of the Board is not hampered.</li> <li>c. Child Care Leave application shall be disposed off within 15 days</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 7. | During exigency of work, the official on CCL could be called for attending duties of urgent nature for which leave could be adjusted subsequently.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 8. | At any given time, not more than 20% of the women staff in Section will be allowed CCL. The Sanctioning Authority will decide the length of leave, however, the same may be relaxed depending on the facts and circumstances on case to case basis.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

The members approved the same.

#### **Table item no. 02**

##### **Amendment to the Goa Water and Air Rules**

The Member Secretary informed the members that the Goa Water and Air Rules were amended in the year 2011 which included enhancement in the fees. The enhancement to the fees in the Goa Water and Air Rules was challenged by the mining companies with the submissions that the said enhancement is arbitrary and extorting. The State Government submitted in the Hon. High Court of Bombay at Goa that they are withdrawing the Notification to the Goa Water and Air Rules. With this submission, the matter was disposed off by the Hon. High Court of Bombay at Goa.

The Member Secretary further informed the members that the Board has revised the Rules including the enhancement in fees and the same was submitted to the Department of Environment. The said Rules have been vetted by the Law Department and the vetted Rules are forwarded by the Department of Environment to the GSPCB for final confirmation. The amendments proposed on the Water and Air Rules mainly comprise of the following;

1. The enhancement in emoluments of fees for the Consultant Engineer.
2. Amendment to the Forms for submission of application for;
  - a) Consent to Establish
  - b) Consent to Operate
  - c) Renewal of Consent to Establish
  - d) Renewal of Consent to Operate.
3. Inclusion of provision for conducting Environmental Audit and procedure and fees for the same.
4. Categorization of industries in compliance to the direction issued by the Central Pollution Control Board under section 18(1)(b) of the Water Act.

The Member Secretary also informed the members that the Enhancement of fees was also proposed earlier, however, now it is proposed to recommend the enhancement in the fees to 10% over and above the fees notified in the year 1988 with a facility to the applicant to submit annual fees.

After deliberation the Members approved for the proposed amendment. The Members further decided to defer the enhancement in the fees to 10%, to the next financial year.

### **Table item no. 3**

Proposal for utilization of Environmental Compensation Funds

- I. The Member Secretary informed the members that **the Board is in receipt of guidelines for utilization of environmental compensation funds from Central Pollution Control Board (CPCB). CPCB has stated that there are 85 crores collected in the compensation funds. As per the letter received State of Goa being a weaker PCB the allocation of funds will be considered under priority.** As per the guidelines the funds are to be utilized for the following:
  1. Development of Infrastructure for Air and Water quality surveillance and monitoring for different areas/locations in Delhi NCR and other needed places.
  2. Remediation of contaminated sites and for that to develop infrastructure, procurement of equipment etc including hiring of experts/Consultants for specific requirement for remediation of sites, etc.
  3. Specific investigations and studies with regard to environment and ecology
  4. Carrying capacity assessment for ecologically and environmentally sensitive & critical areas, including hiring of Experts/Consultants for specific purpose and period.
  5. R & D activities with regard to new technologies, clean technologies, etc.
  6. Capacity building of scientific and engineering personnel of CPCB and PCBs/PCCs to rejuvenate and protect the environment.
  7. Augmenting and strengthening of laboratory network un-0terms of manpower and logistics
  8. Payment of honorarium in compliance of Judicial Orders of the Courts and Tribunal
  9. Specialized studies on accidental spill areas, health impact assessment, recalcitrant pollutants etc

10. Information, Education and Communication (IEC) activities
11. Any other scientific and technical matter which may arise as a contingent matter

The members approved to the decision to request CPCB to provide funds for remediation and restoration of water bodies.

## **II Funds collected from Industries for Polluter Pays Penalty**

### **1. Operating without Consent of the Board**

The Member Secretary informed the members that the Board is a small Board and generates funds from grant of consent. The said funds are utilized for Salary, Vehicle maintenance, Legal Matters and other expenditure

Hence it is proposed to utilize these funds for;

- a. Salary purpose of project related staff
  - b. Training of staff.
  - c. Recruitment of manpower
  - d. R & D activities
  - e. Inventorization of batteries waste, e-waste, biomedical waste, Hazardous waste, C & D waste, Solid waste and Plastic waste
- 
- ### **2. Discharge of waste water or STP/ETP treated effluent exceeding permissible limits.**
- The Member Secretary further informed the members that the funds received from above violation will be utilized for ;
- a. Restoration of water bodies.
  - b. Small treatment plants
  - c. Purchase of monitoring instruments
  - d. Classification of rivers as per best designated use
  - e. Carrying capacity studies of rivers
- 
- ### **3. Violations in Air standards, Noise**
- The Member Secretary further informed the members that the funds received from above violation will be utilized for;
- a. Modeling studies/Source apportionment studies
  - b. AAQM Monitoring
  - c. Purchase of monitoring instruments
  - d. Installation of smog towers etc.
  - e. Health survey
- 
- ### **4. Disposal of Solid waste**
- The Member Secretary further informed the members that the funds received from above violation will be utilized for;
- a. Providing funds for installation of facilities for solid waste management
  - b. Awareness Programmes
  - c. Remediation

Action Management Plan for utilization of fees generated by the Board

The Goa State Pollution Control Board (GSPCB) was created under a statute and came into existence on 01/07/1989. The GSPCB is a relatively weaker Board when it comes to financial power as also the staff strength of 128 staff working in various section but pre-dominantly in the scientific and

technical section.

The Board gets revenue from many sources like consent fees under the Water and Air Acts, Polluters Pay Penalty which is by way of a fine which is spent towards remediation of contaminated sites, etc. in the year 2019-20 the GSPCB had collected an amount of Rs. 7.86 crores by way of Consent fees and in the current financial year the GSPCB has collected Rs. 2.28 crores (upto September) by way of consent fees.

The Board proposes to utilize the consent fees and the Polluters Pay penalty towards,

- i. Salary of staff, Administrative cost, POL, etc.
- ii. Remediation of contaminated sites and to develop infrastructure, procurement of equipment, hiring of experts/Consultants towards remediation of sites in question.
- iii. Specific investigations and studies with regard to environment and ecology
- iv. Carrying capacity assessment for ecologically and environmentally sensitive & critical areas, including hiring of Experts/Consultants for specific purpose and period.
- v. Development of Infrastructure of Air and Water quality surveillance and monitoring for different areas/locations in the State of Goa and other important places.
- vi. R & D activities with regard to new technologies, clean technologies, etc.
- vii. Capacity building of scientific and engineering personnel of the Board to rejuvenate and protect the environment.
- viii. Augmenting and strengthening of laboratory network in terms of manpower, logistics, etc.
- ix. Specialized studies on accidental spill areas, health impact assessment, recalcitrant pollutants etc
10. Any other scientific and technical matter which may arise as a contingent matter

The Member Secretary further informed the members that in order to maintain the financial stability of the Board, a corpus fund needs to be generated. At present, the Board has a Fixed Deposit of Rs. 32,37,60,027/-. Out of which Rs. 7,26,87,487/- is to be paid to the contractor towards the Boards building cum laboratory, Rs. 7,75,00,000/- is to be paid to the Boards' staff towards arrears of 7<sup>th</sup> pay and an amount of Rs. 1.81croresto be refunded to the Goa Waste Management Corporation towards the setting up of Common Waste Treatment Facility. From the balance amount, as available, an amount of Rs. 5 crores is proposed to be converted into corpus fund. Further, it was decided to deposit a minimum of Rs. 50 lakhs annually in the corpus fund to enhance the financial stability of the Board. It was further resolve that the interest generated from the said fund will be re-invested in the corpus fund.

- IV. The Board Member raised the issue of dumping of glass bottles at various locations in the State of Goa including Touristic locations. The used glass bottle have no value for recycling, hence, no rag pickers or scrap dealers are collecting the glass bottles. He further requested that this issue should be taken up under EPR (Extended producer Responsibility) by the concerned manufacturer. The Board decided to write to the Department of Environment to take up this issue under the EPR Policy. It was also decided to write to the Department of

Commercial Taxes to verify the list of manufacturers selling their products in glass bottles in the State of Goa

V. The meeting ended with thanks to the Chair

**MINUTES OF THE 146<sup>th</sup> MEETING OF THE GOA STATE POLLUTION CONTROL BOARD HELD ON 15<sup>th</sup> DECEMBER, 2020 AT 11.30 AM IN THE CONFERENCE HALL OF THE BOARD.**

I. The 146<sup>th</sup> meeting of the Goa State Pollution Control Board was held on 15<sup>TH</sup> December, 2020 at 11.30 am in the Conference hall of the Board.

The following members attended the meeting:

|     |                                                                                                          |
|-----|----------------------------------------------------------------------------------------------------------|
| 1.  | Mr. Ganesh B. Shetgaonkar, Chairman                                                                      |
| 2.  | Director of Mines was represented by Officer of his department                                           |
| 3.  | Director of Tourism was represented by Mr. Subhash Kavlekar, Asst. Director                              |
| 4.  | Director of Health Services was represented by Chief Medical Officer, NIEP                               |
| 5.  | Mr. Shawn Brian Martins, Panch Member, Village Panchayat Calangute                                       |
| 6.  | Mr. Shubham Chodankar, Corporator, Corporation of the City of Panaji                                     |
| 7.  | Mrs. Unnati Sahastrabudhe, Panch Member, Village Panchayat Velguem                                       |
| 8.  | Mr. Rajsingh Rane, Councillor Mapusa Municipal Council                                                   |
| 9.  | Mr. Sanjay Naik, Panch Member, Village Panchayat Sanvordem                                               |
| 10. | Mr. Blaise Costabir, Chairman, Confederation of Indian Industries                                        |
| 11. | Mr. Nilesh Shah, President Travel and Tourism Association of Goa                                         |
| 12. | Managing Director, Goa Tourism Dev. Corpn. Was represented by Mr. Laxmikant Vaigiankar, General Manager. |
| 13. | Dr. (Mrs.) Shamila Monteiro, Member Secretary                                                            |

II. Director of Industries, Trade and Commerce expressed his inability to attend the meeting. Leave of absence is granted to him.

III. Member Secretary welcomed the members for the meeting. The agenda items for the meeting were then taken for discussion.

**Agenda item no. 01**

Confirmation of the minutes of the 145<sup>th</sup> meeting of the Goa State Pollution Control Board held on 14/10/2020

The minutes of the 145<sup>th</sup> meeting of the Board held on 14/10/2020 were forwarded to all the members vide this office letter no. 4/145/20-PCB/Admn./12749 dated 23/10/2020. Member Secretary clarified to the members that Mr. Blaise Costabir, did take permission from the Chairman for his leave after the presentation by MPT. Mr. Blaise desired that his dissent for the minutes in respect of the said unit be taken on record.

The minutes of the meeting are now confirmed, so as to enter the same in the Minutes Book.



**Agenda item no. 02**

Follow up action on the decision taken by the Board at its 145<sup>th</sup> meeting held on 14/10/2020.

Agenda item no. 3 – The members noted that letter is forwarded to Electricity Dept. for verifying the electricity bills in respect of the unit of M/s Jolly Metals.

Agenda item no. 19 – The members noted that a Revised proposal for creation of posts is forwarded to the Dept. of Environment and Climate Change.

Agenda item - 05 – The members noted that decision of the Board to lower the rent is conveyed to the Canteen Operator

Agenda item no. 6 – The members noted that Consent to Operate under Air Act and Water Act has been issued to M/s Mormugao Port Trust for the operation of mooring dolphin 1, 2, 3, incorporating the conditions

Agenda item no. 9 – The members noted that the decision of the Board to revoke the show cause notice and polluter pay principle penalty has been conveyed to the unit.

Agenda item no. 16 – The members noted that preparation of Seniority list of the staff is under process

Agenda item no. 18 – The members noted that letter is forwarded to Central Pollution Control Board and to M/s Indian Oil – Adani Gas Pvt. Ltd. for discontinuation of furnace oil and pet coke.

Agenda item no. 19 - The members noted that letter has been forwarded to the Law Department, seeking the Circulars/Office orders/ Memorandums issued with regard to empanelment of Advocates by the State Government.

Agenda item no. 20 – The members noted that the process for putting up of the bills by the staff of the Board in respect to the journeys performed is under process.

Table item no. 1 – The members noted that an office Circular is issued with respect to grant of Child Care leave, for information of the staff of the Board

Table item no. 2 – The members noted that the decisions of the Board are being incorporated in the Water and Air Rules, so as to forward to the Department of Environment.

Table item no. 3 - The members noted that the matter with regard to utilization of Environmental Compensation Funds is being processed by the Board

**Agenda item no. 3**

Adoption of the Audit Report of the Board for the financial years 2015-2016 and 2016 – 2017

The members perused the Audit report for the financial years 2015 -2016 and 2016-2017 submitted by M/s R.K. Pikale & Associates, Chartered Accountants.

The Assistant Accounts Officer of the Board explained to the members the paras raised by the Auditor . i.e (a) with respect to TDS provision on payment of advances (b) Tax deducted at source on its income from FDR (c) Grants received by the Board from the Govt for specific purpose are

unutilised.

With regards to para (a) it was informed that statutory taxes are deducted in the last and final bill as per CPWD Manual, but as per the audit of the ICAI taxes are deducted at each stage and not in the final bill. Further, it was informed that in future the practice of deducting taxes per bill will be followed. Para (b) it was informed to the Board that the office has nominated a Chartered Accountancy firm to look into the matter and file returns for the previous 5 years and also seek exemption certificate for exempting the Board from paying TDS. Para (c) – the Board has written to the Ministry of Environment, Forest and Climate Change, central Pollution Control Board and various authorities for carrying forward the grants for utilisation.

Further, the AAO clarified that there was a delay in auditing the accounts of the Board, as the Auditor appointed earlier by the Comptroller and Auditor General has informed his inability to undertake the audit. As such request was forwarded to re-appoint another Auditor.

Chairman informed the members that since Auditors are appointed for the financial year 2015-2016 and 2016-2017 and the auditing is complete. As for the years 2017-2018, 2018-2019 and 2019-2020, the Board is in the process of intimating the Chartered Accountancy firm to carry the audit of the three aforementioned years.

The Board thereafter passed the following Resolution unanimously:

“RESOLVED THAT Receipts & Payments, Income & Expenditure Account and the Balance sheets together with notes thereon for the financial year ended on 31<sup>st</sup> March, 2016 and 31<sup>st</sup> March, 2017 be and are hereby approved.

RESOLVED FURTHER THAT the Chairman, the Member Secretary, the Assistant Accounts Officer and Accountant are hereby authorized to sign the Audited Annual Accounts of the Goa State Pollution Control Board jointly”.

#### **Agenda item no. 4**

Representation from M/s South West Port Ltd. for adjustment in coal handling.

Member Secretary informed the members that the Board is in receipt of a representation from M/s South West Port Ltd. (SWPL) requesting for adjustment in the handling of coal as they could not handle the sufficient quantity during the monsoon season for four months i.e the permitted quantity of 0.575 MMTPM per month and have requested the same be permitted during the eight months during the non monsoon season by handling 0.515 MMTPM against 0.4 MMTPM and maintaining the total annual capacity of 5.5 MMTA.

The members deliberated on this issue and also perused the coal handled by the unit from April, 2020 to October, 2020. After discussions the members were of the opinion that the unit was permitted to handle 0.575 MMTPM considering that there will not be adverse pollution during the monsoon season. Further, it was also discussed that since the Source Apportionment study report by IIT is awaited and it would not be prudent to permit the unit to utilise the permitted capacity during the non monsoon season. Members decided not to permit M/s South West Port Ltd for adjustments in coal handling.

The members also deliberated that the South Central Railway be recommended to ensure that the wagons transporting coal shall have domes /metallic cover to the wagons, in order to avoid spillage during transportation. It was also decided to write to Mormugao Port Trust, who shall peruse

the mater with South Central Railway.

#### **Agenda item no. 5**

##### **Categorisation of activities of Catering services**

Member Secretary informed the members that Central Pollution Control Board (CPCB) has revised categorization in the year 2016 in which various sectors are categorized industries based on scores, as some of the sectors are not specifically categorized therein, and CPCB in the said categorization has mentioned that the score for any particular sector of industry be calculated based on the procedures specified therein, and the same should be vetted by the Technical Committee and approved by the Board.

The present proposal is that of the activity of catering services for which scores were calculated based on procedures stipulated by CPCB. Since the unit has a score of 30, the unit is categorised under Green Category.

Members approved for categorisation of catering services under Green category.

Further, the members also deliberated with regard to caterers serving food on tiffin basis, Self Help Groups. It was decided to classify the said activity on the quantity of food being served and accordingly list them in Green / White category.

#### **Agenda item no. 6**

M/s Sukraft Recycling Pvt. Ltd located at Plot No.26, Honda Industrial Estate, Honda, Sattari, Goa.

Member Secretary informed the members that the Board is in receipt of an application is for the Consent to Operate (fresh) under the Air Act, Water Act and Hazardous and Other Waste Rules for the manufacture of kraft paper, white kraft liner, water repellent and virgin top liner – 7500 metric tonnes/month and operation of power plant (steam turbine) with a capacity of 2.5 MW.

After deliberations the members approved for grant of Consent to Operate (fresh) under the Air Act, Water Act and Hazardous and Other Waste Rules to the unit of M/s Sukraft Recycling Pvt. Ltd located at Plot No.26, Honda Industrial Estate, Honda, Sattari, Goa

#### **Agenda item no. 7**

Application of Goa Waste Management Corporation (Solid Waste Management Facility, Bainguinim)

Member Secretary informed the members that the Board is in receipt of an application for Consent to Establish under the Air Act and the Water Act from Goa Waste Management Corporation (Solid Waste Management Facility, Bainguinim) located at survey nos. 20/1-I, 20/3-A-1, 20/2-A, of Village Bainguinim, Tiswadi – North Goa is for proposed establishment of 250 TPD (+20%) Integrated Solid Waste Management Facility.

After deliberations, it was decided to grant Consent to Establish under the Air Act and the Water Act to Goa Waste Management Corporation (Solid Waste Management Facility, Bainguinim) for proposed establishment of 250 TPD (+20%) Integrated Solid Waste Management Facility.

The issue with regard to collection and disposal of PET bottles also came up for discussion and it was informed that the same are being collected by the manufacturer. As regards to glass

bottles, the members informed that the same could be seen strewn at all places and the manufacturer be liable for collection of the same. After discussions it was decided to write to the Commercial Taxes Department and Department of Industries, Trade and Commerce for doing the needful.

IV. With the permission of the Chair, Member Secretary took the following Table items for discussion.

**Table item no. 1**

Payment of arrears of the 7<sup>th</sup> Central Pay Commission (CPC) to the staff of the Board.

Member Secretary informed the members that the Board at its 141<sup>st</sup> meeting held on 11<sup>th</sup> December, 2019, had approved for implementation of the recommendations of the 7<sup>th</sup> CPC to the staff of the Board with effect from 01/01/20, however the arrears for the last four years have not been disbursed to the staff.

Member Secretary further informed the members that at present the Board Board has an amount of Rs. 36.30 Crores in Fixed Deposits, out which the liability of the Board is Rs. 7,26,87,487/- as Contractors fees towards the Boards building cum laboratory, Rs. 1.81 Crores to be refunded to the Goa Waste Management Corporation towards the setting up of Common Hazardous Waste Treatment Facility at Pissurlem, an amount of Rs. 5 Crores as approved in the 145<sup>th</sup> meeting held on 14/10/2020 to be maintained into a corpus fund. Further, she proposed to pay the arrears of the 7<sup>th</sup> CPC to the Board officials and deposit the EPF arrears amounting to Rs. 7,75,00,000/-

Members approved for disbursement of arrears of the 7<sup>th</sup> Pay Commission to the Board officials and also officials who were terminated / resigned and accordingly deposit the EPF arrears accordingly.

**Table item no. 2**

Filling up of vacant posts in the Board office.

Member Secretary informed the members that the proposal as approved by the Board for creation of the post / additional posts has been forwarded to the State Government. She further informed that some posts are vacant in the Board office due to promotion are required to be filled in. Once this exercise is completed the resultant vacant posts will be filled in by following the due procedure. However, she clarified that the vacant post and the post proposed for creation shall be filled in as per the need, and considering the financial status of the Board.

**Table item no. 3**

Revised Budget Estimate for the year 2019-2020 and Budget Estimate for the year 2020 - 2021

Member Secretary informed the members that as per section 38 of the Water (Prevention and Control of Pollution) Act, 1974, Revised Budget estimate for the year 2019-2020 and Budget Estimate for the year 2020 – 2021, prepared in Form VI and VII, prescribed in Rule 31 is required to be placed before the Board for approval. She further informed that the Budget Estimate is required to be placed before the Board in the month of October, as the same could not be prepared, it is now placed for perusal and approval of the members.

The Assistant Accounts Officer of the Board gave a detailed presentation of the Revised Budget Estimates for the financial year 2019-2020 and informed that the budget expenditure for 2019-2020 was proposed at Rs. 1620.00 lakhs. Chairman also informed that an amount of Rs. 867.50 lakhs has been provided for salaries and related expenditure. The Budget Estimates for the financial year 2020-2021 is proposed at Rs. 2386.40. The amount towards salaries is earmarked at Rs. 1631.00 and

an amount of Rs. 775.80 lakhs for disbursement of arrears towards the 7<sup>th</sup> CPC.

After detailed discussion, the Revised Budget Estimates for the financial year 2019 - 2020 and Budget Estimate of the Goa State Pollution Control Board for the financial year 2020 - 2021 was approved. It was also resolved to forward the same to the Department of Science, Technology & Environment, Govt. of Goa.

**Table item no. 4**

Report on coal handling at Mormugao Port Trust

Member Secretary informed the members that Hon. Chief Minister desired to have a report on coal handling at Mormugao Port Trust. The same was compiled and forwarded to his office. The said report was placed for perusal of the members and Member Secretary gave a detailed account of the report.

**Table item no. 5**

Member Secretary informed the members that the Directorate of Vigilance had forwarded a complaint dated 19/02/2019 of Mr. Culvert Gonsalves with respect to pollution caused at the Cuncolim Industrial Estate. Accordingly, the Board approved for carrying out Environmental Audit of the units. Member Secretary informed the members that an Expert Committee was constituted with separate teams from different fields / with expertise in the relevant field for carrying out Environmental Audit of the Industries, based on the type of unit, its manufacturing activity etc. Accordingly, four units were inspected by the Committee, namely M/s united Marine products, M/s Sagar Feed and Food processing industry, M/s Indotech Ice and Cold storage and M/s quality Foods.

The Environmental Engineer of the Board gave a brief presentation on the findings of the Expert Committee during the Environmental Audit. He informed the members that all four units were discharging their waste water into the bore wells.

After deliberations, the members were of the opinion that strict action in the form of penalties be issued to the units under the Polluter Pay Principle.

The members applauded the work carried out by the Board.

**Table item no. 6**

Member Secretary informed the members that the Board has rented out its premises at the Dempo Towers Bldg., Panaji to the Department of Urban Development (DoUD) and Goa State Environment Impact Assessment Authority (SEIAA). She further informed that the Agreement is still in finalisation stage and yet to be signed. However, in respect of SEIAA, the deposit amount has been paid. She further informed that DoUD has requested for reduction of the rent as per the Circular issued by the General Administration Dept., for which the Board has already replied stating that rent value was fixed which was prevalent during that particular year i.e prior to the market / economic conditions and DoUD took possession of the premises in the year September, 2018. The rent value was fixed as per the decision of the Board held in its meeting on 21/08/2018, it was also informed that re-valuation of the rent cannot be considered at this stage, as Goa State Pollution Control Board is an autonomous body outside the consolidated funds of the State Govt. and the Board depends on the rent for the administrative and maintenance of its new premises. The members noted the same.

Further, Mr. Blaise Costabir stated that, considering the cost towards maintenance fees, and other licence fees, the Board is earning a fraction towards the rent amount it was better to explore selling the premises.

Members agreed to the suggestions.

**Table item no. 7**

Member Secretary informed the members that the unit of M/s Canacona Hydro- carbons is engaged in re-processing of waste oil, which is categorised under hazardous Waste. She further informed the members that the Board had issued a Circular, wherein generators of hazardous waste oil in the State of Goa were directed to ensure that the waste oil is handed over to the re-cyclers / re-processors established and operating their plant in the State of Goa and having valid Consent under the Water Act, Air Act and authorisation under the provisions of Hazardous waste (Management, Handling and Trans-boundary Movement) Rules, 2008 to ensure better tracking and maintenance of records of storage, transportation and treatment of waste oil, further the Port Authority was also intimated to dispose the hazardous waste (waste oil) only to the registered recyclers and having established facilities within the State of Goa i.e M/s Canacona Hydrocarbons located at Canacona Industrial Estate.

Member Secretary further informed that the Board was in receipt of a letter dated 28/08/2018 from M/s Canacona Hydrocarbon requesting not to allow recyclers from other State to collect the waste oil from the Port area, since other States allow only State re-cyclers. The Board after examining the said representation issued a Circular directing units to hand over the hazardous waste (waste oil) to the re-cyclers / re-processors established and operating their plant in the State of Goa and having valid Consent under the Water Act, Air Act and authorization under Hazardous waste for better tracking and maintenance of records of storage, transportation and treatment of waste oil. Further, M/s Shiva Petro Synth Specialties Ltd., who was collecting the waste oil from the Port submitted a representation in this regard. The matter was discussed during the TAC meeting of the Board along with the Port officials and representative of M/s Canacona Hydrocarbons and M/s Shiva Petro, wherein it was decided to take the opinion of the Ministry of Environment, Forest and Climate change. The MoEF&CC has clarified that there is no ban on transboundry movement for Hazardous waste.

Members agreed to retain the circular issued by the Board as such a facility for re-processing of waste oil is established in the State.

**Table item no. 8**

Member Secretary informed the members that the Board was in receipt of a complaint from Adv. Rohit Bras De Sa, stating deviation of approved plans by Mr. Sheldon S. Martins (M/s Martins developers) in property bearing survey no. 57/3- D of Village Taleigao, requesting the Board to issue immediate direction under pollution laws to direct the erring parties to maintain Sewage Treatment Plant, Garbage disposal infrastructure.

The following facts were placed before the Board members:

- (a) The property was inspected by the Board officials on 25/10/2018 and it was observed that unit consists of 52 flats of which 44 are presently complete and occupied. Construction of 8 flats is in progress, non installation of a sewage treatment plant, approval of the project without the mandatory sewage treatment plant, composting facility not maintained for treatment of the wet waste
- (b) The Board also received complaints through e-mail from Mr. Gaurav Bakshi stating serious violation by M/s Martins Developers at Martin Palm Fringe Taleigao, Tiswadi-Goa.



- (c) Based on the inspection report show Cause notice was issued to M/s. Martin Developers, to Submit online application for obtaining Consent to Operate from the Board, provide STP of adequate treatment capacity (*as number of flats exceed 24 nos.*) within 30-days, Provide composting facilities and maintain the same for treatment of wet waste within the unit premises, Submit a compliance report to this office within 15 days from the date to receipt of this notice.
- (d) M/s Martins Developers replied to the show cause notice as follows: (a) All the flats are completed and handed over to the owners (b) Wet waste is collected by the Village Panchayat (c) Public Works Department(PWD) has already laid the pipe network for the underground public sewage line (d) the infrastructure for the public sewage line is nearing completion and that the same will be commissioned soon and the Complex is proposed to be connected to the Government sewage network, it is not feasible to purchase and construct a sewage treatment plant.
- (e) The Board received a communication from the Directorate of Vigilance, Porvorim requesting the Board to submit the action taken report/status on all the complaints filed by the complainant till date.
- (f) The complex was again inspected by the Board officials on 29/03/2019 along with the representative of the Developer, officer from Primary Health centre, Chimbel and official from Village Panchayat Taleigao, it was observed that the complex consists of 52 flats of which 44 flats are occupied and remaining 8 flats are yet to be completed, Village Panchayat has suspended occupancy certificate due to various irregularities such as blocking the main road, incomplete building work etc. No sewage treatment plant and composting unit is provided, DG set has a capacity of 40 KVA, the location of septic tank/soak pit as constructed within the premises of the project is not as per the approved plans, The unit has not submitted application for Consent of the Board.
- (g) The Board issued show cause notice dated 30/04/2019 to the unit M/s. Martins Developers, Taleigao, directed to show cause within 15 days from the date of receipt of this notice as to why action should not be initiated against your unit for operating without obtaining Consent to Operate and causing environmental pollution in the vicinity and also further directed to submit:
  1. Application for obtaining Consent to Operate from the Board within 7 days.
  2. Stop the indiscriminate discharge of wash water into the storm water drains to cause water stagnation.
  3. Provide STP of adequate treatment capacity (*as number of flats 52 nos.*) within 30-days.
  4. Submit a compliance report to this office within 15 days from the date to receipt of this notice.
- (h) The Board issued Direction on 30/04/2019 to M/s. Martins Developers, Taleigao, directing to deposit an amount of Rs. Thirty five thousand only in favour Goa State Pollution Control Board, as penalty/compensation for the damage to the environment and for operating without Consent of the Board, under Polluter Pays Principle, which will be subsequently spent by the Board for restoration of the environment.
- (i) M/s. Martins Developers, replied to the show cause notice stating that the complaint is false and Residential Complex is not a unit which was issued Occupancy Certificate. Nor they were informed by the local authority that it is mandatory for a residential

complex to obtain Consent to Operate from the Board and neither were directed to obtain any Consent to Operate from the Board. He also desired to have a copy of the direction /notification in this regard.

- (j) The Board vide its letter dated 22/08/2019 informed the Developer that the Board in its 110<sup>th</sup> meeting has made it mandatory to install Sewage Treatment Plant for Residential Complex/housing with 24 flats and above and also further directed the following:

Treat / dispose-off solid waste as well as treatment of domestic waste-water within 07-days

Install Sewage Treatment Plant within a period of 3 months and apply online seeking Consent for the same,.

Submit a compliance report to this office within 7 days from the date of receipt of this letter.

- (k) The Developer stated that the Board decision is taken in 110<sup>th</sup> meeting held on 23/10/2013 is not applicable to the residential complex in the property bearing no. Survey no. 57/3-D, of Taleigao Village as the construction license for the said residential complex was issued on 22/12/2012 which is before the date of the Board 110<sup>th</sup> Meeting.
- (l) The said matter was placed before the Board Advocate, Adv. Wilbur Menezes for filing a criminal case against the Developer. However, he opined that the case is not strong so as to file a criminal case, as the Board cannot instruct the Developer for setting up a Sewage Treatment, as per the decision of the Board with retrospective effect.

The members deliberated on this issue and noted that prior to the decision of the Board, septic tank and soak pits were constructed for discharge of waste water, which was then transferred to the treatment plant. The members decided that in order to keep a check on the illegal discharge of waste water / over flow of septic tanks, it was decided to write to the Directorate of Health Services to monitor the suction of the septic tank / soak pit regularly of the housing complexes and accordingly initiate action and simultaneously inform the Panchayat / Municipality. Further it was also decided to inform the Panchayats to connect the septic tank / soak pit to the sewerage line if available in the particular locality.

#### **Table item no. 9**

The members discussed with respect to shacks being operated on the beaches wherein it should be made mandatory for the shacks to connect their sewage tank to the sewerage line. Member Secretary informed the members since the shack business is seasonal in nature, it would not be feasible to draw a sewerage line as the shacks are on the beach side and laying the pipe line will have to be crossed to some private properties and through the sand dunes, which is not permitted as per CRZ regulations. She further informed that the shack owners are required to have a holding tank for discharge of sewage, which is to be collected by the Tourism department. Member Secretary further informed the members that since the licensing of the shacks is being done by the Department of Tourism, Tourism dept. will be informed to follow up with this matter, and the Board could oversee the compliance.

- VI. Member Secretary informed the members that this meeting is the last meeting of the re-constituted Board. Chairman and Member Secretary thanked the members for attending the Board meetings and for productive decisions taken during the last three years.

The meeting ended with thanks to the Chair.



## CHAPTER 4

# COMMITTEES AND SUB-COMMITTEES CONSTITUTED BY THE BOARD AND THEIR ACTIVITIES

### 4.1 TECHNICAL ADVISORY COMMITTEE

In order to develop uniformity in approach and to ensure timely clearance of the consent applications, a Technical Committee comprising technically and scientifically qualified professionals which was re-constituted during the year under report vide Order no. 8/11/09-PCB/ Vol.VIII/Admn /16149 dated 10/12/2018 and subsequent Amendment vide Order no. 8/11/09-PCB/ Vol.VIII/Admn /205 dated 03/04/2019. The Committee comprises of the following members:-

1. Dr. Xivanand Verlekar, Retd. Scientist – (Biologist) N.I.O, 606, Pinto Vaddo, Candolim, Bardez Goa.
2. Dr. Sampatrao Dagu Manjare, Associate Professor, BITS Pillani, Goa Campus, Zuarinagar, Goa
3. Dr. Sumitra Kandolkar, Associate Professor, Civil Engineering Department, Goa College of Engineering, Farmagudi, Ponda Goa
4. Mr. Dilip M. Rege, Karma Gardens, Flat no. 107, SMRC Road, Nr. Regina Mundi School, Chicalim Goa 403711
5. Dr. Mohan Girap, Scientist 'C', Goa State Pollution Control Board, Panaji.
6. Mrs. Francisca Pereira, Scientist 'B', Goa State Pollution Control Board, Panaji.
7. Mrs. Nandan Prabhudessai, Junior Environmental Engineer, Goa State Pollution Control Board, Panaji.
8. Mr. Keshav Fadke, Junior Environmental Engineer, Goa State Pollution Control Board, Panaji.

The Committee held weekly meetings on every Monday at 4.00 pm in the Conference hall of the Board to scrutinize and make recommendations / comments / suggestions on the applications from industrial units received by the Board for Consent to Establish / Operate / Renewal of Consents under the Water and Air Acts, Authorizations under the Hazardous Waste Rules, Bio-medical Waste Rules, etc. (except those of Green category industries). The applications from green category industries were scrutinized by the technical and scientific sections of the Board and approved by the Chairman on recommendation by the Member Secretary for grant of Consents.

The recommendations of the Technical Advisory Committee meetings, in the form of Minutes, were placed before the Chairman for approval and on approval by Chairman; Consent Orders were issued by the Member Secretary.

### 4.2 DEPARTMENTAL PROMOTION COMMITTEE AND DEPARTMENTAL SELECTION COMMITTEE IN RESPECT OF GROUP “A” AND “B” POSTS.

Shri. Ganesh Shetgaonkar, Chairman, GSPCB reconstituted departmental promotion committee and departmental selection committee in respect of group “A” and “B” posts. **Refer Annexure – I”.**

#### 4.3 PURCHASE COMMITTEE:

Shri. Ganesh Shetgaonkar, Chairman, GSPCB reconstituted purchase committee. **Refer Annexure - II**

#### 4.4 DELEGATION OF POWERS FOR CONSENT MANAGEMENT:

The delegation of powers by the Board to its officers was Amended on 18/08/2020 for better operation and smooth functioning of the Board as being presently followed by the other State Boards. **Refer Annexure - III**

4.5. Public Grievance cell related to Plastic Waste Management Rules – 2016. **Refer Annexure - IV**

4.6 The Board appointed Penal of Auditors to carry out Environmental Audit of the Industries. **Refer Annexure - V**

4.7 The Board vide its 143<sup>rd</sup> and 144<sup>th</sup> meeting held on empowered the Technical Advisory Committee of the Board to calculate the penalty to be levied under the Polluter Pay Principle as adopted by the Central Pollution Control Board and also for calculation of the score for categorisation of industries as per the guidelines of CPCB. **Refer Annexure - VI**

#### 4.8 Promotions

The following three officials of the Board were promoted during the year:

| Sr. | Name of the official     | Promoted to the post of          |
|-----|--------------------------|----------------------------------|
| 1.  | Mrs. Nandan Prabhudessai | Assistant Environmental Engineer |
| 2.  | Mr. Keshav Fadke         | Assistant Environmental Engineer |
| 3.  | Mrs. Mitzi Da Silva      | Head Clerk                       |

14 staff of the Board were granted MACP on completion of 10/20/30 years of service.

The probation period of 76 no. of staff was lifted and they were confirmed to the post held by them.

The probation period on promotion of 15 staff was lifted.

◆ ◆ ◆

## CHAPTER 5

### MONITORING NETWORK FOR AIR AND WATER QUALITY

The Goa State Pollution Control Board monitors the air and water quality under the Central Pollution Control Board (CPCB) sponsored projects namely National Air Monitoring Programme (NAMP) and National Water Monitoring Programme (NWMP). The NAMP project covers 18 Ambient Air Quality Monitoring (AAQM) locations while, the NWMP project covers 63 locations within the state of Goa.

#### 5.1 National Air Monitoring Programme (NAMP)

This is an ongoing activity funded by the Central Pollution Control Board, New Delhi under the National Air Monitoring Programme (NAMP). Under this Programme the Board monitors the ambient air quality at 18 locations within the state of Goa. Besides the 18 NAMP locations, Board monitors additional location at Fire Brigade Station, MPT (which is discontinued as NAMP station since September 2019) as a source stations. The following AAQM stations are listed below.

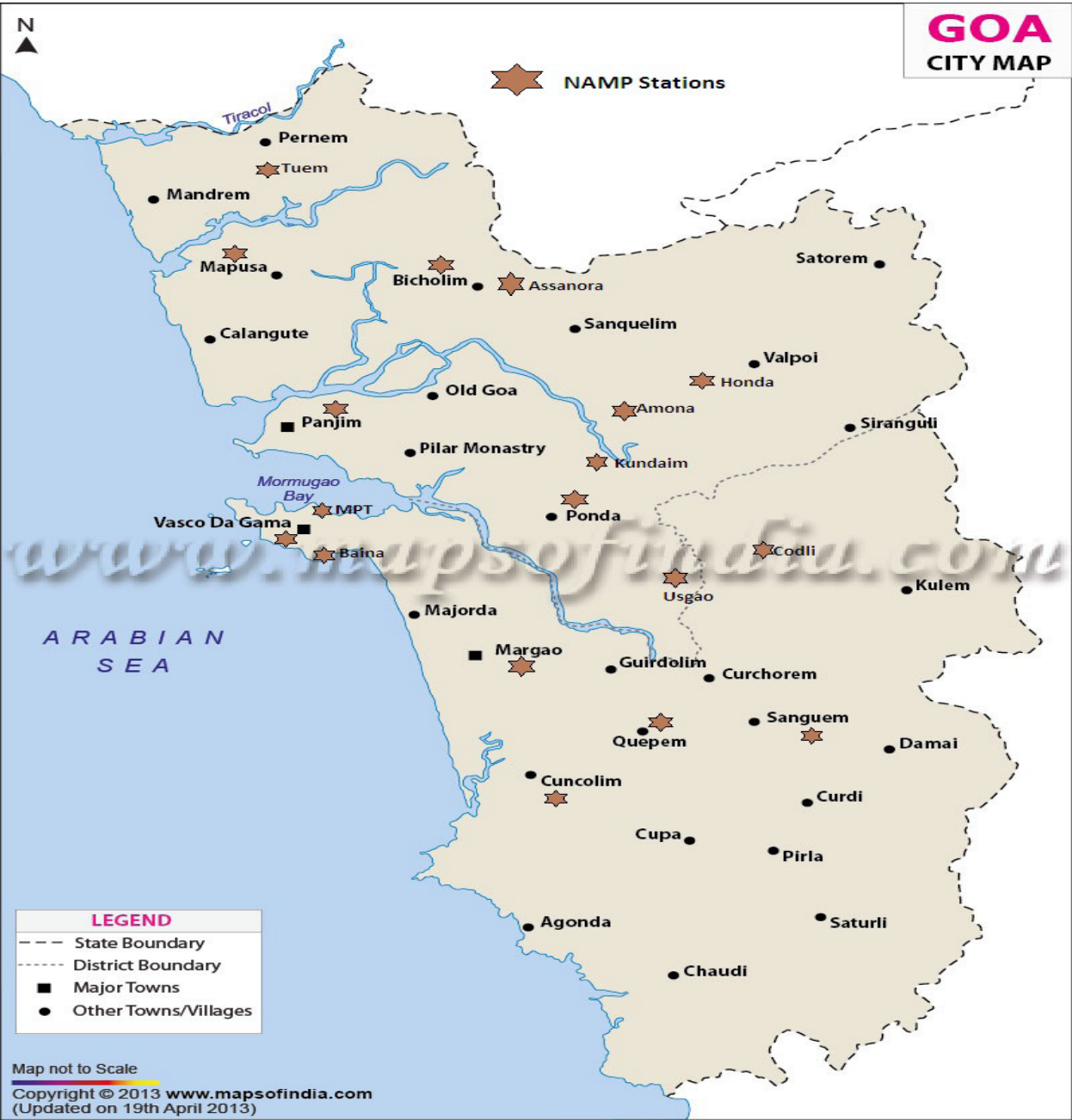
1. Near old GSPCB Office, Patto Panaji
2. Fuse Call Office, Vasco
3. MPT Quarters, Baina
4. Assanora
5. Bicholim
6. Honda
7. Codli
8. Amona
9. Usgao
10. Curchorem ( is not operated due to renovations at the site since September 2018)
11. Sanguem
12. Tilamol-Quepem
13. Margao Town
14. Mapusa Town
15. Ponda Town
16. Kundaim Industrial Estate
17. Cuncolim Industrial Estate
18. Tuem Industrial Estate
19. Fire Brigade Station, MPT, Vasco

Out of the 19 locations 14 locations are outsourced to the MOEF&CC recognized Laboratory and five locations are operated by the Board.

The geographical location of all air quality monitoring stations is shown in the map presented in Figure 5.1.1 The ambient air quality data for these stations observed during the year are given in

Annexure VII.

Figure 5.1.1: Map of Goa showing the Ambient Air Quality Monitoring Stations



5.1.1 Trend Status of Ambient Air Quality in Goa

5.1.1.1 Ambient Air Quality in Other Areas of Goa (Residential/Commercial/IndustrialLocations)

The annual averages of PM10, PM2.5, SO2 and NO2 of the locations is shown below in **Table 5.1.1** and **Fig 5.1.2**. The data indicates that the levels of SO2 and NO2 (annual avgs) are within the



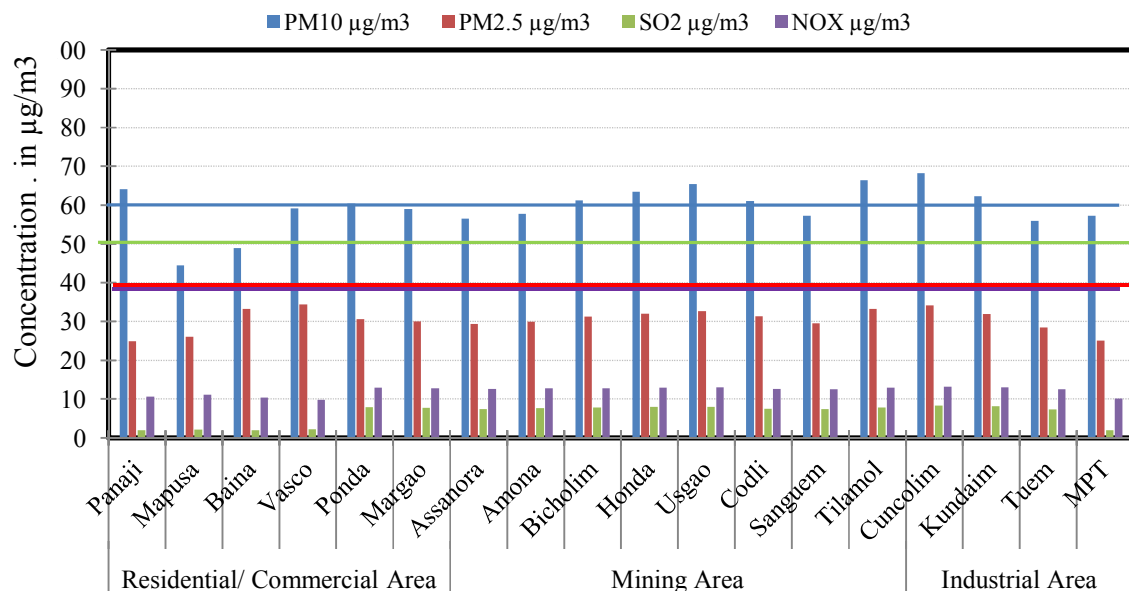
permissible limits; whereas, PM10 (annual avgs) is within the permissible limits at all locations except at Panaji ,Bicholim, Honda, Usgao, Codli, Tilamol, Cuncolim and Kundaim . While PM 2.5 (annual avgs) is within the permissible limits at all locations .

Table-5.1.1: Trend status of Air Quality for the period April 2020 – March 2021 at different locations in Goa

| ANNUAL AVERAGES OF AAQM DATA FOR AAQ STATIONS FROM |                              |              |             |              |            |            |
|----------------------------------------------------|------------------------------|--------------|-------------|--------------|------------|------------|
| APRIL 2020 to MARCH 2021                           |                              |              |             |              |            |            |
| Sr. No.                                            | Area type                    | NAMP Station | PM10 µg/ m3 | PM2.5 µg/ m3 | SO2 µg/ m3 | NOX µg/ m3 |
| 1                                                  | Residential/ Commercial Area | Panaji       | 64          | 25           | 2          | 11         |
| 2                                                  |                              | Mapusa       | 45          | 26           | 2          | 11         |
| 3                                                  |                              | Baina        | 49          | 33           | 2          | 10         |
| 4                                                  |                              | Vasco        | 59          | 34           | 2          | 10         |
| 5                                                  |                              | Ponda        | 60          | 31           | 8          | 13         |
| 6                                                  |                              | Margao       | 59          | 30           | 8          | 13         |
| 7                                                  | Mining Area                  | Assanora     | 57          | 29           | 7          | 13         |
| 8                                                  |                              | Amona        | 58          | 30           | 8          | 13         |
| 9                                                  |                              | Bicholim     | 61          | 31           | 8          | 13         |
| 10                                                 |                              | Honda        | 63          | 32           | 8          | 13         |
| 11                                                 |                              | Usgao        | 65          | 33           | 8          | 13         |
| 12                                                 |                              | Codli        | 61          | 31           | 8          | 13         |
| 13                                                 |                              | Sanguem      | 57          | 30           | 7          | 13         |
| 14                                                 |                              | Tilamol      | 66          | 33           | 8          | 13         |
| 15                                                 | Industrial Area              | Cuncolim     | 68          | 34           | 8          | 13         |
| 16                                                 |                              | Kundaim      | 62          | 32           | 8          | 13         |
| 17                                                 |                              | Tuem         | 56          | 29           | 7          | 13         |
| 18                                                 |                              | MPT          | 57          | 25           | 2          | 10         |
| Annual Std                                         |                              |              | 60.00       | 40.00        | 50.00      | 40.00      |

**Fig 5.1.2 Trend Status of Average Annual Air Quality for the period April 2020 - March 2021 in Residential/ Commercial/ Industrial Locations within the state of Goa**

**Annual Standard**  
 PM 10 : 60  $\mu\text{g}/\text{m}^3$  PM 2.5 : 40  $\mu\text{g}/\text{m}^3$   
 SO<sub>2</sub> : 50  $\mu\text{g}/\text{m}^3$  NO<sub>2</sub> : 40  $\mu\text{g}/\text{m}^3$



Parameters like Ozone (O<sub>3</sub>), Lead (Pb), and Carbon Monoxide (CO) have also been monitored at the outsourced 14 locations and are found within prescribed limits (Refer Annexure V). The field observations around the monitoring sites indicates prominence of anthropogenic activities like vehicular movement, construction activities and industrial emissions.

Ambient Air Quality Monitoring data is utilized in the CPCB AQI tool for effective dissemination of air quality information to the common person people in simple linguistic terms that is easily understood by public domain. An Expert Group comprising medical professionals, air quality experts, academia, advocacy groups, and SPCBs was constituted and a technical study was awarded to IIT Kanpur. IIT Kanpur and the Expert Group recommended the said AQI scheme. (ref Air Quality Index-CPCB)

There are six AQI categories, namely Good, Satisfactory, Moderately polluted, Poor, Very Poor, and Severe, based on eight pollutants (PM<sub>10</sub>, PM<sub>2.5</sub>, NO<sub>2</sub>, SO<sub>2</sub>, CO, O<sub>3</sub>, NH<sub>3</sub>, and Pb) for which short-term (up to 24-hourly averaging period) National Ambient Air Quality Standards are prescribed. (Refer Table 5.1.2 )

*\*One hourly monitoring (for mathematical calculations only)*

| Table 5.1.2 : AQI Category, Pollutants and Health Breakpoints |                           |                            |                          |                        |                                    |                          |                          |             |
|---------------------------------------------------------------|---------------------------|----------------------------|--------------------------|------------------------|------------------------------------|--------------------------|--------------------------|-------------|
| AQI Category<br>(Range)                                       | PM <sub>10</sub><br>24-hr | PM <sub>2.5</sub><br>24-hr | NO <sub>2</sub><br>24-hr | O <sub>3</sub><br>8-hr | CO<br>8-hr<br>(mg/m <sup>3</sup> ) | SO <sub>2</sub><br>24-hr | NH <sub>3</sub><br>24-hr | Pb<br>24-hr |
| Good (0-50)                                                   | 0-50                      | 0-30                       | 0-40                     | 0-50                   | 0-1.0                              | 0-40                     | 0-200                    | 0-0.5       |
| Satisfactory<br>(51-100)                                      | 51-100                    | 31-60                      | 41-80                    | 51-100                 | 1.1-2.0                            | 41-80                    | 201-400                  | 0.5<br>-1.0 |
| Moderately<br>polluted<br>(101-200)                           | 101-250                   | 61-90                      | 81-180                   | 101-168                | 2.1- 10                            | 81-380                   | 401-800                  | 1.1-2.0     |
| Poor<br>(201-300)                                             | 251-350                   | 91-120                     | 181-280                  | 169-208                | 10-17                              | 381-800                  | 801-1200                 | 2.1-3.0     |
| Very poor<br>(301-400)                                        | 351-430                   | 121-<br>250                | 281-400                  | 209-748*               | 17-34                              | 801-<br>1600             | 1200-<br>1800            | 3.1-3.5     |
| Severe<br>(401-500)                                           | 430 +                     | 250+                       | 400+                     | 748+*                  | 34+                                | 1600+                    | 1800+                    | 3.5+        |

Based on the measured ambient concentrations, corresponding standards and likely health impact, is determined for each of these pollutants. The AQI values and corresponding ambient concentrations (health breakpoints) as well as associated likely health impacts for the identified eight pollutants are as follows (Refer Table 5.1.3)

| Table 5.1.3: AQI : Associated Health Impacts |                                                                                                                                                                                  |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AQI                                          | Associated Health Impacts                                                                                                                                                        |
| Severe<br>(401-500)                          | <b>SEVERE : May cause respiratory effects even on healthy people and serious health effect on people with lung/heart diseases</b>                                                |
| Very Poor<br>(301-400)                       | <b>VERY-POOR : May cause respiratory illness to the people on prolonged exposure. Effect may be more pronounced in people with lung and heart diseases</b>                       |
| Poor<br>(201-300)                            | <b>POOR : May cause breathing discomfort to people on prolonged exposure and discomfort to people with heart disease</b>                                                         |
| Moderately<br>polluted<br>(101-200)          | <b>MODERATELY POLLUTED : May cause breathing discomfort to the people with lung disease such as asthma and discomfort to people with heart disease Children and older adults</b> |
| Satisfactory<br>(51-100)                     | <b>SATISFACTORY : May cause minor breathing discomfort to sensitive people</b>                                                                                                   |
| Good (0-50)                                  | <b>GOOD : Minimal impact</b>                                                                                                                                                     |

The data has also been displayed in term of Air Quality Index (AQI) as provided in **Annexure**

**VII** for the various locations monitored. The data indicates good to satisfactory air quality in general. However, in the month of January 2021 at Baina, the air quality indicates moderate and very poor on 22nd January and 27th January respectively with PM2.5 concentrations higher than PM10.

## 5.2 National Water Quality Monitoring Programme (NWMP)

The Goa State Pollution Control Board (GSPCB) monitors water quality at 63 locations throughout the State under the CPCB sponsored project NWMP. The water bodies monitored include surface water and ground water (rivers, canals, lake, reservoir, creek, coastal water and bore-wells). Among the rivers, the estuarine rivers as well as the fresh water rivers which form a part of the network for water intake points for water treatment plants for public water supply have been covered. Ground water sources (bore-well water) located within the selective industrial estates are also part of this programme.

The 63 locations covered under this programme are distributed through out Goa such that 35 stations are located in the North District and 28 are located in the South District.

| Sr. No. | Type | Rivers/ Lake/Canal/ Wells/ Coastal Water | Location                                 |
|---------|------|------------------------------------------|------------------------------------------|
| 1       | R    | Rv. Tiracol                              | Tiracol                                  |
| 2       | R    | Rv. Chapora                              | 1.Near Alorna Fort, Pernem               |
| 3       | R    |                                          | 2.Siolim                                 |
| 4       | R    | Rv. Kalna                                | Chandel, Pernem                          |
| 5       | R    | Rv. Madei                                | Dabos, Valpoi                            |
| 6       | R    | Rv. Valvanti                             | Sankli, Bicholim                         |
| 7       | R    | Rv. Bicholim                             | Baranzan Nagar, Bicholim                 |
| 8       | R    | Rv. Assanora                             | Assanora                                 |
| 9       | R    | Rv. Sinkerim                             | 1.Candolim Side Near Bridge              |
| 10      | R    |                                          | 2.Nerul Temple                           |
| 11      | R    | Rv. Khandepar                            | Opa-Ponda                                |
| 12      | R    | Rv. Mandovi                              | 1.Tonca, Marcela                         |
| 13      | R    |                                          | 2.Amona Bridge                           |
| 14      | R    |                                          | 3.Mandovi Bridge                         |
| 15      | R    |                                          | 4.IFFI Jetty                             |
| 16      | R    |                                          | 5.Near Hotel Marriot                     |
| 17      | R    | Rv. Mapusa                               | Culvert on Mapusa-Panaji Highway         |
| 18      | L    | Anjunem Lake                             | Anjunem                                  |
| 19      | L    | Mayem Lake                               | Mayem, Bicholim                          |
| 20      | L    | Carambolim Lake                          | Carambolim, Old Goa                      |
| 21      | C    | Cumbarjua Canal                          | Corlim (Discharge Point of Syngeta Ltd.) |
| 22      | W    | Well - Kudaim I.E.                       | M/s Cadila Healthcare Ltd.               |
| 23      | W    | Well - Corlim I.E.                       | Corlim Industrial Estate                 |
| 24      | W    | Well - Pilerne I.E.                      | M/s Unichem                              |
| 25      | W    | Borewell - Bethora I.E.                  | Bethora Industrial Estate                |

| 26      | W          | Borewell - Madkaim I.E.                  | Madkaim Industrial Estate                                                   |
|---------|------------|------------------------------------------|-----------------------------------------------------------------------------|
| 27      | B          | Tiracol Beach                            | Tiracol                                                                     |
| 28      | B          | Miramar Beach                            | Miramar                                                                     |
| 29      | B          | Calangute Beach                          | Calangute                                                                   |
| 30      | B          | Morjim Beach                             | Morjim                                                                      |
| 31      | B          | Vagator Beach                            | Vagator                                                                     |
| 32      | R          | River Mandovi                            | Ribandar-Chodan Ferry Point                                                 |
| 33-A    | STP        | Influent Sample                          | Tonca STP                                                                   |
| 33-B    | STP        | Treated Effluent Sample                  | Tonca STP                                                                   |
| 34      | Water-Fall | Harwale Waterfall                        | Harwale                                                                     |
| 35      | Spring     | Salmona Spring                           | Salmona, Saligao                                                            |
| Sr. No. | Type       | Rivers/ Lake/Canal/ Wells/ Coastal Water | Location                                                                    |
| 1       | R          | Rv. Zuari                                | 1.Panchawadi                                                                |
| 2       | R          |                                          | 2.Borim Bridge                                                              |
| 3       | R          |                                          | 3.Marciam Jetty                                                             |
| 4       | R          |                                          | 4.D/S of point where Kumbarjua Canal Joins                                  |
| 5       | L          | Rv. Sal                                  | 1.Rumder                                                                    |
| 6       | R          |                                          | 2.Khareband, Margao                                                         |
| 7       | R          |                                          | 3.Pazarconi, Cuncolim (Near Culvert Margao- Cancona NH)                     |
| 8       | R          |                                          | 4.Orlim Bridge, Orlim                                                       |
| 9       | R          |                                          | 5.Near Hotel Leela, Mobor, Cavelossim                                       |
| 10      | R          | Rv. Talpona                              | 1.Canacona                                                                  |
| 11      | R          | Rv. Khandepar                            | Codli near Bridge, u/s OPA waterworks, Sanguem                              |
| 12      | R          | Rv. Kushawati                            | Near Bund at Kevona, Rivona, Sanguem                                        |
| 13      | L          | Salaulim Lake                            | Salaulim, Sanguem                                                           |
| 14      | L          | Raia Lake                                | Curtorim                                                                    |
| 15      | L          | Saipem Lake                              | Saipem                                                                      |
| 16      | L          | Curtorim Lake                            | Curtorim                                                                    |
| 17      | C          | Agricultural Canal                       | Agricultural Canal upstream of Cuncolim I.E. (1 Km from M/s Nicomet Ind.)   |
| 18      | C          | Agricultural Canal                       | Agricultural Canal downstream of Cuncolim I.E. (1 Km from M/s Nicomet Ind.) |
| 19      | C          | Dando Creek                              | Dando Mollo, Velsao, Marmugao                                               |
| 20      | W          | Well - Verna I.E.                        | M/s Cipla Limited                                                           |

|    |     |                          |                            |
|----|-----|--------------------------|----------------------------|
| 21 | W   | Well - Sancoale I.E.     | Sancoale Industrial Estate |
| 22 | W   | Borewell - Concolim I.E. | Cuncolim Industrial Estate |
| 23 | B   | Mobor Beach              | Mobor                      |
| 24 | B   | Baina Beach              | Baina                      |
| 25 | B   | Galgibag Beach           | Galgibag                   |
| 26 | B   | Colva Beach              | Colva                      |
| 27 | B   | Velsao Beach             | Velsao                     |
| 28 | Dam | Chapoli Dam              | Chapoli, Canacona          |

The total 63 locations are divided into two groups i.e. (i) 55 locations which are being monitored on monthly basis and (ii) 8 locations (i.e. bore-wells) are monitored on half-yearly basis as per CPCB protocol.

Six Hundred and Seventy Four samples were collected from all these water bodies and analyzed during the year 2020-2021. The NWMP data is attached at Annexure VIII

The data of the water samples analysed during 2020-2021 was interpreted using the Central Pollution Control Board classification on best designated use of the water body.

**From the water quality (NWMP) data analysis it is seen that in general and on annual basis, all parameters at majority of locations, which are monitored on montly basis are within the prescribed limits except microbial pollution i.e fecal (SW-II)/ total coliform (class- C ) Further, Low pH is observed at Kundaim, Corlim, Verna, Bethora, Madkai Industrial Estates borewell water samples which are collected and analysed on biannual basis. Fecal coliform of River Mapusa, River Zuari at Panchawadi, Madkai jetty; Borim bridge and at Cortalim, River Sal at Panzorconi, Mobor, Orlim and Khareband; River Mandovi at Panaji, Iffi jetty, Tonca-Marcela, Hotel Marriott, Ribandar-Chodan ferry and at Amona; River Sinkerim at Candolim and Ganpati temple Nerul; River Chapora at Siolim; River Tiracol; Cumbharjua canal exceeds the permissible limits which may be attributed to release of untreated or partially treated domenstic effluents directly or indirectly along the water course. Total coliform of River Bicholim, Harwale waterfall, Saipem lake does not meet the prescribed limit. At some locations at River Mapusa, River Sal Khareband, Rumber lake, Saipem lake, Curtorim lake, Raia lake it is seen that Dissolved Oxygen is below permissible limit and BOD is exceeding the permissible limits.**

It is also observed that fecal coliform is exceeding permissible limits for the coastal waters at Tiracol beach, Miramar beach, Calangute beach, Morjim beach, Mobor beach, Baina, beach, Vagator beach, Galgibag beach, Colva beach and at Velsao beach and the turbidity is also exceeding limits occasionally at some beaches i.e. Mobor, Morjim, Galgibag, Colva and Vagator.

#### **Designated best use classification (Water quality standards) of surface waters**

| Designated Best Use                                                        | Quality Class | Primary Water Quality Criteria                                                                                                                                           |
|----------------------------------------------------------------------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Drinking water source without conventional treatment but with chlorination | A             | Total coliform organisms (MPN*/100 ml) shall be 50 or less<br>pH between 6.5 and 8.5<br>Dissolved Oxygen 6 mg/l or more, and<br>Biochemical Oxygen Demand 2 mg/l or less |



|                                                         |   |                                                                                                                                                                                |
|---------------------------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Outdoor bathing (organized)                             | B | Total coliform organisms(MPN/100 ml) shall be 500 or less<br>pH between 6.5 and 8.5<br>Dissolved Oxygen 5 mg/l or more, and<br>Biochemical Oxygen Demand 3 mg/l or less        |
| Drinking water source with conventional treatment       | C | <b>Total coliform organisms(MPN/100 ml) shall be 5000 or less<br/>pH between 6 and 9<br/>Dissolved Oxygen 4 mg/l or more, and<br/>Biochemical Oxygen Demand 3 mg/l or less</b> |
| Propagation of wildlife and fisheries                   | D | pH between 6.5 and 8.5<br>Dissolved Oxygen 4 mg/l or more, and<br>Free ammonia (as N) 1.2 mg/l or less                                                                         |
| Irrigation, industrial cooling and controlled disposal. | E | pH between 6.0 and 8.5<br>Electrical conductivity less than 2250 micro mhos/cm,<br>Sodium Absorption Ratio less than 26, and Boron less than 2 mg/l                            |

\* MPN: Most Probable Number

**Designated best use classification (water quality standards) for Coastal waters and marine outfall**

| Class | Designated best use                                                    | Primary Water Quality Criteria                                                                                                                                                                                                                                                                                          |
|-------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SW-I  | Salt pans, Shell fishing, Mariculture and Ecologically Sensitive Zones | pH – 6.5 – 8.5<br>D. O. – 5 mg/l<br>Colour and odour – No noticeable colour or offensive odour<br>Floating matter – Nothing obnoxious<br>Suspended solids – none from sewage or industrial waste<br>Oil and Grease - -0.1 mg/l<br>Heavy metals – Mercury 0.001 mg/l<br>Lead – 0.001 mg/l<br>Cadmium – 0.01 mg/l         |
| SW-II | Bathing, Contact water sports and Commercial fishing                   | pH – 6.5 – 8.5<br>D. O. – 4 mg/l<br>Colour and odour – No noticeable colour or offensive odour<br>Floating matter – Nothing obnoxious or detrimental for use<br>Turbidity – 30 NTU ( <i>Nephelometric Turbidity Unit</i> )<br>Faecal Coliform – 100/100 ml (MPN)<br>Biochemical Oxygen Demand (3 days at 27°C) – 3 mg/l |

|        |                                                             |                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SW-III | Industrial cooling, Recreation (non-contact) and Aesthetics | <p>pH – 6.5 – 8.5<br/> D. O. – 3 mg/l<br/> Colour and odour – No noticeable colour or offensive odour<br/> Floating matter – No visible, obnoxious floating debris<br/> Turbidity – 30 NTU (<i>Nephelometric Turbidity Unit</i>)<br/> Faecal Coliform – 500/100 ml (MPN)<br/> Dissolved Iron (Fe) – 0.5 mg/l or less<br/> Dissolved manganese (Mn) – 0.5 mg/l or less</p>                        |
| SW-IV  | Harbour                                                     | <p>pH – 6.0 – 9.0<br/> D. O. – 3 mg/l<br/> Colour and odour – No visible colour or offensive odour<br/> Floating matter, Oil, grease and scum (including petroleum products) – 10 mg/l or detrimental for use<br/> Faecal Coliform – 500/100 ml (MPN)<br/> Biochemical Oxygen Demand (3 days at 27°C) – 5 mg/l</p>                                                                               |
| SW-V   | Navigation and Controlled waste disposal                    | <p>pH – 6.0 – 9.0<br/> D. O. – 3 mg/l<br/> Colour and odour – None in such concentrations that will impair any usage specifically assigned to this class.<br/> Sludge deposits, solid refuse floating solids, oil, grease and scum – None except for such small amounts discharge of appropriately treated sewage and or industrial waste effluents.<br/> Faecal Coliform – 500/100 ml (MPN)</p> |



**Figure 5.3** is a map showing quality monitoring locations under national water monitoring programme (NWMP).

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## CHAPTER 6.

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### PRESENT STATE OF ENVIRONMENT, ENVIRONMENTAL PROBLEMS AND COUNTER MEASURES

#### 6.1 Ambient Air Quality in Iron Ore Mining Transportation Routes

Ambient Air Quality Monitoring was conducted on the iron ore transportation routes as listed below. The AAQM data for is placed at **Annexure IX**. It generally indicates good to satisfactory air quality during the transportation activity with some instances of moderate air quality. The air quality was very poor on one particular occasion in the month of May 2020 in Quepem, and also the entire month showed high particulate readings.

1. On the open Terrace of Residential House of Mr. Selwyn D'costa, Capxem.
2. On the open Terrance of M/s. Mallikarjun Store near Village Panchayat, Sanvordem
3. Back Side of Shree Sateri Temple, Bag Xelvona, Quepem
4. On the open Terrance of Residential House of Mr. Dilip Raikar, Sanguem
5. On the open Terrance of Residential House of Mr. Tulsidas Naik, Curchorem
6. Ambaulim Quepem (House of Ramnath B. Naik), Quepem
7. Kakumader Curchorem (House of Simaon Diniz), Curchorem
8. RIVONA (Premises of Mahalaximi Temple), Rivona
9. On the open terrace, Residence of Mr. Anil Faldesai, Cavrem
10. On the Open terrace, Residednce of Mr.Sanjay Naik, Curchorem
11. Open Tarrace of Mr Mangaldas Gawade, Mollem
12. Open Tarrace Of Mr Ramanath Setu Naik, Uguem
13. On the Open Terrace of Residential House of Mr. Ravindra Phalakar, Mayem
14. At Open Space of Govt. Primary School, Fanaswadi, Naveli
15. On the Open Terrace of Residential House Mr. Vishnu Gawas, Bicholim
16. On the Open Terrace of Residential House Mr. Baliram Malik, Sirsaim

17. Open Tarrace Of Mr Paresh Shirodkar, Mayem
18. Open Terrace of Mr. Budnesab Vatnal, Sanvordem
19. Office Primeses fo M/s. Eyster Finanance Leasing Pvt. Ltd., Collem

**6.2 CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION (CAAQMS) : Mobile station was put in operation for conducting Ambient Air Quality Monitoring in and around the industrial premises in Goa for the period from April 2020 to March 2021 to ascertain the Ambient Air Quality in and around the industries and other local areas in Goa.**



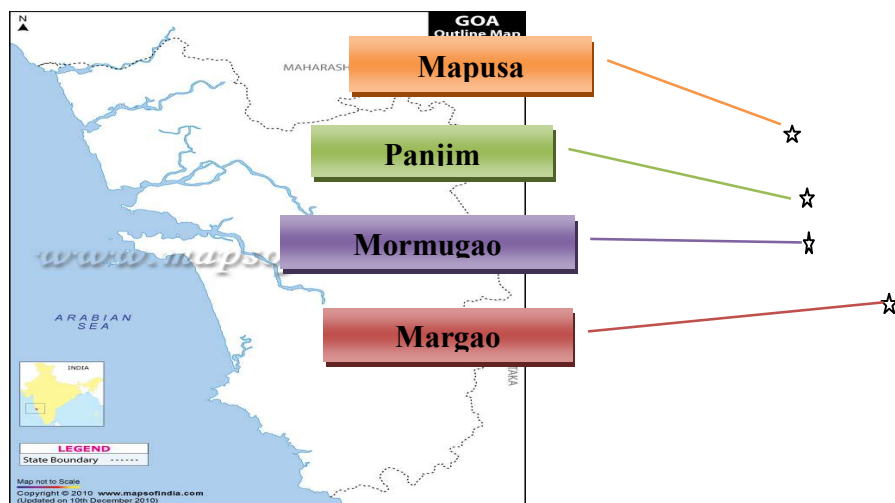
During the year under report, due to the Covid 19 pandemic restrictions, CAAQMS was conducted at limited industrial locations as listed below. In addition, monitoring was conducted for 36 days at the premises of the Goa State Pollution Control Board, Saligao from July 2020 till 18/03/2021.

| Sl. No. | Date of Mobile CAAQMS Operations | Name & Address of Industry                                                         |
|---------|----------------------------------|------------------------------------------------------------------------------------|
| 1.      | 28/12/2020 to 29/12/2020         | M/s. John Distilleries Pvt. Ltd;<br>Cuncolim Industrial Estate, Cuncolim-Goa       |
| 2.      | 29/12/2020 to 30/12/2020         | M/s. Shree Balaji Rulings Pvt. Ltd;<br>Cuncolim Industrial Estate, Cuncolim-Goa    |
| 3.      | 30/12/2020 to 31/12/2020         | M/s. Shirdi Steels Re-Rollers Pvt Ltd;<br>Cuncolim Industrial Estate, Cuncolim-Goa |
| 4.      | 31/12/2020 to 01/01/2021         | M/s. Global Ispat Pvt. Ltd;<br>Cuncolim Industrial Estate, Cuncolim-Goa            |
| 5.      | 01/01/2021 to 02/01/2021         | M/s. Sunrise Electromelts Pvt. Ltd;<br>Cuncolim Industrial Estate, Cuncolim-Goa    |
| 6.      | 03/01/2021 to 04/01/2021         | MPT D type Quarter , Sada, Mormugao-Goa                                            |
| 7.      | 04/01/2021 to 05/01/2021         | MPT D type Quarter , Sada, Mormugao-Goa                                            |

|     |                          |                                                                                      |
|-----|--------------------------|--------------------------------------------------------------------------------------|
| 8.  | 05/01/2021 to 06/01/2021 | MPT D type Quarter , Sada, Mormugao-Goa                                              |
| 9.  | 18/3/2021 to 19/3/2021   | Vasco Near NAMP Station , Near Fuse off call office of Electricity Department, Vasco |
| 10. | 24/3/2021 TO 25/3/2021   | Vasco Near NAMP Station , Near Fuse off call office of Electricity Department, Vasco |
| 11. | 25/03/2021 TO 26/3/2021  | Vasco Near NAMP Station, Near Fuse off call office of Electricity Department, Vasco  |

### 6.3 Noise and AAQM monitoring during Deepawali Festival, 2020.

#### 6.3.1 Noise Level Monitoring During Deepawali Festival, 2020



#### Noise level limits prescribed by CBCB

| Category of Area/Zone | Limits in dB (A) Leq             |                                    |
|-----------------------|----------------------------------|------------------------------------|
|                       | Day Time<br>(6.00 am – 10.00 pm) | Night Time<br>(10.00 pm – 6.00 am) |
| Commercial Area       | 65                               | 55                                 |
| Residential Area      | 55                               | 45                                 |
| Silence Zone          | 50                               | 40                                 |

#### City : Mapusa

- **Latitude & Longitude :** 15.60°N, 73.82 °E
- **Climate/Meteorology:** Tropical Climate
- **Population:** 39,989 as per 2011 census\*
- **Major land use:** Urban

**Monitoring Location:** Near Municipal Market

**Description of monitoring site:** Commercial

**Activities around the monitoring location:** Vehicle Movement



**Data/Observations:**

**Noise level during Deepawali festival, 2020:**

| Location A: Mapusa | Pre- Deepawali Day (09-11-2020) |      |             | Deepawali Day (14-11-2020) |      |             |
|--------------------|---------------------------------|------|-------------|----------------------------|------|-------------|
| Time duration      | Lmin                            | Lmax | Leq dB(A)   | Lmin                       | Lmax | Leq dB(A)   |
| 18:00 to 19:00 Hr  | 52.5                            | 76.2 | <b>62.2</b> | 40.2                       | 86.1 | <b>69.1</b> |
| 19:00 to 20:00 Hr  | 51.6                            | 81.1 | <b>61.2</b> | 49.9                       | 84.3 | <b>67.9</b> |
| 20:00 to 21:00 Hr  | 49.6                            | 83.8 | <b>64.9</b> | 51.8                       | 84.9 | <b>67.2</b> |
| 21:00 to 22:00 Hr  | 47.0                            | 79.8 | <b>62.6</b> | 55.5                       | 81.9 | <b>63.2</b> |
| 22:00 to 23:00 Hr  | 33.4                            | 80.6 | <b>62.7</b> | 56.7                       | 82.4 | <b>69.2</b> |
| 23:00 to 24:00 Hr  | 32.5                            | 88.4 | <b>68.1</b> | 42.0                       | 85.5 | <b>62.5</b> |

**City :Panjim**

- **Latitude & Longitude :** 15°29'56' N, 73°49'40'E
- **Climate/Meteorology:** Tropical Monsoon Climate
- **Population:** 70,991 as per 2011 census\*
- **Major land use:** Urban

**Monitoring Location:** Patto-Panjim

**Description of monitoring site:** Commercial

**Activities around the monitoring location:** Vehicular Movement

**Data/Observations:**Noise level during Deepawali festival, 2020:

| Location B : Panaji | Pre- Deepawali Day (09-11-2020) |      |             | Deepawali Day (14-11-2020) |      |             |
|---------------------|---------------------------------|------|-------------|----------------------------|------|-------------|
| Time duration       | Lmin                            | Lmax | Leq dB(A)   | Lmin                       | Lmax | Leq dB(A)   |
| 18:00 to 19:00 Hr   | 56.2                            | 83.0 | <b>61.6</b> | -                          | -    | <b>62.5</b> |
| 19:00 to 20:00 Hr   | 57.2                            | 86.6 | <b>62.2</b> | -                          | -    | <b>53.5</b> |
| 20:00 to 21:00 Hr   | 41.6                            | 81.9 | <b>53.4</b> | -                          | -    | <b>64.7</b> |
| 21:00 to 22:00 Hr   | 45.1                            | 74.6 | <b>51.7</b> | -                          | -    | <b>62.0</b> |
| 22:00 to 23:00 Hr   | 40.9                            | 72.2 | <b>55.4</b> | -                          | -    | <b>60.5</b> |
| 23:00 to 24:00 Hr   | 43.4                            | 75.7 | <b>49.3</b> | -                          | -    | <b>52.7</b> |

# Lmin & Lmax Data could not be retrieved on Deepawali day 14/11/2020 due to software Problem(files Corrupted)

**City : Vasco**

- **Latitude & Longitude :** 15°23'53'N, 73°48'40'E
- **Climate/Meteorology:** Tropical Climate
- **Population:** 94393 as per 2011 census\*
- **Major land use:** Urban

**Monitoring Location:** Fuse Call-Office, Vasco

**Description of monitoring site:** Commercial

**Activities around the monitoring location:** Vehicular Movement, Bursting of fire Crackers & Ringing of Bell of temple Nearby

**Data/Observations:**

**Noise level during Deepawali festival, 2020:**

| Location C : Vasco | Pre- Deepawali Day (09-11-2020) |      |             | Deepawali Day (14-11-2020) |       |             |
|--------------------|---------------------------------|------|-------------|----------------------------|-------|-------------|
| Time duration      | Lmin                            | Lmax | Leq dB(A)   | Lmin                       | Lmax  | Leq dB(A)   |
| 18:00 to 19:00 Hr  | 41.6                            | 80.6 | <b>62.6</b> | 51.4                       | 83.2  | <b>65.8</b> |
| 19:00 to 20:00 Hr  | 52.4                            | 80.5 | <b>62.3</b> | 53.3                       | 90.2  | <b>67.3</b> |
| 20:00 to 21:00 Hr  | 58.4                            | 71.1 | <b>60.9</b> | 55.1                       | 101.0 | <b>73.6</b> |
| 21:00 to 22:00 Hr  | 51.2                            | 73.0 | <b>58.9</b> | 51.0                       | 102.1 | <b>74.9</b> |
| 22:00 to 23:00 Hr  | 52.4                            | 78.6 | <b>57.9</b> | 52.0                       | 99.1  | <b>69.7</b> |
| 23:00 to 24:00 Hr  | 45.3                            | 85.3 | <b>67.2</b> | 44.6                       | 88.2  | <b>65.8</b> |

**City : Margao**

- **Latitude & Longitude :** 15°16'25"N, 73°57'29"E
- **Climate/Meteorology:** Tropical Monsoon Climate
- **Population:** 87,650as per 2011 census\*
- **Major land use:** Urban

**Monitoring Location:** Municipality Garden

**Description of Monitoring Site:** Commercial

**Activities around the monitoring location:** Vehicular Movement ,Bursting of Fire crackers

**Data/Observations:**

**Noise level during Deepawali festival, 2020:**

| Location D : Margao | Pre-Deepawali Day (09-11-2020) |       |             | Deepawali Day (14-11-2020) |      |             |
|---------------------|--------------------------------|-------|-------------|----------------------------|------|-------------|
| Time duration       | Lmin                           | Lmax  | Leq dB(A)   | Lmin                       | Lmax | Leq dB(A)   |
| 18:00 to 19:00 Hr   | 45.6                           | 101.1 | <b>70.8</b> | 58.1                       | 93.7 | <b>72.4</b> |
| 19:00 to 20:00 Hr   | 45.7                           | 97.6  | <b>68.3</b> | 50.9                       | 95.7 | <b>75.4</b> |
| 20:00 to 21:00 Hr   | 45.0                           | 92.3  | <b>66.6</b> | 43.2                       | 91.2 | <b>78.2</b> |
| 21:00 to 22:00 Hr   | 40.7                           | 80.5  | <b>68.4</b> | 55.8                       | 93.9 | <b>75.7</b> |
| 22:00 to 23:00 Hr   | 37.5                           | 69.6  | <b>62.1</b> | 52.7                       | 94.4 | <b>72.7</b> |
| 23:00 to 24:00 Hr   | 42.4                           | 66.6  | <b>59.3</b> | 41.4                       | 91.5 | <b>73.7</b> |

**Note: All values are in Leq dB(A)**

The value reported in should not be compared with Prescribed Noise Level standards for designated areas as the time period for Measurement (6 p.m. to 12 Midnight) do not match with the period specified in the prescribed standard(Day time:(6 a.m. to10 p.m.) and night time:10 p.m. to 6 a.m.).

\* Census data source – [www.citypopulation.de/india](http://www.citypopulation.de/india)

**6.3.2. Ambient Air Quality Monitoring during Deepawali Festival 2020.**

**AAQM Data for Deepawali 2020**

Ambient Air Quality during Deepawali Festival was monitored from 07.11.2020 to 21.11.2020. The AAQM data during the said period is placed below at table in **Annexure X**.

**Interpretation of Ambient Air Quality Data/Result:**

No exceedence of PM10 & PM2.5 Values observed during 15 days of monitoring.

Low to high density Light Motor Vehicular movement & low density Heavy Motor Vehicular movement was observed during Monitoring

14-11-2020 (Deepawali day) – Low to High density Light Motor Vehicular movement & Burning of fire crackers was observed.

**6.4. Annual Report Of Stack Monitoring For The Year APRIL 2020 TO MARCH 2021**

During the year under report , the Goa State Pollution Control Board conducted Stack Emission Monitoring programmes for 66 Stacks in different Industries / Hotels within the State of Goa . The units mostly comprise of Induction Furnaces, Reheating Furnaces, Boilers, Thermic Fluid Heaters, Rotary Kilns, DG Sets, Incinerators, etc. The details of the stack emission monitoring conducted are presented below.

| Sr. No. | Area                              | Industrial Area | Name of Unit                            | Type of Stack                                  | Date of Sampling |
|---------|-----------------------------------|-----------------|-----------------------------------------|------------------------------------------------|------------------|
| 1       | St. Jose de Areal, Salcete-Goa.   | -               | M/s. Goa Carbon Ltd,                    | Rotary Kiln                                    | 04.05.20         |
| 2       | St. Jose de Areal, Salcete-Goa.   | -               | M/s. Goa Carbon Ltd,                    | Cooler                                         | 06.05.20         |
| 3       | Zuari nagar , San-coale ,Mormugao | -               | M/s. Zuari Agro Chemicals Ltd ,         | NPK – A (N-CB 301 )                            | 08.05.20         |
| 4       | Zuari nagar , San-coale ,Mormugao | -               | M/s. Zuari Agro Chemicals Ltd ,         | U- FD (Urea Plant Dust Separator )             | 11.05.20         |
| 5       | Zuari nagar , San-coale ,Mormugao | -               | M/s. Zuari Agro Chemicals Ltd ,         | U- IA (Urea Plant Prilling Tower )             | 13.05.20         |
| 6       | Amona Village, Marcela-Bicholim   | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant ) | Laddle Dumping Chamber <b>Before</b> Bag House | 20.05.20         |
| 7       | Amona Village, Marcela-Bicholim . | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant ) | Laddle Dumping Chamber After Bag House         | 20.05.20         |

| Sr. No. | Area                             | Industrial Area | Name of Unit                                 | Type of Stack                              | Date of Sampling |
|---------|----------------------------------|-----------------|----------------------------------------------|--------------------------------------------|------------------|
| 8       | Corlim , Ilhas , Tiswadi – Goa.  | -               | M/s. Deccan Fine Chemicals ( India) Pvt Ltd, | Pretolachor ( Oil Heating Unit) (04-A)     | 22.05.20         |
| 9       | Corlim , Ilhas , Tiswadi – Goa.  | -               | M/s. Deccan Fine Chemicals ( India) Pvt Ltd, | Boiler ( G-41)                             | 27.05.20         |
| 10      | Zuari nagar , San-coale - Goa    | -               | M/s. Zuari Agro Chemicals Ltd ,              | NPK – A (N-CB 403 )                        | 29.05.20         |
| 11      | Surla , Bicholim Goa             | -               | M/s. Alcon Cement Company Pvt Ltd ,          | Cement Mill – II ( 17TPH)                  | 14.10.20         |
| 12      | Surla , Bicholim Goa             | -               | M/s. Alcon Cement Company Pvt Ltd ,          | Cement Mill – I ( 12TPH)                   | 16.10.20         |
| 13      | Surla , Bicholim Goa             | -               | M/s. Alcon Cement Company Pvt Ltd ,          | Packer – I ( 30TPH)                        | 20.10.20         |
| 14      | Surla , Bicholim Goa             | -               | M/s. Alcon Cement Company Pvt Ltd ,          | Packer – II ( 60TPH)                       | 22.10.20         |
| 15      | Amona Village, Marcela-Bicholim. | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant )      | Blast Furnace I (Before )                  | 26.10.20         |
| 16      | Amona Village, Marcela-Bicholim. | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant )      | Blast Furnace I (After )                   | 26.10.20         |
| 17      | Amona Village, Marcela-Bicholim. | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant )      | Blast Furnace II (Before )                 | 28.10.20         |
| 18      | Amona Village, Marcela-Bicholim. | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant )      | Blast Furnace II (After )                  | 28.10.20         |
| 19      | -                                | Cuncolim Idc    | United Marine Product                        | Boiler ( 10TPH )                           | 30.10.20         |
| 20      | Bicholim – Navelim Goa           | -               | Mohit Ispat Ltd                              | Reheating Furnace (12500MT/Month )         | 03.11.20         |
| 21      | -                                | Kundaim Idc     | Colgate Palmolive ( India ) Ltd              | Boiler ( 600Kg/Hr)                         | 05.11.20         |
| 22      | -                                | Kundaim Idc     | Colgate Palmolive ( India ) Ltd              | Boiler ( 600Kg/Hr)                         | 09.11.20         |
| 23      | -                                | Kundaim Idc     | Colgate Palmolive ( India ) Ltd              | Boiler ( 600Kg/Hr)                         | 11.11.20         |
| 24      | Amona Village, Marcela-Bicholim. | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant )      | Laddle Dumping Chamber Bag House( Before ) | 17.11.20         |
| 25      | Amona Village, Marcela-Bicholim. | -               | M/s. VEDANTA LIMITED ( Pig Iron Plant )      | Laddle Dumping Chamber Bag House( After )  | 17.11.20         |

| Sr. No. | Area                         | Industrial Area                                | Name of Unit                                               | Type of Stack                               | Date of Sampling |
|---------|------------------------------|------------------------------------------------|------------------------------------------------------------|---------------------------------------------|------------------|
| 26      | --                           | Kundaim Idc                                    | Karthik Induction Ltd                                      | Induction Furnace                           | 19.11.20         |
| 27      | -                            | Margao Idc                                     | Goa Carbon Ltd                                             | Rotary Kiln                                 | 23.11.20         |
| 28      | Ponda – Goa                  | -                                              | M/s MRF LTD.<br>( Unit – I )                               | Boiler ( 20T/hr)                            | 25.11.20         |
| 29      | Ponda – Goa                  | -                                              | M/s MRF LTD.<br>( Unit – I )                               | Boiler ( 25T/hr)                            | 27.11.20         |
| 30      | Ponda – Goa                  | -                                              | M/s MRF LTD.<br>( Unit – I I )                             | Thermic Fluid Heater<br>( 15 Lakh kcal/hr)  | 30.11.20         |
| 31      | -                            | Tivim Ind. Estate                              | M/s. Sigma Laborato-<br>ries                               | Boiler ( 600 Kg/hr)                         | 02.12.20         |
| 32      | Zuari Nagar , San-<br>coale, | -                                              | M/s. Zuari Agro Chemi-<br>cals Ltd , Survey No<br>110-252, | NPK – A ( N-CB<br>901 )                     | 07.12.20         |
| 33      | Zuari Nagar , San-<br>coale, | -                                              | M/s. Zuari Agro Chemi-<br>cals Ltd , Survey No<br>110-252, | NPK – B<br>( O5-5D 101 )                    | 11.12.20         |
| 34      | Marvasado, Usgaon<br>,       | -                                              | M/S.Procter & Gamble<br>Health Limited                     | Boiler ( 6T/ hr )                           | 14.12.20         |
| 35      | Marvasado, Usgaon<br>,       | -                                              | M/S.Procter & Gamble<br>Health Limited                     | Boiler ( 6T/ hr )                           | 18.12.20         |
| 36      | Marvasado, Usgaon<br>,       | -                                              | M/S.Procter & Gamble<br>Health Limited                     | DG 750 KVA                                  | 21.12.20         |
| 37      | -                            | Cuncolim<br>Ind. Estate                        | M/s. Trimurty Industry                                     | (Reheating Fur-<br>nace)<br>Rolling Mill    | 23.12.20         |
| 38      | -                            | Pissurlem<br>Ind. Estate                       | M/s Esteem Industries<br>Pvt Ltd                           | Boiler ( 3T/hr)                             | 28.12.20         |
| 39      | -                            | Pissurlem<br>Ind. Estate                       | M/s Esteem Industries<br>Pvt Ltd                           | Boiler ( 3T/hr)                             | 30.12.20         |
| 40      | -                            | Pissurlem<br>Ind. Estate                       | M/s VIC Industries                                         | Boiler (2T/hr)                              | 04.01.21         |
| 41      | -                            | Pissurlem<br>Ind. Estate                       | M/s VIC Industries                                         | Boiler (2T/hr)                              | 06.01.21         |
| 42      | -                            | Plot No. 92-<br>101,<br>Kundaim<br>Ind. Estate | M/s POLYNOVA IN-<br>DUSTRIES LTD                           | Thermic Fluid<br>Heater<br>( 30lak kcal/hr) | 12.01.21         |
| 43      | -                            | Plot No. 92-<br>101,<br>Kundaim<br>Ind. Est    | M/s POLYNOVA IN-<br>DUSTRIES LTD                           | Boiler<br>( 850kg/hr)                       | 14.01.21         |
| 44      | -                            | Verna Ind.<br>Estate                           | M/s. Pfizer Laboratories<br>Limited                        | DG ( 1010KVA)                               | 18.01.21         |

| Sr. No. | Area                            | Industrial Area            | Name of Unit                         | Type of Stack                           | Date of Sampling |
|---------|---------------------------------|----------------------------|--------------------------------------|-----------------------------------------|------------------|
| 45      | -                               | Verna Ind. Estate          | M/s. Microlabs Limited               | Boiler ( 2TPH)                          | 20.01.21         |
| 46      | -                               | Verna Ind. Estate          | M/s. Abott India Limited             | Boiler ( 2TPH)                          | 22.01.21         |
| 47      | -                               | Verna Ind. Estate          | M/s. Microlabs Limited               | Boiler ( 4TPH)                          | 27.01.21         |
| 48      | -                               | Verna Ind. Estate          | M/s. Abott India Limited             | Boiler ( 2TPH)                          | 29.01.21         |
| 49      | -                               | Verna Ind. Estate          | M/s.Digisol Systems Ltd( Smartlink)  | DG ( 380KVA)                            | 02.02.21         |
| 50      | -                               | Verna Ind. Estate          | M/s.Tevapharm India Private Limited, | Boiler( 4.0T/hr)                        | 04.02.21         |
| 51      | -                               | Pilrene Industrial Estate  | M/s. Unichem Laboratories Ltd        | Boiler ( 4.0T/hr)                       | 08.02.21         |
| 52      | -                               | Pilrene Industrial Estate  | M/s. Unichem Laboratories Ltd        | Boiler ( 880Kg/hr)                      | 10.02.21         |
| 53      | -                               | Pilrene Industrial Estate  | M/s. Unichem Laboratories Ltd        | Boiler ( 850Kg/hr)                      | 12.02.21         |
| 54      | -                               | Pilrene Industrial Estate  | M/s. Sandu Pharmaceuticals Ltd,      | DG ( 250KVA)                            | 22.02.21         |
| 55      | -                               | Pilrene Industrial Estate  | M/s. Berger Beckers Coating Pvt Ltd, | DG ( 250KVA)                            | 24.02.21         |
| 56      | -                               | Pilrene Industrial Estate  | M/s. Berger Beckers Coating Pvt Ltd, | Wet Spraying Booth                      | 26.02.21         |
| 57      | Santona Village , Sanguem -Goa. | -                          | M/s. Goa Sponge & Power Ltd,         | Induction Furnace I                     | 02.03.21         |
| 58      | Santona Village , Sanguem -Goa. | -                          | M/s. Goa Sponge & Power Ltd,         | Rotary Kiln                             | 04.03.21         |
| 59      | Santona Village , Sanguem -Goa. | -                          | M/s. Goa Sponge & Power Ltd,         | Fluidised Bed Combustion ( FBC ) Boiler | 08.03.21         |
| 60      | -                               | Bicholim Industrial Estate | M/s Grand Organics Pvt Ltd           | Boiler ( 1.12 T/hr )                    | 10.03.21         |
| 61      | Bambolim- Goa                   | -                          | M/s. Goa Medical College & Hospital, | Incinerator ( 100Kg/hr)                 | 12.03.21         |
| 62      | -                               | Cuncolim Ind. Estate       | M/s. John Distilleries Pvt Ltd,      | Boiler (6 TPH)                          | 16.03.21         |
| 63      | -                               | Cuncolim Ind. Estate       | M/s. Shri Balaji Rollings Pvt Ltd    | Induction Furnace                       | 18.03.21         |



| Sr. No. | Area | Industrial Area   | Name of Unit                         | Type of Stack     | Date of Sampling |
|---------|------|-------------------|--------------------------------------|-------------------|------------------|
| 64      | -    | Verna Ind. Estate | M/s.Tevapharm India Private Limited, | Boiler( 3.0T/hr)  | 22.03.21         |
| 65      | -    | Verna Ind. Estate | M/s. Sanofi India Limited ,          | Boiler (3.0 T/hr) | 24.03.21         |
| 66      | -    | Verna Ind. Estate | M/s. Sanofi India Limited ,          | DG ( 1010KVA)     | 26.03.21         |

**Remark:** The result of the stack emission monitoring indicate that the flue gases are within the permissible limits except for five stacks for which the emissions exceeded the permissible limits.

## 6.5 Water Quality of Colva Creek, Bethora Nallah, St. Inez Creek.

The water quality data compiled during the year 2020-21 for the above locations is given in Annexure XI.

### 6.5.1 Monitoring of Water Quality of Colva Creek.

The Colva Creek is monitored at the upstream and at the downstream. It is observed during the year that total coliform exceeds the permissible limits and Dissolved Oxygen, BOD does not meet the prescribed limit occasionally at the upstream and the downstream of the Colva creek.

### 6.5.2 Monitoring of Water Quality of Bethora Nallah.

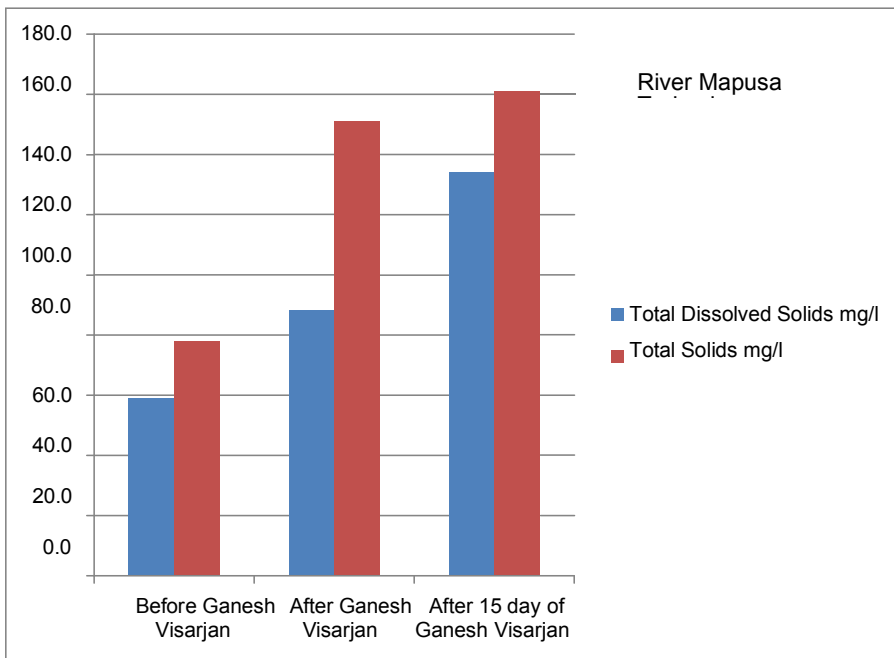
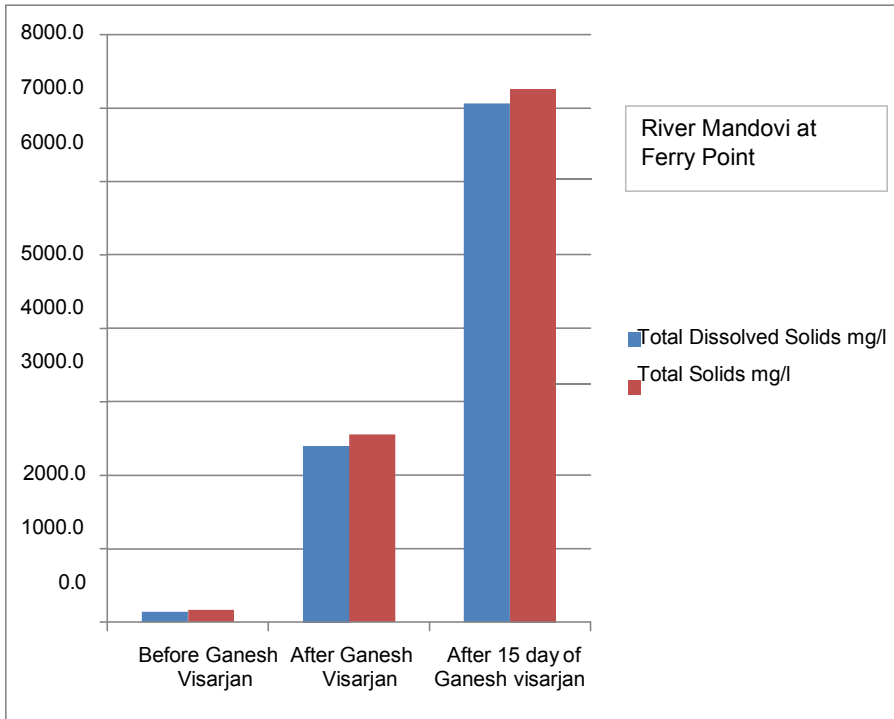
The Bethora Nallah is monitored at the upstream and at the downstream. It is observed during the year that total coliform exceeds the permissible limits and Dissolved Oxygen, BOD does not meet the prescribed limit occasionally at the upstream and the downstream of the Bethora Nallah.

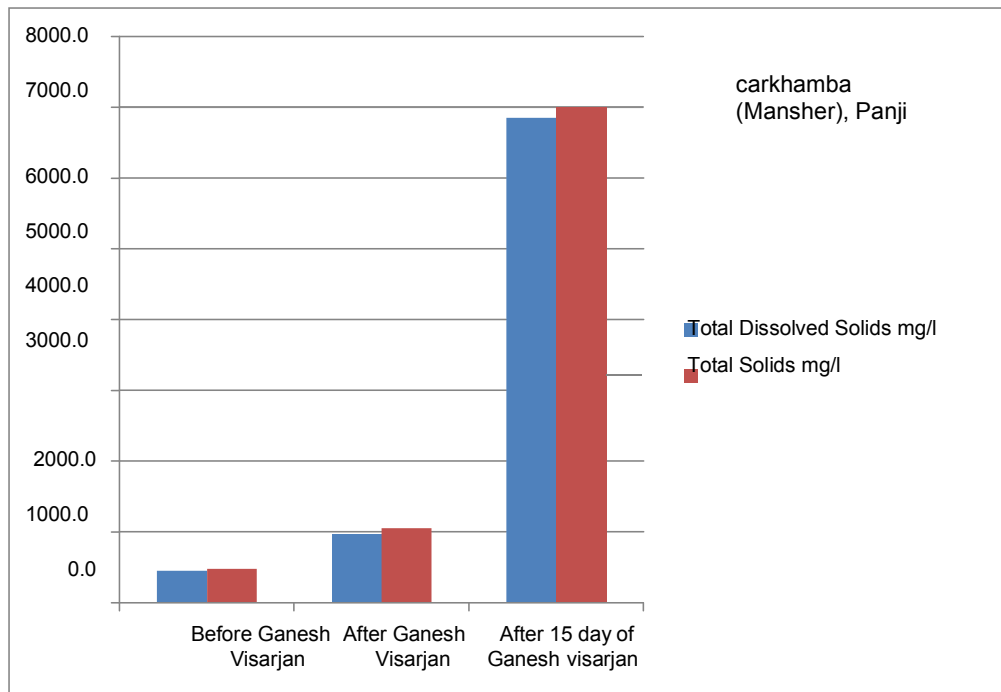
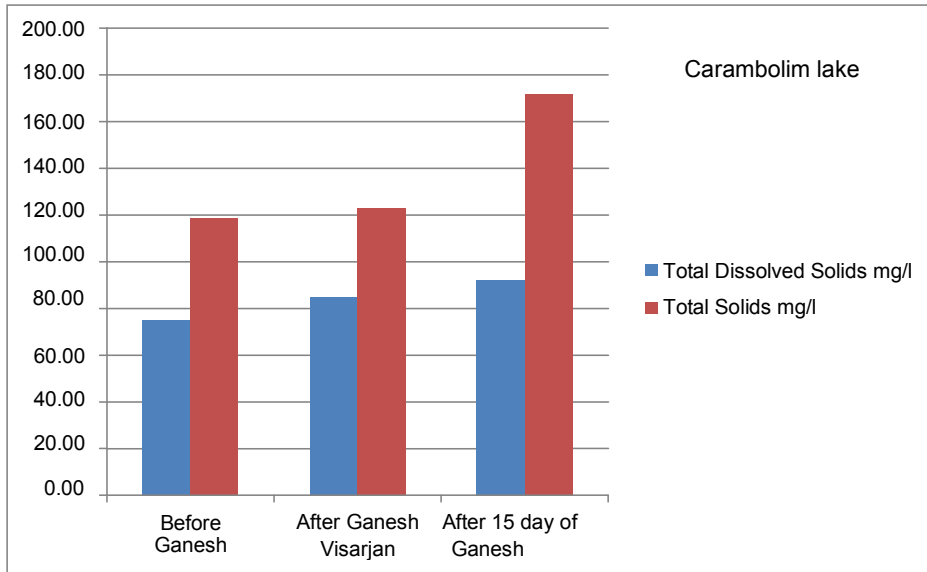
### 6.5.3 Monitoring of Water Quality of St. Inez Creek.

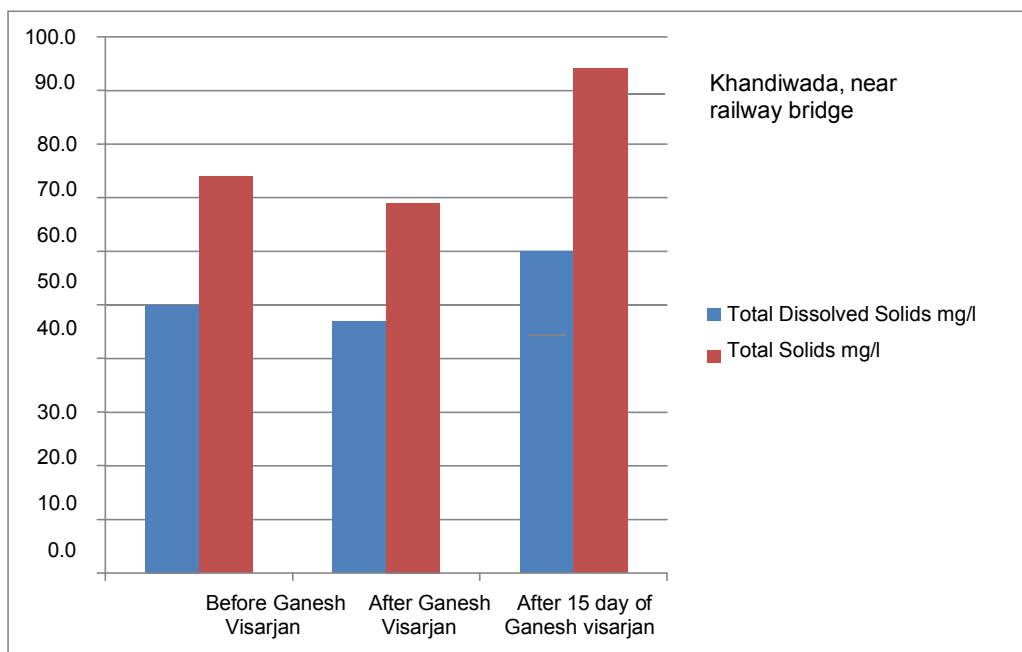
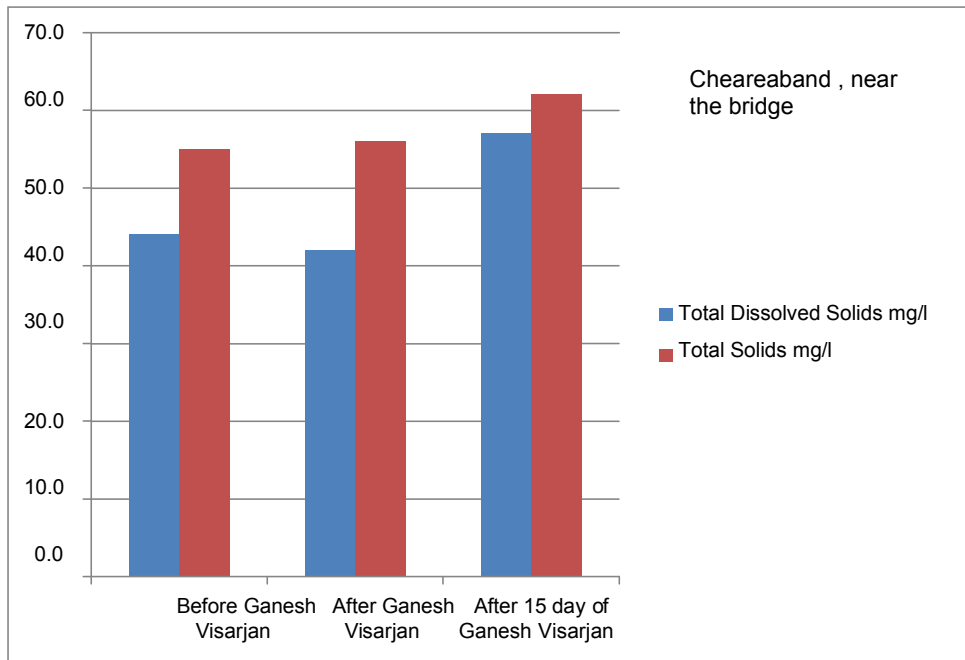
The St. Inez Creek is monitored at the upstream and at the downstream. It is observed during the year that total coliform exceeds the permissible limits and Dissolved Oxygen, BOD does not meet the prescribed limit at the upstream and the downstream of the St. Inez creek.

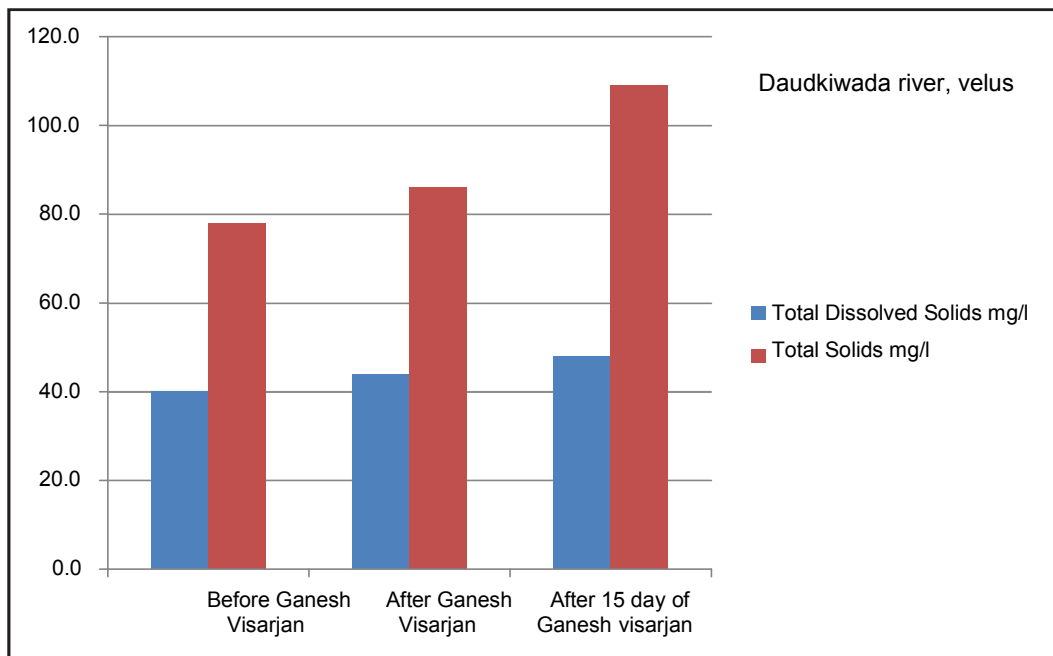
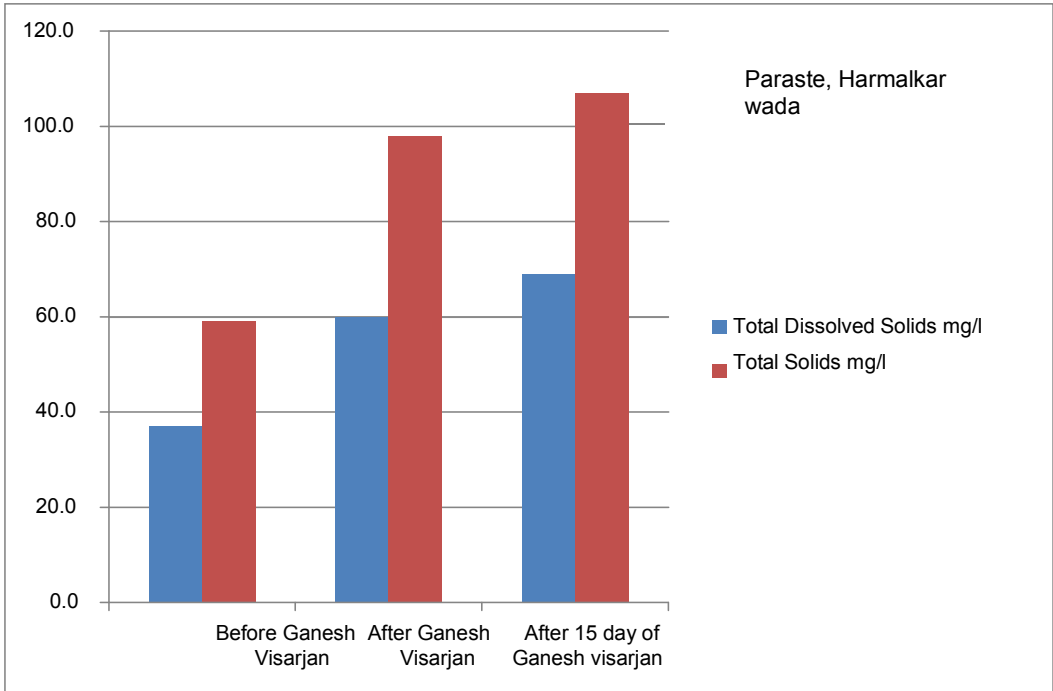
## 6.6. Monitoring of Water Quality during pre and post-Ganesh Visarjan.

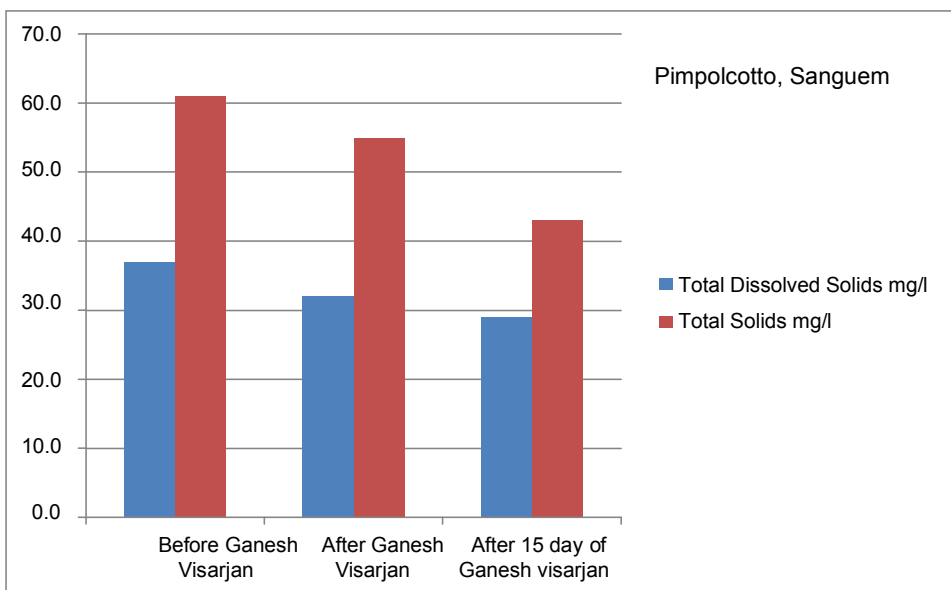
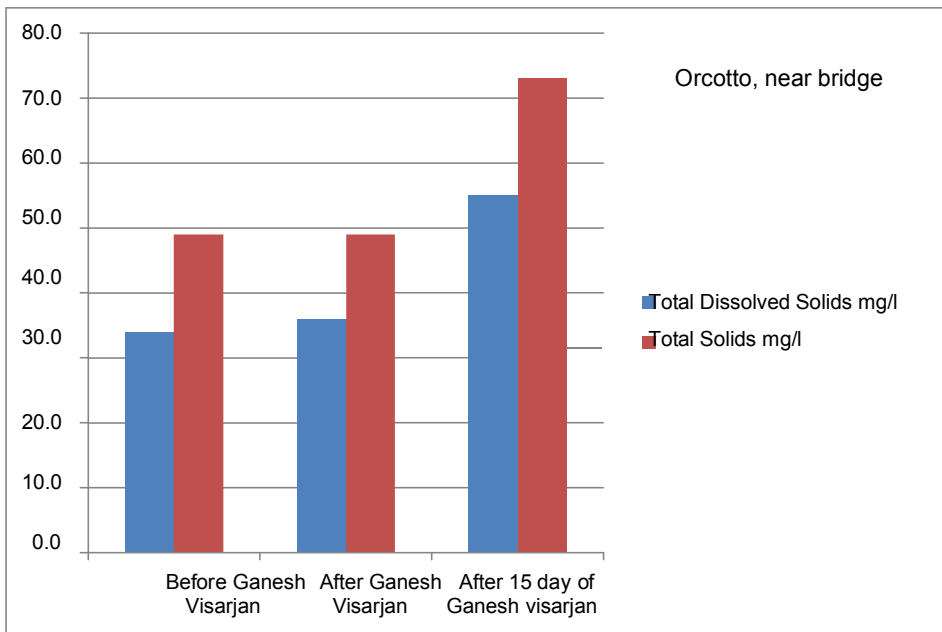
The Goa State Pollution Control Board monitors water quality at 12 locations as per the directives of Central Pollution Control Board (CPCB), during Pre and Post-Ganesh Visarjan. As per the water quality monitoring data during pre and post Ganesh Visarjan, the measured values indicate increase in Conductivity, Total Solids and Dissolved Solids at most of the location during post Visarjan periods. The data is presented in Annexure XII.



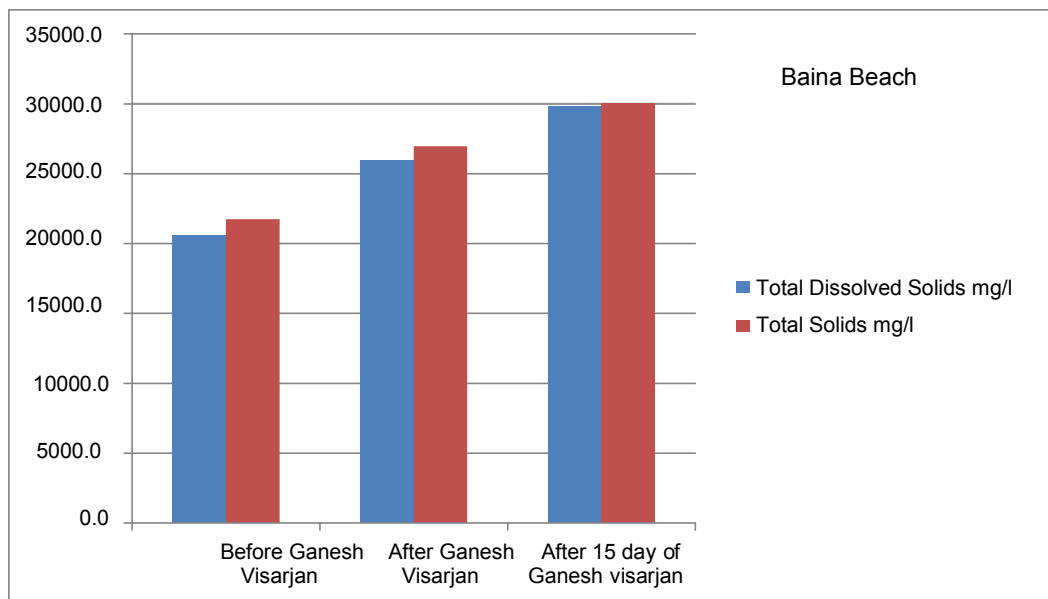
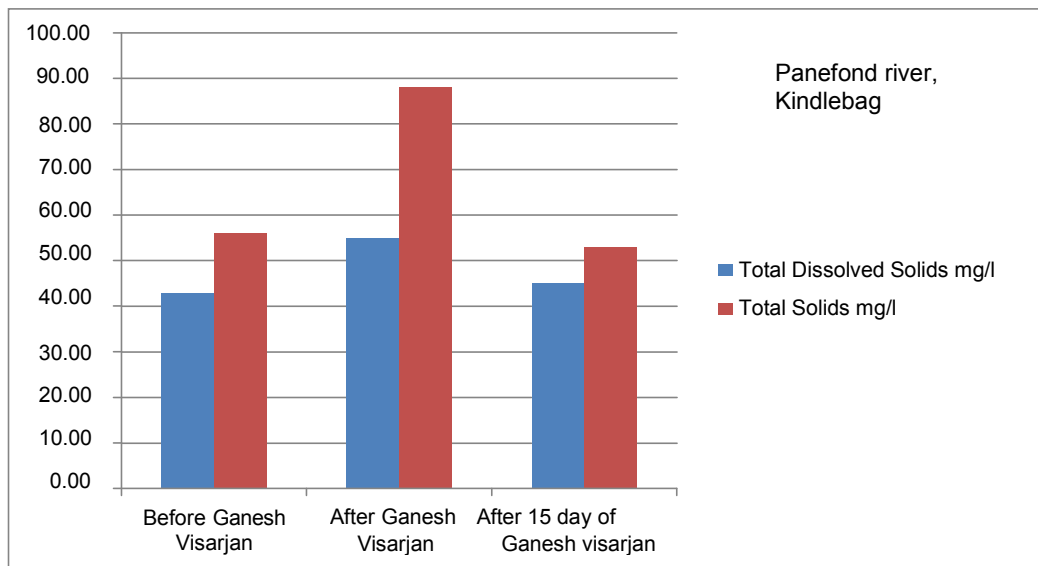












## **6.7 Performance Evaluation studies of Sewage Treatment Plants**

### **6.7.1 PERFORMANCE EVALUATION STUDIES OF SEWAGE TREATMENT PLANTS IN THE STATE OF GOA.**

#### **1. SEWAGE Treatment PLANT – 20 MLD SEWAGE TREATMENT PLANT - BAINA, VASCO-GOA FROM 12-02-2021 TO 13-02-2021 (24 hrs)**

##### **I. SUMMARY AND CONCLUSION**

- a. The sewage treatment plant of Public Works Department at Vasco is operational and Analysis of samples collected for a period of 24 hours during operation of plant indicates that parameters are exceeding the prescribed limits of the consent issued by the Board.
- b. On perusal of the log sheets for the past one year it is observed that the rate of sewage received at the sewage treatment plant is well within the designed flow ie. Peak flow 6 MLD.
- c. The mixed liquor suspended solids (MLSS) value C-Tech basin is 1320 mg/l
- d. The dissolved oxygen values at C-Tech basin is 1.5 mg/l
- e. The activated sludge plant was operating at F/M ratio at C-Tech basin is 0.1 per day
- d. The excess sludge generated is centrifuged and disposed in sludge drying beds.
- e. Incoming flow of raw effluent at STP is around 6 MLD during monitoring period.
- f. The treated effluent is discharged in to Arabian Sea.
- g. The sludge generated at the STP is approximately 1.0 M<sup>3</sup> per day as per the records maintained at the site.

##### **II. RECOMMENDATIONS**

- a. The parameter which were measured to assess the treatment efficiency of STP are DO, pH, COD, BOD, SS, Total Coliform, Fecal Coliform & E-Coli. Results showed that the effluent from the STP investigated failed to comply with discharge standard in terms of BOD, SS, Ammonical Nitrogen, DO, Fecal Coliform. Therefore, it was proposed that such proper maintenance and operation while removing excess sludge and scum be conducted in order to increase treatment efficiency.
- b. Records should be maintained of the sludge generated and disposed.
- c. The Sludge drying beds should be maintained properly by cutting the shrubs and bushes around the sludge drying beds.
- d. May suggest the unit to explore the possibility of reuse of treated water

**2. SEWAGE TREATMENT PLANT - 20 MLD SEWAGE TREATMENT PLANT - SIRVODEM, NAVELIM-GOA FROM 05-02-2021 TO 06-02-2021 (24hrs)**

**I. SUMMARY AND CONCLUSIONS**

- a. The sewage treatment plant of Public Works Department at Navelim is operational and analysis of samples collected for a period of 24 hours during operation of plant indicates that the consent parameter within the prescribed standard limits of the consent issued by the Board.
- b. On perusal of the log sheets for the past one year it is observed that the rate of sewage received at the sewage treatment plant is well within the designed flow ie. Peak flow 6.0 MLD.
- c. The mixed liquor suspended solids (MLSS) value C-Tech basin is 2118 mg/l
- d. The dissolved oxygen values at C-Tech basin is 6.4 mg/l
- e. The activated sludge plant was operating at F/M ratio at C-Tech basin is 0.02 per day
- f. The sludge generated is centrifuged and staggered within the premises.
- g. Incoming flow of raw effluent at STP is around 6 MLD during monitoring period.
- h. The treated effluent is discharged in to river sal.
- i. The sludge generated at the STP is approximately 2.0 M<sup>3</sup> per month as per the records maintained at the site.
- j. Treatment plant use chlorine as a disinfectant to kill microorganisms before discharging effluent to the environment which is ineffective.

**II. RECOMMENDATIONS**

- a. The unit may be directed to install sludge drying bed and Oil & Grease trap.
- b. May suggest the unit to explore the possibility of reuse of treated water
- c. The disinfectant used should be effective on microorganism.

**3. SEWAGE TREATMENT PLANT - M/s PRABHU WISTERIA (PRABHU REAL ESTATE) SURVEY NO-44/7, NEAR POLICE COLONY PATONA NAGAO- SALCETE GOA. From 29-01-2021 TO 30-01-2021 (24hrs)**

**I. SUMMARY AND CONCLUSIONS**

- a. The unit is a residential complex with 46 nos of flats.
- b. The unit has designed a Sewage Treatment Plant to treat 30 KLD of waste water, however, only 25 KLD of waste water were generated during monitoring period.

- c. Waste water samples were collected at different stages of treatment units and analysed for the major water quality parameters, such as biological oxygen demand
- d. (BOD), chemical oxygen demand (COD), total suspended solids (TSS), Oil & Grease, Fecal Coliform.
- e. The kitchen waste water and domestic waste water are collected as the raw effluent in collection tank is taken in to Aeration Tank for aeration. After settling, it is further passed through carbon filter. The treated water is used for gardening.
- f. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 156 mg/l, 79 mg/l and 1 mg/l respectively.
- g. The settleability test shown settled volume of sludge of approx. 90 ml/l, i.e 9% of sludge in the Aeration tank and calculated SVI was 576 ml/g which indicate higher amount of sludge in the aeration tank
- h. The activated sludge plant was operating at F/M ratio at 19.7 per day.
- i. The unit has not provided sludge drying bed
- j. Analysis report of Final effluent collected from 24 hours during operation of plant indicates that the consent parameter exceeds the prescribed standard limits for COD, BOD, DO, SS & Fecal Coliform.

## II. RECOMMENDATIONS

- a. The parameter which were measured to assess the treatment efficiency of STP are DO, pH, COD, BOD, SS, Total Coliform, Fecal Coliform. Results showed that the effluent from the STP investigated failed to comply with discharge standard in terms of COD, BOD, DO, Fecal Coliform. Therefore, it was proposed that such proper maintenance and operation while removing excess sludge and scum be conducted in order to increase treatment efficiency.
- b. The unit may be directed to install sludge drying bed and Oil & Grease trap
- c. Experience and qualified personal should be deployed to operate STP
- d. The unit may be directed to comply with the consent conditions issued by the Board.

## 4. SEWAGE TREATMENT PLANT – M/s PROCTER & GAMBLE HYGIENE & HEALTH CARE LTD., Plot No 173,314,315 - KUNDAIM INDUSTRIAL ESTATE KUNDAIM PONDA GOA From 05-03-2021 TO 06-03-2021 (24hrs)

### I. SUMMARY AND CONCLUSIONS

- a. The unit deals with manufacturing of sanitary pads
- b. The unit has designed a Sewage Treatment Plant to treat 30 KLD of waste water, however, only 25 KLD of waste water were generated during monitoring period.

- c. Waste water samples were collected at different stages of treatment units and analysed for the major water quality parameters, such as biological oxygen demand
- d. (BOD), chemical oxygen demand (COD), total suspended solids (TSS), Oil & Grease, Fecal Coliform.
- e. The domestic waste water are collected as the raw effluent in collection tank is taken in to Aeration Tank for aeration. After settling, it is further passed through carbon filter. The treated water is used for gardening.
- f. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 3500 mg/l, 2870 mg/l and 4.9 mg/l respectively.
- g. The settleability test shown settled volume of sludge of approx. 190 ml/l, i.e 19% of sludge in the Aeration tank and calculated SVI was 54.2 ml/g
- h. The activated sludge plant was operating at F/M ratio at 0.06 per day.
- i. The unit has not provided sludge drying bed & Oil and Grease trap.
- j. Analysis report of Final effluent collected from 24 hours during operation of plant indicates that the consent parameter within the prescribed standard limits.

## **II. RECOMMENDATIONS**

- a. The unit may be directed to install sludge drying bed and Oil & Grease trap
- b. Records should be maintained of the sludge generated and disposed.
- c. May suggest the unit to explore the possibility of reuse of treated water.

## **5. SEWAGE TREATMENT PLANT - 12.5MLD SEWAGE TREATMENT PLANT - TONCA, PANAJI- GOA FROM 19-02-2021 TO 20-02-2021 (24hrs)**

### **I. SUMMARY AND CONCLUSIONS**

- a. The sewage treatment plant of Public Works Department at Tonca is operational and Analysis of samples collected for a period of 24 hours during operation of plant indicates that parameters are within the prescribed limits of the consent issued by the Board.
- b. On perusal of the log sheets for the past one year it is observed that the rate of sewage received at the sewage treatment plant is well within the designed flow ie. Peak flow 12.5 MLD.
- c. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 2348 mg/l, 1990 mg/l and 4.2 mg/l respectively
- d. The activated sludge plant was operating at F/M ratio at C-Tech basin is 0.46 per day
- e. The excess sludge generated is centrifuged and disposed in sludge drying beds.

- f. Incoming flow of raw effluent at STP is around 12.5 MLD during monitoring period.
- g. The treated effluent is discharged in to St. Inez creek.
- h. The sludge generated at the STP is approximately 4.0 M<sup>3</sup> per day as per the records maintained at the site.

## **II. RECOMMENDATIONS**

- a. Records should be maintained of the sludge generated and disposed.
- b. The Sludge drying beds should be maintained properly by cutting the shrubs and bushes around the sludge drying beds.
- c. During monsoon the sludge drying beds should be covered properly in-order to prevent intrusion of rain water and to prevent overflow of sludge from the beds into the nearby areas during monsoon period.

### **6. SEWAGE TREATMENT PLANT- 15 MLD SEWAGE TREATMENT PLANT - TONCA, PANAJI-GO A FROM 19-02-2021 TO 20-02-2021 (24hrs)**

#### **I. SUMMARY AND CONCLUSIONS**

- a. The sewage treatment plant of Public Works Department at Tonca is operational and Analysis of samples collected for a period of 24 hours during operation of plant indicates that parameters are within the prescribed limits of the consent issued by the Board.
- b. On perusal of the log sheets for the past one year it is observed that the rate of sewage received at the sewage treatment plant is well within the designed flow ie. Peak flow 33.75 MLD.
- c. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 2430 mg/l, 1960 mg/l and 4.4 mg/l respectively
- d. The activated sludge plant was operating at F/M ratio at C-Tech basin is 0.6 per day
- e. The excess sludge generated is centrifuged and disposed in sludge drying beds.
- f. Incoming flow of raw effluent at STP is around 8.0 MLD during monitoring period.
- g. The treated effluent is discharged in to St. Inez creek.
- h. The sludge generated at the STP is approximately 2.0 M<sup>3</sup> per day as per the records maintained at the site.

## **II RECOMMENDATIONS**

- a. May suggest the unit to explore the possibility of reuse of treated water.

### **7. EFFLUENT TREATMENT PLANT – M/s BERGER PAINTS INDIA LTD., PLOT NO –:316,317,- KUNDAIM INDUSTRIAL ESTATE KUNDAIM PONDA–GOA FROM 19-03-2021to 20-03-2021 (24hrs)**



## I. SUMMARY AND CONCLUSIONS

- a. The unit deals with manufacturing of solvent based paints, distemper, emulsion paint.
- b. The Industry has designed an Effluent Treatment Plant to treat 60 KLD , however only 25 KLD of waste water generated during monitoring period
- c. The domestic waste water approx. 5 KLD is directed to an ETP of 60 KLD capacity. Thus the quantity of total effluent generated (trade + sewage) is characteristically around 30 KLD.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 82.0 mg/l, 32.0 mg/l and 3.7 mg/l respectively.
- e. The settleability test shown settled volume of sludge of approx. 10 ml/l, i.e 1% of sludge in the Aeration tank and calculated SVI was 92 ml/g .
- f. The activated sludge plant was operating at F/M ratio at 0.9 per day.
- g. Sludge produced at the ETP is detached at the initial stage of treatment i.e sludge is not receiving treatment in the ETP.
- h. Analysis report of Final effluent collected from 24 hours during operation of plant indicates that the consent parameter are exceeding the prescribed standard limits.

## II. RECOMMENDATIONS

- a. The parameter which were measured to assess the treatment efficiency of ETP are DO, pH, COD ,BOD, SS, Total Coliform, Fecal Coliform. Results showed that the effluent from the ETP investigated failed to comply with discharge standard in terms of COD, BOD &Fecal Coliform. Therefore, it was proposed that such proper maintenance and operation while removing excess sludge and scum be conducted in order to increase treatment efficiency
- b. The unit should ensure continuous operations of ETP plant to maintain the parameters within the stimulated limits as per the consent issued by the board.
- c. Since in an aeration tank, the settled volume sludge is low, indicates less amount of sludge in the aeration tank and higher amount of untreated sludge remains in the collection tank. The untreated sludge in the collection tank needs to be treated in the aeration tank by increasing aeration to enhance DO and by maintaining the sludge volume in the aeration tank.
- d. The consent needs to be amended with respect to the prescribed standard limits
- e. Sludge generated needs to be treated in the ETP before it disposed off.
- f. Records should be maintained of the sludge generated and disposed.
- g. May suggest the unit to explore the possibility of reuse of treated water.

**8. EFFLUENT TREATMENT PLANT – M/s CADILA HEALTHCARE LTD.,  
PLOT NO203, 213 - KUNDAIM INDUSTRIAL ESTATE KUNDAIM PONDA –GOA  
From 26-03-2021to 27-03-2021 (24hrs)**

**I. SUMMARY AND CONCLUSIONS**

- a. The unit deals with manufacturing of Tablets, Injection, Capsules, Anti- cancer vials.
- b. The Industry has designed an Effluent Treatment Plant to treat 150 KLD , however 170 KLD of waste water generated during monitoring period
- c. The ETP is running under capacity as effluent was observed discharging outside the compound wall of the unit.
- d. The domestic waste water approx. 60 KLD is directed to an ETP of 150 KLD capacity. Thus the quantity of total effluent generated (trade + sewage) is characteristically around 170 KLD.
- e. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 254.0 mg/l, 170.0 mg/l and 1.0 mg/l respectively.
- f. The settleability test shown settled volume of sludge of approx. 30 ml/l, i.e 3% of sludge in the Aeration tank and calculated SVI was 122 ml/g .
- g. The activated sludge plant was operating at F/M ratio at 1.29 per day.
- h. Analysis report of Final effluent collected from 24 hours during operation of plant indicates that the consent parameter are exceeding the prescribed standard limits.

**II. RECOMMENDATIONS**

- a. The parameter which were measured to assess the treatment efficiency of ETP are DO, pH, COD ,BOD, SS, Total Nitrogen,Total Coliform, Fecal Coliform. Results showed that the effluent from the ETP investigated failed to comply with discharge standard in terms of COD, BOD, SS, DO & Total Nitrogen. Therefore, it was proposed that such proper maintenance and operation while removing excess sludge and scum be conducted in order to increase treatment efficiency
- b. The unit should ensure continuous operations of ETP plant to maintain the parameters within the stimulated limits as per the consent issued by the board.
- c. Since in an aeration tank, the settled volume sludge is low, indicates less amount of sludge in the aeration tank and higher amount of untreated sludge remains in the collection tank. The untreated sludge in the collection tank needs to be treated in the aeration tank by increasing aeration to enhance DO and by maintaining the sludge volume in the aeration tank.
- d. The consent needs to be amended with respect to the prescribed standard limits
- e. The unit needs to upgrade the effluent treatment plant and sludge drying bed plant on urgent basis

- f. Sludge generated needs to be treated in the ETP before it disposed off.
- g. Records should be maintained of the sludge generated and disposed.
- h. May suggest the unit to explore the possibility of reuse of treated water.

**9. EFFLUENT TREATMENT PLANT – M/s COLGATE PALMOLIVE LTD.  
PLOT NO – 154, 154-A, 158 & 160- KUNDAIM INDUSTRIAL ESTATE, KUNDAIM PONDA  
GAOAFROM 26-02-2021to 27-02-2021 (24hrs)**

**I SUMMARY AND CONCLUSIONS**

- a. The unit deals with manufacturing of Dental cream 6400 MT/month.
- b. The Industry has designed an Effluent Treatment Plant to treat 150 KLD , however only 110 KLD of waste water generated during monitoring period
- c. The domestic waste water approx. 30 KLD is directed to an ETP of 150 KLD capacity. Thus the quantity of total effluent generated (trade + sewage) is characteristically around 140 KLD.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 380.0 mg/l, 311.0 mg/l and 1.5 mg/l respectively.
- e. The settleability test shown settled volume of sludge of approx. 400 ml/l, i.e 40% of sludge in the Aeration tank and calculated SVI was 1000 ml/g
- f. The activated sludge plant was operating at F/M ratio at 3.9 per day.
- g. Analysis report of Final effluent collected from 24 hours during operation of plant indicates that the consent parameter are exceeding the prescribed standard limits.

**II. RECOMMENDATIONS**

- a. The parameter which were measured to assess the treatment efficiency of ETP are DO, pH, COD ,BOD, SS, Total Coliform, Fecal Coliform. Results showed that the effluent from the ETP investigated failed to comply with discharge standard in terms of Fecal Coliform & DO
- b. The unit should ensure continuous operations of ETP plant to maintain the parameters within the stimulated limits as per the consent issued by the board.
- c. The consent granted to the unit is required to be amended with respect to the treated effluent standard.
- d. Since in an aeration tank, the settled volume sludge is high, indicates excess amount of sludge in the aeration tank and higher amount of untreated sludge remains in the collection tank. The untreated sludge in the collection tank needs to be treated in the aeration tank by increasing aeration to enhance DO and by maintaining the sludge volume in the aeration tank.

- e. Records should be maintained of the sludge generated and disposed.
- f. May suggest the unit to explore the possibility of reuse of treated water.

**10. EFFLUENT TREATMENT PLANT – M/s IGLOO DAIRY SERVICES PVT LTD. PLOT NO –: 144 -145, KUNDAIM INDUSTRIAL ESTATE ,KUNDAIM PONDA - GOA FROM 12-03-2021 to 13-03-2021 (24hrs)**

**I. SUMMARY AND CONCLUSIONS**

- a. The unit deals with manufacturing of Processed & Pouch packed milk 150KLD.
- b. The Industry has designed an Effluent Treatment Plant to treat 80 KLD , however only 70 KLD of waste water generated during monitoring period
- c. The domestic waste water approx. 5 KLD is directed to an septic tank/ soak pit.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 109.0 mg/l, 56.0 mg/l and 4.5 mg/l respectively.
- e. The settleability test shown settled volume of sludge of approx. 10 ml/l, i.e 1% of sludge in the Aeration tank and calculated SVI was 92 ml/g .
- f. The activated sludge plant was operating at F/M ratio at 22.6 per day.
- g. Sludge produced at the ETP is detached at the initial stage of treatment i.e sludge is not receiving treatment in the ETP.
- h. Analysis report of Final effluent collected from 24 hours during operation of plant indicates that the consent parameter are within the prescribed standard limits.

**II RECOMMENDATIONS**

- a. The unit should ensure continuous operations of ETP plant to maintain the parameters within the stimulated limits as per the consent issued by the board.
- b. Since in an aeration tank, the settled volume sludge is low, indicates less amount of sludge in the aeration tank and higher amount of untreated sludge remains in the collection tank. The untreated sludge in the collection tank needs to be treated in the aeration tank by increasing aeration to enhance DO and by maintaining the sludge volume in the aeration tank.
- C. Sludge generated needs to be treated in the ETP before it disposed off.
- d. Records should be maintained of the sludge generated and disposed.
- e. May suggest the unit to explore the possibility of reuse of treated water.

**11. EFFLUENT TREATMENT PLANT – M/s MARPOL PVT Ltd.  
PLOT NO - A, B, C KAKODA INDUSTRIAL ESTATE, KAKOD QUEPEM GO**

**FROM 22-01-2021 TO 23-01-2021 (24hrs)**

**I. SUMMARY AND CONCLUSIONS**

- a. The unit deals with manufacturing of Powder Coating of 7200 MT/annum.
- b. The Industry has designed an Effluent Treatment Plant to treat 40 KLD , however only 4 KLD of waste water generated during monitoring period
- c. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 150 mg/l, 124 mg/l and 4.0 mg/l respectively.
- d. The settleability test shown settled volume of sludge of approx. 150 ml/l, i.e 15% of sludge in the Aeration tank and calculated SVI was 1000 ml/g
- e. The activated sludge plant was operating at F/M ratio at 0.94 per day.
- f. Analysis report of Final effluent collected from 24 hours during operation of plant indicates that the consent parameter are within the prescribed standard limits.

**II. RECOMMENDATIONS**

- a. Records should be maintained of the sludge generated and disposed.
- b. May suggest the unit to explore the possibility of reuse of treated water



## CHAPTER 7

### ENVIRONMENTAL TRAINING

#### 7.1 TRAINING / WORKSHOPS/ SEMINARS, ETC., ATTENDED BY BOARD OFFICIALS

During the year under report, the officials of the Board attended training programmes / workshops / seminars etc., organized by reputed Institutions through virtual mode. The details of the same are as follows:

| <b><u>Online Trainings for the year 2020-2021</u></b><br><b><u>( Scientific Section)</u></b>    |                                                                                                                             |                                 |
|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Name of the officials</b>                                                                    | <b>Topic</b>                                                                                                                | <b>Date</b>                     |
| Shri. Ganpat Naik, Sc 'B',                                                                      | "Understanding Real-Time Monitoring for Industries and its Audit Methodology"                                               | <b>17/09/2020 to 30/09/2020</b> |
| Mrs. Jenica Sequeira, Sc "D", Ms. Connie Fernandes, Sc "C" ,                                    | Occupational Health & Safety Management System 45001:2018                                                                   | <b>10/02/2021 to 12/02/2021</b> |
| Shri Sanjay Kankonkar, Sc "B", Shri Nilesh parsekar, Sc 'B',                                    | Advanced Instrumental Analytical Techniques and Preventive Maintenance                                                      | <b>03/02/2021 to 04/02/2021</b> |
| Mrs. Jenica Sequeira, Sc "D",                                                                   | Aspect of Hazardous Waste TSDF from                                                                                         | <b>09/02/2021 to 11/02/2021</b> |
| Shri Nilesh Parsekar, Sc "B", Mrs. Joshna Mahale, Scientific Assistant ,                        | Environmental Data Interpretation, Compilation, Analysis , Presentation and reporting - Hands on - training and case study. | <b>08/02/2021 to 12/02/2021</b> |
| Shri Sanjay Kankonkar, Sc "B",                                                                  | Performance Evaluation of ETP/STP/CETPS                                                                                     | <b>09/02/2021 to 11/02/2021</b> |
| Shri Ganpat Naik, Sc "B", Shri Ravi Naik, Scientific Assistant                                  | Urban AirQuality Management                                                                                                 | <b>24/03/2021 to 25/03/2021</b> |
| Mrs. Avina Barretto Pereira – Scientifics Assistant , Mr. Sanmesh Borkar – Scientific Assistant | "Sophisticated Instruments for Analysis of Toxic, Heavy Metals in Environmental Samples and GC/ GC-Ms Operation,            | <b>15/03/2021 to 17/03/2021</b> |
| Mrs. Joshna Mahale – Scientific Assistant Mrs. Edma Sheth- Scientific Assistant                 | "" Analysis of Pesticides & other Organic , Chemicals in Environmental Samples                                              | <b>03/03/2021 to 05/03/2021</b> |

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Mrs. Avina Barretto Pereira – Scientifics Assistant 2. Mr. Sanmesh Borkar – Senior Laboratory Assistant                                                                                                                                                                                                                                                                                             | Analysis of Toxic Heavy Metals in Environmental Samples and GC/ GC-MS Operation” held from 15 <sup>th</sup> -17 <sup>th</sup> March 2021.          | <b>15/03/2021 to 17/03/2021</b> |
| Dr. Mohan Girap – Scientist ‘C’ Mr. Sanjay Kankonkar – Scientist ‘B’                                                                                                                                                                                                                                                                                                                                | workshop on CMP-WB                                                                                                                                 | <b>16-03-2021</b>               |
| Mr. Nilesh Parsekar – Scientific Assistant 2. Mrs. Joshna Mahale- Scientific Assistant                                                                                                                                                                                                                                                                                                              | Epidemiological Study of Human Community towards Impact of Toxic Chemicals like Arsenic , Polycyclic, Aromatic Hydrocarbon                         | <b>17/03/2021 to 19/03/2021</b> |
| Mrs. Reshma Vaz, SA ( Nominated official) Mr. Samir Borkar, SLA Mr. Ganpat Naik, Sc B , Mrs. Edma Sheth, SA Mrs. Joshna Mahale, SA Mr. Krishnannath Pednekar, SA . Mrs. Denza Cardozo, SA Mr. Santosh Haldankar, SA Mr. Waman Chari, SA ,Mr. Sanmesh Borkar, SLA,Mr. Nilesh Surlekar, SLA, Mrs. Jocelyn Coelho, SLA, Mr. Kamlesh Kavlekar, SLA, Mrs. Swara Gaonkar, JLA, . Mrs. Reema Kavlekar, JLA | Environmental Monitoring -sample collection of effluent , AAQMS, STACK AND TESTING OF VARIOUS PARAMETERS LIKE AIR , WATER AND NOISE IN LABORATORY. | <b>17/02/2021 to 19/02/2021</b> |
| Ms. Connie Fernandes, Sc “C” , Mr. Sebastiao Colaco, Engineering Assistant.                                                                                                                                                                                                                                                                                                                         | Monitoring of implementation status of Extended Producer Responsibility under the E-waste & Plastic waste Management Rules.                        | <b>15/03/2021 to 17/03/2021</b> |
| Mr. Ravi Naik, Scientific Assistant                                                                                                                                                                                                                                                                                                                                                                 | Air Pollution Control devices                                                                                                                      | <b>19/01/2021 to 21/01/2021</b> |
| Dr. Mohan Girap – Scientist ‘C’ 2. Mr. Sanjay Kankonkar – Scientist ‘B’                                                                                                                                                                                                                                                                                                                             | Webinar on Strengthening Capacity of ULD’s in Planning and Implementation of FSSM Across cities and Towns of Ganga Basin                           | <b>19-01-2021</b>               |
| Mr. Sanjay Kankonkar, Sc “B” , Mr. Ganpat Naik, Sc B, Mr. Ravi Naik, Scientific Assistant                                                                                                                                                                                                                                                                                                           | Workshop on Air quality Early Warning System                                                                                                       | <b>01-02-2021</b>               |
| Mr. Chaitanya Salgaonkar, Scientific Assistant.                                                                                                                                                                                                                                                                                                                                                     | Biomedical Waste Management                                                                                                                        | <b>04/12/2020 to 05/12/2020</b> |
| Shri. Ganpat Naik, Sc B,                                                                                                                                                                                                                                                                                                                                                                            | Advanced Dispersion Modeling for accurate Air Quality prediction                                                                                   | <b>22-09-2020</b>               |
| Mrs. Jenica Sequeira, Sc “ D, Ms. Connie Fernandes, Sc “C” , Dr. Mohan Girap , Sc “C”, Mr. Sanjay Kankonkar, Sc “ B’                                                                                                                                                                                                                                                                                | Webinar on noise Mapping , using GIS                                                                                                               | <b>05-08-2020</b>               |
| Mrs. Jenica Sequeira, Sc “ D, , Dr. Mohan Girap , Sc “C”, Mr. Sanjay Kankonkar, Sc “ B’                                                                                                                                                                                                                                                                                                             | Urban Lake Management                                                                                                                              | <b>25/08/2020 to 25/09/2020</b> |



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| Mrs. Jenica Sequeira, Sc “ D, Shri Keshav Fadke, Asst. Env. Engineer, , Shri Pravin Faldessai, Asist. Env. Engineer, Mrs. Nandan Prabhudes-sai, Assistant Env. Engineer Mr. Amit Shanbag, Assistant Env. Engineer | Water Audit and Waste water Management in Industries                                        | <b>14/09/2020 to 27/09/2020</b> |
| Dr. Mohan Girap , Sc “C”, Mr. San-jay Kankonkar, Sc “ B’                                                                                                                                                          | Final Consultation workshop on CMP-WB                                                       | <b>16-03-2021</b>               |
| Mrs. Joshna Mahale – Scientific Assistant 2. Mrs. Edma Sheth- Scien-tific Assistant, , Mrs. Avina Pereira, Scientific Assistant                                                                                   | Webinar on Sampling & Laboratory Analysis for Micro-plastic and Role of Advanced Instuments | <b>28-01-2021</b>               |

**Online Trainings for the year 2020-2021**  
**(Technical Section)**

| Name of the officials                                                                                                     | Topic                                                                                                                                | Date                                |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| Shri Keshav Fadke, Asst. Env. Engineer, , Shri Pravin Faldessai, Asist. Env. Engineer, Shri Vijay Kan-sekar, Jr. Env. Eng | Environmental Data Interpretation, Compilation, Analysis , Presentation and reporting - Hands on - training and case study.          | <b>08/02/2021<br/>to 12/02/2021</b> |
| Shri Ashley Pereira, Engineering As-sistant                                                                               | Aspect of Hazardous Waste TSDF from                                                                                                  | <b>09/02/2021 to 11/02/2021</b>     |
| Shri Manoj Kudalkar, Asst. Env. Eng.,                                                                                     | Urban Air Quality Management                                                                                                         | <b>24/03/2021 to 25/03/2021</b>     |
| Mr. Pravin Fal Dessai, J.E.E. Mr. Liston Fernades, E.A.                                                                   | “ Water audit and conservation in in-dustries”                                                                                       | <b>01/03/2021 to 14/03/2021</b>     |
| Mrs. Nandan Prabhudessai, Assis-tant Env. Engineer                                                                        | Detailed Insight into Management of various Wastes , construction and Demolition Waste , Municipal Solid Waste and Biomedical Waste. | <b>27/01/2021 to 29/001/2021</b>    |
| Mr. Keshav Fadke, Asistant Env. Eng.                                                                                      | Air Pollution Control devices                                                                                                        | <b>19/01/2021 to 21/01/2021</b>     |
| Mrs. Nandan Prabhudessai, Assis-tant Env. Engineer                                                                        | Webinar on Strengthening Capac-ity of ULD's in Planning and Imple-mentation of FSSM Across cities and Towns of Ganga Basin           | <b>19-01-2021</b>                   |
| Mr. Pravin Fal Dessai, Assistant Env. Engineer Mr. Amit Shanbag, Assis-tant Env. Engineer                                 | Biomedical Waste Management                                                                                                          | <b>29/01/2021 to 01/02/2021</b>     |
| Mrs. Nandan Prabhudessai, Assis-tant Env. Engineer                                                                        | Environment Management and Com-pliance Assurance in Mine                                                                             | <b>6/10/2020 to 10/10/2020</b>      |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Shri Ashley Pereira, Engineering Assistant, Mr. Ashley Pereira, Engineering Assistant.                                                                                                                                                                                                                              | training on Hazardous and Plastic waste Inventory for SPCBs / PCCs officials by expert Consultant hired by UNECO India | <b>28/01/2021 to 30/01/2021</b> |
| Mr. Rohan Nagvekar, Assist. Env. Eng., Mr. Manoj Kudalkar, Asst. Env. Eng., Mr. Vijay Kansekar, Jr. Env. Eng., Mr. Devesh Kansekar, Jr. Env. Eng., Mr. Sebastiao Barreti, Eng. Assist., Mr. Ashley Pereira, Eng. Assist., Mr. Sebastiao Colaco, Engineering Assistant, Mr. Liston Fernandes, Engineering Assistant, | Biomedical Waste Management                                                                                            | <b>04/12/2020 to 05/12/2020</b> |
| Mrs. Nandan Prabhudessai, Assistant Env. Engineer                                                                                                                                                                                                                                                                   | Making data meaningful, Collection, Collation, Analysis and Presentation of Environmental Data                         | <b>2/11/2020 to 07/11/2020</b>  |
| Shri Keshav Fadke, Asst. Env. Engineer, Shri Pravin Faldessai, Asst. Env. Engineer, Mrs. Nandan Prabhudessai, Assistant Env. Engineer Mr. Amit Shanbag, Assistant Env. Engineer                                                                                                                                     | Water Audit and Waste water Management in Industries                                                                   | <b>14/09/2020 to 27/09/2020</b> |
| Mr. Liston Fernandes, Engineering Assistant                                                                                                                                                                                                                                                                         | Occupational Health & Safety Management System 45001:2018                                                              | <b>10/02/2021 to 12/02/2021</b> |
| Shri Amit Shanbhag, Assistant Env. Engineer                                                                                                                                                                                                                                                                         | Advanced Instrumental Analytical Techniques and Preventive Maintenance                                                 | <b>03/02/2021 to 04/02/2021</b> |
| Shri Ashley Pereira, Engineering Assistant                                                                                                                                                                                                                                                                          | Aspect of Hazardous Waste TSDF from                                                                                    | <b>09/02/2021 to 11/02/2021</b> |

**Online Trainings for the year 2020-2021**  
**( Legal Section)**

| Name of the officials                                                                  | Topic                                                                                                  | Date                            |
|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|---------------------------------|
| Mr. Constance Fernandes, Senior Law Officer, Mrs. Pranali Raut Dessai, Jr. Law Officer | Environmental legislation, Interpretation, Enforcement, legal and Statutory Requirements-Case Studies. | <b>08/02/2021 to 12/02/2021</b> |

## 7.2. DEPUTATION IN THE BOARD

1. Vide Government Order No. DA/Admn/45-3/2017-18/123/TR-3203 dated 31/03/2018 of the Directorate of Accounts Shri. Gautam Kamat is posted as Assistant Accounts Officer w.e.f 16/03/2018.
2. Vide Government Order No. DA/Admn/10-26/2018/11/TR-303 dated 03/05/2018 of the Directorate of Accounts Shri. Madhusudan R. Satoskar is posted as Accountant of the Board.

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## CHAPTER 8

### LEGAL MATTERS OF THE BOARD

#### 8.1 ACTION TAKEN FOR VIOLATIONS OF THE WATER ACT, THE AIR ACT AND ENVIRONMENT (PROTECTION) ACT.

The Board while granting consent to operate under the Water Act and Air Act stipulates specific conditions for compliance by the various industries so as to control the level of pollution. The industrial units have to submit regular monitoring report including the stack analysis reports, water reports etc. for effective implementation of the measures adopted by them. The Board also conducts inspections of the industrial units to monitor the compliance. And wherever non compliance is reported show cause notice, Directions are issued to the concerned units.

Further it is also noted that numerous small scale units are operating without obtaining consent to operate as required under the Air Act and the Water Act, in such cases the Board has issued Show Cause notices to all such units to apply for consent to operate.

The Board has issued total number of **1274** Show cause notices, directions and non compliances to pollution control Board measures to the units which are operating without consent to operate and also in violations of consent conditions.

#### 8.2 LITIGATION PROFILE OF THE GOA STATE POLLUTION CONTROL BOARD.

The GSPCB is a party in a number of proceedings filed before various Judicial Forums. Presently as on date, the GSPCB is a party before the following Judicial Forums;

1. The Supreme Court of India  
(GSPCB is party Respondent in Public Interest and Civil Writ Petitions)
2. The High Court of Bombay at Goa  
(GSPCB is party Respondent in Public Interest Writ Petitions and Criminal and Civil writ petitions)
3. The High Court of Bombay  
(GSPCB is party Respondent in Civil Writ Petitions)
4. The Principal Bench of the National Green Tribunal at New Delhi  
(GSPCB is party Respondent in Original Applications)
5. The Western Zone Bench of the National Green Tribunal at Pune  
(GSPCB is party Respondent in original Applications and Statutory Appeals)
6. The Administrative Tribunal at Panjim  
(GSPCB is party Respondent in Statutory Appeals)
7. The Judicial Magistrate First Class  
(GSPCB is the Complainant in Criminal Complaints filed by it under provisions of the Water Act and the Air Act)
8. The Human Rights Commission  
(GSPCB is party Respondent in complaints/applications).

In terms of the provisions of the Air Act, Appeals against Consents that are granted by the Board under the Air Act and directions issued under section 31(A) of the Air Act are heard before the Administrative Tribunal at Panaji and subsequent appeals against the orders of the Administrative Tribunal are to be heard before the Western Zone Bench of the NGT at Pune. In terms of the provisions of the Water Act, Appeals against Consents that are granted by the Board under the Water Act are heard before the Western Zone Bench of the NGT at Pune. Appeals against orders passed by the NGT are heard before the Supreme Court of India.

The Board allots matters to Advocates to protect and defend its interests before the Court of Law. Allotment of cases is done by the Chairman of the Board.

The Board has also appointed a Legal Retainer, Adv. S.B. Faria who has been entrusted with the responsibility of filing of Criminal complaints on behalf of the Board before various Criminal Courts against offenders for violations of the provisions of the Water and Air Acts. The Boards Legal Retainer also appears on its behalf in matters before the Human Rights Commission.

### **8.3 Present status of pending cases pertaining to GSPCB before Courts of Law.**

#### **1. Cases before the Hon. Supreme Court of India**

| <b>Sr. No.</b> | <b>Case No.</b>          | <b>Title of Case</b>                                                        |
|----------------|--------------------------|-----------------------------------------------------------------------------|
| 1.             | SLA(Civil) no. 3739/2020 | Ganesh Benzoplast Limited V/s. Mormugao Port Trust/Board of Trustees & ors. |
| 2.             | WP(C) no. 369 of 2020    | M. Kaviya & ors V/s. Union of India & ors                                   |

A total of 2 cases were filed against the GSPCB before the Hon Supreme Court of India in the year 2020-2021; of both are pending before the Hon Court.

#### **2. Cases before the Hon High Court of Bombay at Goa:-**

| <b>Sr. No.</b> | <b>Case No.</b>                                               | <b>Title of Case</b>                                                                                                           |
|----------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 1.             | PIL WP 24/2018 (STM no. 2420/2018) and MA (STA no. 2421/2018) | Sherwyn Filipe Francisco Corriea & ors V/s. Gos State pollution Control Board & ors                                            |
| 2.             | Suo Motu Writ Petition 2/2007                                 | ---V/s State of Goa & ors (Garbage matter)                                                                                     |
| 3.             | WP/10/2021                                                    | Siddesh Gawas v/s State of Goa and ors                                                                                         |
| 4.             | WP/68/2021                                                    | Sociedade de Fomento Industial Pvt. Ltd. V/s. Goa State Pollution Control Board & ors                                          |
| 5.             | WP/696/2013<br>And<br>WP/615/2014                             | Sayadri Sinari v/s State of Goa and ors<br>And<br>Payal Badkar and ors v/s GSPCB and ors<br>(Reg recruitment in GSPCB in 2011) |
| 6.             | WP/881/2017                                                   | PravirPhadte v/s State of Goa and ors.<br>(Ammona matter)                                                                      |
| 7.             | WP/1096/2019                                                  | Shiva Petrosynth v/s GSPCB and ors                                                                                             |

|     |                |                                                                                          |
|-----|----------------|------------------------------------------------------------------------------------------|
| 8.  | PILWP/28/209   | Arturo De souza v/s State of Goa and ors<br>(M/s Adwalpalkar and M/s Kenkre /STP matter) |
| 9.  | PILWP/38/2019  | Goa Foundation v/s GSPCB and ors                                                         |
| 10. | PILWP/58/2019  | Goa Foundation V/s.GSPCB & ors                                                           |
| 11. | WP PIL 33/2017 | Kashinath shetye v/s. State of Goa & ors (re: ap-<br>pointment of Chairman & MS)         |

A total of 26 cases were filed against the GSPCB before the Hon High Court of Bombay at Goa in the year 2020-2021; of which 12 cases have been disposed off while 14 are pending before the Hon Court.

### 3. Cases before the National Green Tribunal

| Sr. no. | Parties                                 | Case No.           |
|---------|-----------------------------------------|--------------------|
| 1.      | Mahendra Kakule v/s GSPCB and ors       | Appeal no. 8/2020  |
| 2.      | Salu D'Souza & Anr. V/s. GCZMA & Ors    | OA No. 16/2016     |
| 3.      | Abhijeet Prabhudessai v/s GSPCB and ors | Appeal no. 17/2020 |

A total of 9 cases were filed against GSPCB before the before the National Green Tribunal in he year 2020-21 of which 6 cases has been disposed off and 1 one is pending before the Hon'ble Court.

### 4. Cases before the JMFC

| Sr. No | Case No.                             | Title of Case                                                                                                                                                                                                                                           |
|--------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.     | Criminal Case No. 306/OA/WPCP/2015/C | Shri. Levinson J. Martins<br>V/s .M/s. Jimcap Electronics Pvt. Ltd &Ors                                                                                                                                                                                 |
| 2.     | Criminal Case No. 190/OA/2015/A.     | Shri. Levinson J. Martins, The Member Secretary,<br>Goa State Pollution Control Board<br>V/s. M/s.UmiyaHabiab, Represented by its Proprietor<br>Aniruddh Mehta, S/o. Bhanuprasad Mehta, , 102/103,<br>Anand Gawas-I, Airport Road, Vasco Da Gama &ors.. |
| 3.     | Cri. Case no. 539/OA/16/E            | Shri. Levinson J. Martins, The Member Secretary,<br>Goa State Pollution Control Board<br>V/s. Quality Exports &Ors.                                                                                                                                     |
| 4.     | Cri. Case no. 181/OA/2016/B          | Shri. Levinson J. Martins, The Member Secretary,<br>Goa State Pollution Control Board<br>V/s. M/s. Sua Industries &Ors..                                                                                                                                |
| 5      | Cr. Case no. 2039/OA/2017/D          | Goa State Pollution Control Board V/s.M/s Mormugao<br>Port Trust &ors                                                                                                                                                                                   |
| 6.     | Criminal Case No. 623/OA/2015/D      | The Member Secretary, GSPCB Dempo Towers, Pat-<br>to Plaza, Panaji-Goa Rep. by Shri. Levinson J. Mar-<br>tins V/s. Mrs.Everilda D'Mello Director of Mrs.Derisa<br>(Mela Rosa) MainaBati, Arpora, Bardez-Goa.                                            |

A total 12 cases were filed against GSPCB before the JMFC out of which 6 cases have been disposed off while 6 cases are pending before the Court.

#### 5. Cases before the Institution of Lokyukta

| Sr. No | Case No.                                     | Title of Case                         |
|--------|----------------------------------------------|---------------------------------------|
| 2.     | Review application on proceeding no. 14/2019 | Shushant Ray V/s. Smt,PriyaSamant&Ors |

A total of 2 cases before the Institution of Lokyukta of which 1 case has been disposed off and 1 one is pending before the Hon'ble Court.

#### 6. Cases before Goa Human Rights Commission, Panaji

| Sr. No | Case No.                 | Title of Case                                             |
|--------|--------------------------|-----------------------------------------------------------|
| 1.     | Proceeding no. 302/2016  | Social Justice Council Forum V/s GSPCB (Goa Carbon)       |
| 2.     | Proceeding no. 168/2017  | Shri. Sandeep HonuGawade V/s. GSPCB.                      |
| 3.     | proceeding no138/2019    | Citizen of Sonsodo v/s MMC                                |
| 4.     | Proceeding no. 28/2020   | Mr..SadanandVaingankar v/s Directorate of Health Services |
| 5.     | proceedings no. 62/2020  | Complaint from ParshuramSonurlekar                        |
| 6.     | Proceedings no. 120/2020 | HRC V/s Dr. of Agriculture                                |

A total of 10 cases were filed before the Goa Human Rights Commission out of which 4 cases have been disposed off and 6 are pending before the Hon'ble Court.

#### 7. Cases before the District Court

| Sr. No | Case No                | Title of Case                                                 |
|--------|------------------------|---------------------------------------------------------------|
| 1.     | Civil Suit no. 40/2015 | Ajoy Edwin V/s. State of Goa                                  |
| 2.     | CRRA. 76/2018          | GSPCB V/s M/s Curlies Guest House                             |
| 3.     | CS 05/2021             | PareshGauns v/s GSPCB                                         |
| 4.     | Civil suit no 45/2019  | Maria Fernades V/s. The State of Goa thru its Chief Secretary |
| 5.     | Civil suit no 22/2018  | MrsAnjali Anand V/s. Govt of Goa & 7 ors                      |

A total of 5 cases were filed before the District Court and all the 5 cases are pending before the District Court.

## 8. Cases before the Administrative Tribunal

| Sr. No | Case No                                                   | Title of Case                |
|--------|-----------------------------------------------------------|------------------------------|
| 1.     | PA/1/2020/Air in Misc. ApIn.<br>No. 95/2020/Stay/Poll/apl | French bakery V/s GSPCB &ors |

A total of 6 cases were filed before the Administrative Tribunal out of which 5 are disposed off and 1 is pending before the Hon'ble Court.

### 8.4 RIGHT TO INFORMATION ACT, 2005

The Right to information Act, 2005 provides access to all information that is available and existing to make the functioning of the organizations transparent and accountable. This is clear from a combined reading of section 3 and the definitions of 'information' and 'right to information' under clauses (f) and (j) of section 2 of the Act. If a public authority has any information in the form of data or analysed data, or abstracts, or statistics, an applicant may access such information, subject to the exemptions in section 8 of the Act. But where the information sought is not a part of the record of a public authority, and where such information is not required to be maintained under any law or the rules or regulations of the public authority, the Act does not cast an obligation upon the public authority, to collect or collate such non available information and then furnish it to an applicant. A public authority is also not required to furnish information which require drawing of inferences and/or making of assumptions. It is also not required to provide 'advice' or 'opinion' to an applicant, nor required to obtain and furnish any 'opinion' or 'advice' to an applicant. The reference to 'opinion' or 'advice' in the definition of 'information' in section 2(f) of the Act, only refers to such material available in the records of the public authority.

The Goa State Pollution Control Board has appointed the following Officials as Public Information Officer, Assistant Public Information Officer and the First Appellate Authority as per the Right to Information Act, 2005:-

|    |                       |                                  |
|----|-----------------------|----------------------------------|
| 1) | Member Secretary      | First Appellate Authority        |
| 2) | Senior Law Officer    | Public Information Officer       |
| 3) | Assistant Law Officer | Asst. Public Information Officer |

During the year 2020-2021 the Board has received **231 applications**, which are disposed in time bound manner.

◆ ◆ ◆



## CHAPTER 9

### FINANCE AND ACCOUNTS OF THE BOARD

#### 9.1 STATUS OF AUDITING OF ACCOUNTS OF THE BOARD

As per sub-sections 2 & 3 of section 40 of the water (Prevention and Control of Pollution) Act, 1974, the accounts of the Board are to be audited by an Auditor duly qualified to act as an Auditor of Companies under section 226 of the Companies Act, 1956. The said Auditor is to be appointed by the State Government on the advice of Comptroller & Auditor General of India (CAG).

Auditing of the Board accounts for the financial year 2016-17 has been completed. The Audit of accounts of the F.Y. 2017-2018, 2018-2019, 2019-20 and 2020-21 is in process of being completed.

#### 9.2 INCOME, EXPENDITURE AND FUNDING

The income and expenditure account of the Board for the year ended 31<sup>st</sup> March, 2021 is as per table below:

| Profit & Loss A/c         |             |             |                          |             |              |
|---------------------------|-------------|-------------|--------------------------|-------------|--------------|
| 1-Apr-2020 to 31-Mar-2021 |             |             |                          |             |              |
| Particulars               | Amount      |             | Particulars              | Amount      |              |
| Direct Expenses           |             | 87059700.00 | Direct Incomes           |             | 143812849.76 |
| Salaries                  | 87059700.00 |             | Air Consent Fees         | 38483122.00 |              |
| Indirect Expenses         |             | 43497307.00 | Ambient Monitoring Fees  | 2771870.00  |              |
| Advertisement & Publicity | 1489547.00  |             | Bio Medical Fees         | 2146517.00  |              |
| Chairman Expenses         | 8567.00     |             | E- Tendering Application | -225000.00  |              |
| Office Expenses           | 29205348.00 |             | NOC Fees                 | 3308319.00  |              |
| Audit Fees                | 1047250.00  |             | Other Receipts           | 58826142.76 |              |
| Auditors Fees             | 129774.00   |             | RTI Fees                 | 35407.00    |              |
| Boat Advance              | 10132.00    |             | Water Consent Fees       | 38466472.00 |              |
| Boat Expenses             | 49592.00    |             | Indirect Incomes         |             | 54514.00     |
| Computer Consumables      | 1601814.00  |             | Public Hearing           | 54514.00    |              |
| Electricity Charges       | 1243917.00  |             |                          |             |              |
| Environment Audit         | 170946.00   |             |                          |             |              |
| Honorarium                | 15000.00    |             |                          |             |              |
| Hospitality Expenses      | 29366.00    |             |                          |             |              |

|                         |            |                     |              |  |                     |
|-------------------------|------------|---------------------|--------------|--|---------------------|
| House Tax               | 110481.00  |                     |              |  |                     |
| Lab Advance             | -10000.00  |                     |              |  |                     |
| Office Advance          | 13290.00   |                     |              |  |                     |
| Postage                 | 211677.00  |                     |              |  |                     |
| Printing                | 238163.00  |                     |              |  |                     |
| Publications            | 5847.00    |                     |              |  |                     |
| RECHARGE EXP            | 26989.00   |                     |              |  |                     |
| Refund of Consent Fees  | 2313935.00 |                     |              |  |                     |
| Stationery              | 254577.00  |                     |              |  |                     |
| Telephone Exp           | 126597.00  |                     |              |  |                     |
| Tour Advance            | 15412.00   |                     |              |  |                     |
| Vehicle Hire Charges    | 209706.00  |                     |              |  |                     |
| Wages                   | 4910984.00 |                     |              |  |                     |
| Water Bill              | 49153.00   |                     |              |  |                     |
| World Env Day Ex-penses | 19243.00   |                     |              |  |                     |
| <b>Nett Profit</b>      |            | <b>13310356.76</b>  |              |  |                     |
| <b>Total</b>            |            | <b>143867363.76</b> | <b>Total</b> |  | <b>143867363.76</b> |

**\*Unaudited**

The details of the funding received by the Board for the year under report is as follows:

| <b>Funds</b>                                                                   | <b>Amount in Lakhs<br/>(2020 – 21)</b> |
|--------------------------------------------------------------------------------|----------------------------------------|
| 1. Central Govt. (Partial reimbursement of NWMP & NAMP expenses by CPCB)       |                                        |
| 2. State Govt. (MoEF & DSTE)                                                   | -                                      |
| 3. Share of Water Cess from Central Govt.                                      | -                                      |
| 4. Fees (consent, NOC, authorization and analysis charges)                     | 811.54                                 |
| 5. Bank interest                                                               | -                                      |
| 6. Public Hearing                                                              | 20.00                                  |
| 7. Other receipts (including grants of SEP programming & Right to Information) | 0.34                                   |
| <b>Total</b>                                                                   | <b>831.88</b>                          |

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## CHAPTER 10

### ANY OTHER IMPORTANT MATTERS DEALT WITH BY THE BOARD

#### 10.1 IMPLEMENTATION OF HAZARDOUS AND OTHER WASTE (MANAGEMENT & TRANSBOUNDARY MOVEMENT) RULES, 2016, AS AMENDED, 2020.

The Hazardous Waste (Management & Handling) Rules were notified by the Ministry of Environment & Forests in the year 1989 under the provisions of the Environment Protection Act, 1986. Later the Rules were amended in the years 2000, 2003, 2008, 2016, 2018 and 2020 and subsequently, they were modified as the Hazardous and other Wastes (Management & Transboundary Movement) Rules 2016, as amended 2020.

The Board grants authorizations to industries generating and handling hazardous wastes. The Goa State Pollution Control Board has identified 1628 industrial units generating hazardous waste in Goa upto the period of April 2019-2020. The hazardous waste generated in the State of Goa for the year 2019-2020, is as follows: Landfillable (76.12 MT), Incinerable (12015 MT), Recyclable (3599 MT), Utilizable (12879 MT)

#### 10.2 IMPLEMENTATION OF BIO-MEDICAL WASTE MANAGEMENT RULES, 2016 AS AMENDED 2018.

For the purpose of implementation of the Bio-Medical Waste Management Rules 2016, HCFs have been classified as per bedded and non bedded.

1. Bedded – 148 nos
2. Non bedded –631 nos

For the year 2020, 139 Health Care Units were granted authorizations under the Bio-Medical Waste Management Rules, 2016, as amended, 2018.

The status of the Bio Medical waste generated by these units during the year is given in **Annexure XIII**.

#### 10.3 NOISE POLLUTION (REGULATION & CONTROL) RULES, 2000 AS AMENDED 2017.

The Board conducts monitoring of noise levels whenever any specific complaints of noise pollution are received and action is taken accordingly. In pursuance of clause (c) of rule 2 of the Noise Pollution Regulation & Control Rules, 2000, the Government of Goa vide Notification No. 2/51/2000 –II D (G) Vol I has designated (1) District Magistrates (2) Director General of Police (3) Deputy Collector and Sub-Divisional Magistrates (4) Superintendent of Police and Sub-Divisional Police Officers as 'authority' for the maintenance of ambient air quality standards in respect of noise under the said rules, with effect from 21.09.2000. In view of this, the Board forwards to the Competent Authority all the reports of Noise Level Monitoring conducted by the Board for necessary action.

## **10.4 IMPLEMENTATION OF SOLID WASTES MANAGEMENT RULES, 2016**

The Board issues an authorization to all the Local Bodies under the provisions of Solid Waste Management Rules 2016. The authorizations have been issued independently for specific purpose to the local Bodies.

As per the Annual Report for the year 2019-2020 submitted to the Central Pollution Control Board, out of 13 Municipal Councils and 1 Municipal Corporation; Seven Municipal Bodies have submitted application for authorization and the same are under process. 1 Municipal Corporation has installed garbage treatment plant and is in operation.

## **10.5 IMPLEMENTATION OF PLASTICS WASTE (MANAGEMENT & HANDLING) RULES, 2016 AS AMENDED, 2018.**

There are Fourty four units involved in manufacture of plastic bags and containers in the State. The 44 units have obtained consent. **Annexure XIV** gives the details on "Implementation of Plastic Waste (Management and Handling) Rules, 2016 in States/UTS".

The Government of Goa through the High Level Task Force (HLTF) constituted to provide directions and implement various measures as announced in the Budget Speech, 2012-13, towards resolving the solid waste management problems affecting the State of Goa has taken a decision to phase out the plastic from domestic use.

Accordingly the Government has decided to strictly implement banning the manufacturing, sale and use of the plastic having thickness less than 50 microns and bags which do not have the name of manufacturer, thickness and registration number printed on them as per the provisions of the Plastic Rules 2010 and Goa Non Biodegradable Garbage (Control) Act, 1996.

## **10.6 IMPLEMENTATION OF BATTERIES (MANAGEMENT AND HANDLING) RULES, 2001 AS AMEDNED 2010.**

There is one unit who are involved in manufactures/assembling/pre-conditioners of lead acid battery within the state of Goa. 47 dealers have obtained registration as battery dealers. Most of the Bulk consumers are filing half yearly returns regularly to the Board, while most of the dealers are not filing half yearly returns to this office.

The details of the returns under the said rules are given in **Annexure XV for the year 2019-2020**.

## **10.7 IMPLEMENTATION OF E-WASTES (MANAGEMENT) RULES, 2016**

The computer market in the State has been increasing due to lot of commercial development and IT related activities. The State is emerging with a large middle class group who are willing to buy PC's. A large chunk of demand is still met by Assemblers who compete primarily on low cost advantage.

PC usage increases with the increase of the income level and education level of people. Majority of obsolete PC's are diverted to the grey markets, wherein the non functional parts are changed and fixed with the new parts in PC's and further sold back to customers and remaining miscellaneous scraps are sold to scrap-dealers and recyclers.

There are no recyclers in the State specially doing recycling for obsolete PC's. Existing E-waste

handling practices are not expected to manage future E-waste generation thus formal recycling center is needed for E-waste collection, segregation, dismantling and recycling of the material. There is a lack of awareness in public regarding E-waste handling, treatment and disposal.

Presently, one unit is registered with the Board for collection and dismantling of E-waste from the State of Goa, which is then sent to the registered recycler for recycling. Also the Board has granted authorization for one unit for dismantling of E-waste

The details of annual returns for the year 2019-2020 is annexed as Annexure XVI.

#### **10.8. IMPLEMENTATION OF CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT RULES, 2016.**

The State government has handed over land to Goa Waste Management Corporation (GWMC) in survey no. 146/2, 146/3, 146/4, 148/2, 148/6 and 148/7 of Village Curchirem of Bicholim Taluka, for setting up C & D Waste Management Facility of 500 TPD capacity. The Board has granted authorization to Goa Waste Management Corporation (GWMC) for temporary storage of C & D waste at the said site.

The details of annual returns for the year 2019-2020 is annexed as **Annexure XVII.**

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## ANNEXURE I

# GOA STATE POLLUTION CONTROL BOARD

## गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015. OHSAS 18001:2007 Certified Board)

Phone Nos. : 0832-2407700  
2407701, 2407702  
2407703

Tel/Fax No. : 0832-2407700



Email Ids:  
Chairman, GSPCB: chairman-gspcb.goa@nic.in  
Member Secretary GSPCB: ms-gspcb.goa@nic.in  
Environment Engineer, GSPCB: ee-gspcb.goa.nic.in  
Scientist, GSPCB: scientist-gspcb.goa@nic.in  
Office: goapcb@gspcb.in

No. 1/5/21-PCB/Vol.XXVIII/Admn/19872

29/01/2021

### ORDER

Sub: Re-constitution of a Departmental Promotion Committee and Departmental Selection Committee in respect of Group 'A' and 'B' posts in the Goa State Pollution Control Board.

Ref: This office order no. 1/5/19-PCB/Vol.XXV/Admn/804 dated 12/04/2019

In pursuance of the powers vested under section 9 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 11 of the Air (Prevention and Control of Pollution) Act, 1981, and as per the Notification no. 5/20/87-STE/DIR/Part IV/440 dated 12<sup>th</sup> July, 2011, published in the official Gazette Series I, no. 15 dated 14<sup>th</sup> July, 2011, the composition of the Departmental Promotion Committee (D.P.C) and Departmental Selection Committee (D.S.C) in respect of Group 'A' and 'B' posts in the Goa State Pollution Control Board has been re-constituted, comprising of the following members, with immediate effect.

|    |                                                                                                                                                                      |                           |
|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| 1. | Chairman of the Board                                                                                                                                                | Chairman of the Committee |
| 2. | Director, Department of Environment & Climate Change, Govt. of Goa, or his representative                                                                            | Member                    |
| 3. | Joint Secretary, Law (Drafting)<br>Govt. of Goa, Law Department, Secretariat, Porvorim (Expert Member)<br>(in case of Legal posts)                                   | Member                    |
| 4. | Dr. Sampatrao Dagu Manjare<br>Associate Professor, BITS Pilani, Goa Campus, Zuarinagar, Goa (Expert member)<br>(in case of Scientific, Technical, Admn. & I.T posts) | Member                    |
| 5. | Director, Department of Industries, Trade and Commerce (Member of the Board)                                                                                         | Member                    |

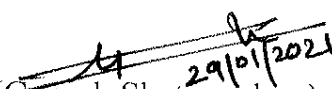
|    |                                                     |        |
|----|-----------------------------------------------------|--------|
| 6. | Member Secretary, Goa State Pollution Control Board | Member |
|----|-----------------------------------------------------|--------|

The terms of reference of the above mentioned Committee shall be as follows:

|    |                                                                                                                                                                                                                                                                    |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Screening / Selection / Recommendations/ Making of appointments /Promotions / Probation clearance / Confirmation / Grant of claims under the Modified Assured Career Progression Schemes etc. to Group 'A' and 'B' staff of the Goa State Pollution Control Board. |
| 2. | Any other related task allotted by the Chairman of the Board from time to time.                                                                                                                                                                                    |

The members shall be entitled for TA/DA/sitting fees as per the Rules, as made applicable to the Members of the Board

This order supercedes all orders issued earlier in this regard.

  
 (Ganesh Shetgaonkar )  
 Chairman, GSPCB

To,

|    |                                                                                                                           |
|----|---------------------------------------------------------------------------------------------------------------------------|
| 1. | The Joint Secretary, Law (Drafting), Govt. of Goa, Law Department, Secretariat, Porvorim                                  |
| 2. | The Director, Dept. Environment and Climate Change, Govt. of Goa, 4 <sup>th</sup> floor, Dempo Towers, Patto, Panaji Goa. |
| 3. | The Director, Department of Industries, Trade and Commerce, Udyog Bhawan, Panaji Goa.                                     |
| 4. | Dr. Sampatrao Dagu Manjare, Associate Professor, BITS Pilani, Goa Campus, Zuarinagar, Goa                                 |

copy for information to:

1. The Dean, BITS Pilani, Goa Campus, Zuarinagar, Goa.

1. Admn. copy    2. Office copy    3. Guard file    4. Website    5. Notice Board.



## ANNEXURE II

# GOA STATE POLLUTION CONTROL BOARD

## गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 Certified Board)

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2407701, 2407702  
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Tel/Fax No. : 0832-2407700



Email Ids:  
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Member Secretary GSPCB: ms-gspcb.goa@nic.in  
Environment Engineer, GSPCB: ee-gspcb.goa@nic.in  
Scientist, GSPCB: scientist-gspcb.goa@nic.in  
Office: goapcb@gspcb.in

No. 3/43/13-PCB/Lab/5485

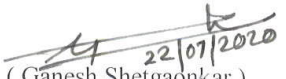
23/07/2020

### OFFICE ORDER

The Purchase Committee of the Board is hereby constituted for purchase of sophisticated Scientific Instruments / Equipments for the Board laboratory, with effect from the date of this order.

|    |                                                                           |                                                                                                           |
|----|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| 1. | Mrs. Jenica Sequeira<br>(in her absence Link Officer shall represent)     | Scientist 'C' Goa State Pollution Control Board                                                           |
| 2. | Assistant Accounts Officer<br>(in his absence Accountant shall represent) | Goa State Pollution Control Board                                                                         |
| 3. | Dr. Prakash Mehra                                                         | Senior Principal Scientist, CSIR – National Institute of Oceanography, Dona Paula (mobile no. 9890234866) |
| 4. | Dr. Aditya Peketi                                                         | Scientist, CSIR – National Institute of Oceanography, Dona Paula (mobile no. 9850990233)                  |
| 5. | Shri Sanjeev Joglekar<br>(in his absence Link Officer shall represent)    | Environmental Engineer, Goa State Pollution Control Board                                                 |
| 6. | Mr. Sanjay Kankonkar<br>(in his absence Link Officer shall represent)     | Scientist 'B' Goa State Pollution Control Board                                                           |
| 7. | Mrs Natalia Dias<br>(in her absence Link Officer shall represent)         | Senior Law Officer, Goa State Pollution Control Board                                                     |
| 8. | Mr. Rajiv Nevgi                                                           | Industrialist, Shriram Sadan, Datawadi, Mapusa Goa 403507                                                 |

**N.B:** In the event instrument / equipment related to air monitoring like CAAQMS is required to be purchased, a separate order nominating an Expert shall be issued.

  
( Ganesh Shetgaonkar )  
Chairman

Goa State Pollution Control Board

To,

The Members of the Committee referred above.

c.c. for information to: The Director, National Institute of Oceanography, Dona Paula, Goa

c.c. to 1. Office copy 2. Admn. copy 3. Guard file.

## ANNEXURE III

# GOA STATE POLLUTION CONTROL BOARD

## गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015. OHSAS 18001:2007 Certified Board)

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Environment Engineer, GSPCB: ee-gspcb.goa@nic.in  
Scientist, GSPCB: scientist-gspcb.goa@nic.in  
Office: goapcb@gspcb.in

No. 4/144/20-PCB/Admn./7368

18/08/2020

### AMENDMENT -II

- Read: 1. Order no. 1/5/18-PCB/Vol.ZIV/15643 dated 30/11/2018  
2. Amendment vide no. 1/5/19-PCB/Vol.XXV/Admn/14396 dated 23/12/2019.

In partial modification of the orders referred to above and as per the decision taken by the Board at its 144<sup>th</sup> Board meeting held on 6<sup>th</sup> July, 2020, vide Table item no. 01, serial no. 1, 2, 3, 4, 5 and 6 of the order referred to (1) above with respect to Green category of Industries, be read as follows:

|   |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                              |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Power to obtain information under Section 20 of the Water Act and section 25 of Air Act and under the Hazardous Waste Rules.                                                                                                                | 3. All Green Category units (Small, Medium, Large and all Renewals) – Assistant Environmental Engineers – Mrs. Nandan Prabhudessai - with respect to units in South Goa and Mr. Keshav Fadke – with respect to units in North Goa<br><br>(Mrs. Nandan Prabhudessai shall be the Link Officer to Mr. Keshav Fadke and vice versa in this regard and shall be authorized to exercise these powers in absence.) |
| 2 | Power of entry and inspection under section 23 of Water Act and section 24 of Air Act and/or to depute Board Officials for the same and under the Hazardous Waste Rules.                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                              |
| 3 | Power to take samples of effluents and emissions under section 21 of Water Act and section 26 (1) of Air Act and/or to depute Board Officials for the same.                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4 | Power to conduct inquiry under section 25(3) of Water Act and section 21 of Air Act, to schedule inspections, raise queries in respect of applications for consent under the Water Act and the Air Act and under the Hazardous Waste Rules. |                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5 | Power to issue, refuse, withdraw, revoke,                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                              |

|   |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | vary Consent under Section 25, 26 and 27 of Water Act and section 21 of Air Act and to issue Show cause notices and directions in this regard under section 33A of the Water Act and under section 31A of the Air Act. and under the Hazardous Waste Rules. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 6 | Power to file criminal complaints before the Competent Courts of Law in respect of violations of the provisions of the Water Act and the Air Act by units                                                                                                   | 3. Mrs. Nandan Prabhudessai and Mr. Keshav Fadke, Assistant Environmental Engineers shall be the authorized officers to file complaints before the Criminal Courts under the provisions of the Water Act and the Air Act in respect of all issues/complaints pertaining to all Green category units.<br><i>(Mrs. Nandan Prabhudessai shall be the Link Officer to Mr. Keshav Fadke and vice versa in this regard and shall be authorized to exercise these powers in absence.)</i> |

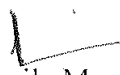
Further serial no.17 and 18 of the Amendment referred to (2) shall be substituted as follows:

|    |                                                                                                                                                           |                                                                                                                                                                                                                                                  |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 17 | <b>BATTERIES (MANAGEMENT AND HANDING) RULES</b>                                                                                                           |                                                                                                                                                                                                                                                  |
| a. | Accepting yearly and half yearly report from battery manufacturer, importer, assembler, reconditioned, dealer, recycler, bulk consumer and bulk purchaser | Mr. Keshav Fadke (Asstt. Env. Engineer)<br><i>(Mrs. Nandan Prabhudessai, A.E.E. , shall be link officer for Mr. Keshav Fadke , A.E.E and shall be authorized to exercise these powers in absence of Mr. Keshav Fadke (Asstt. Env. Engineer )</i> |
| b. | To send annual compliance status report under rule 12                                                                                                     |                                                                                                                                                                                                                                                  |
| c. | To send compliance report under rule 12                                                                                                                   |                                                                                                                                                                                                                                                  |
| d. | Power to ensure compliance with all provisions of the Batteries Rules pertaining to the GSPCB                                                             |                                                                                                                                                                                                                                                  |

|    |                                                   |                                                                                                                                                                                                                                                                  |
|----|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18 | <b>E-WASTE MANAGEMENT RULES</b>                   |                                                                                                                                                                                                                                                                  |
| a. | Conduct enquiry on clearance applications rule 13 | Mrs. Nandan Prabhudessai (Asstt. Env. Engineer)<br><i>(Mr. Keshav Fadke, A.E.E. , shall be link officer for Mrs. Nandan Prabhudessai , A.E.E and shall be authorized to exercise these powers in absence of Mrs. Nandan Prabhudessai (Asstt. Env. Engineer )</i> |

Further, Mrs. Nandan Prabhudessai (Asstt. Env. Engineer) shall be the Link Officer to Environmental Engineer with respect to all the powers delegated to Environmental Engineer by the Board.

This order comes into force with immediate effect.

  
( Dr. Shamila Monteiro )  
Member Secretary

Goa State Pollution Control Board

To,  
The Concerned officials

c.c. to:

1. P.A to Chairman, GSPCB 2. P.A to Member Secretary, GSPCB 3. All Sections Heads  
4. Delegated Authorities 5. ETC Cell 6. JEE's/EA's 7. Concerned Dealing Hands 8.  
Order file 9. Staff file 10. Office Notice Board 11. Board meeting file - Website of  
GSPCB 9. Guard file.

Office Superintendent, GSPCB who is required to take steps to ensure that this order is notified in the Official Gazette of the Govt. of Goa.



## ANNEXURE IV

# GOA STATE POLLUTION CONTROL BOARD

## गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 Certified Board)

Phone Nos. : 0832-2407700  
2407701, 2407702  
2407703

Tel/Fax No. : 0832-2407700



Email Ids:  
Chairman, GSPCB: chairman-gspcb.goa@nic.in  
Member Secretary GSPCB: ms-gspcb.goa@nic.in  
Environment Engineer, GSPCB: ee-gspcb.goa@nic.in  
Scientist, GSPCB: scientist-gspcb.goa@nic.in  
Office: goapcb@gspcb.in

No.1/5/2020-PCB/Vol.XXVI/ Admn/13248

30 /10/2020.

### OFFICE ORDER

A Public Grievance Cell has been constituted consisting of the following officials to address the complaints and grievances related to Plastic Waste Management Rules, 2016, as amended 2018.

1. Mrs. Natalia Dias, Sr. Law Officer, GSPCB
2. Ms. Connie Fernandes, Scientist "C", GSPCB.
3. Mr. Manoj Kudalkar, JEE, GSPCB (North Goa)
4. Mr. Sebastiao Colaco, EA, GSPCB (South Goa)

The Terms and Reference of the Public Grievance cell is as follows:-

- a) Inspection of the existing plastic bags and sheets manufacturing units to confirm whether they comply with the provisions of the Plastic Waste Management Rules, 2016, as amended 2018.
- b) To carry out inspection wherever littering is observed and to take necessary action accordingly.
- c) Issue communications and directions in order to effective redressal of public grievance issued by the Board.
- d) Follow up inspection for verification of compliance submitted by the local bodies/institution etc.
- e) To impose fines and penalties for non-compliance.

(Ganesh Shetgaonkar)

Chairman, GSPCB

To,

The official listed above

Copy to. Adms. Section. 2. Scientific Section 3. Technical Section 4. Legal section 5. Office copy 6. Guard file

## ANNEXURE V

# GOA STATE POLLUTION CONTROL BOARD

## गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015, OHSAS 18001:2007 Certified Board)

Phone Nos. : 0832-2407700  
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Tel/Fax No. : 0832-2407700



Email Ids:  
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Member Secretary GSPCB: ms-gspcb.goa@nic.in  
Environment Engineer, GSPCB: ee-gspcb.goa@nic.in  
Scientist, GSPCB: scientist-gspcb.goa@nic.in  
Office: goapcb@gspcb.in

No. 4/144/20-PCB/Admn/653

22/07/2020

### OFFICE ORDER

As per the decision taken at the Board at its 144<sup>th</sup> meeting held on 6<sup>th</sup> July, 2020, vide Agenda item no. 06, the following Officers are appointed in the Panel of Auditors to carry out Environmental Audit of the industries.

|    |                                                                                                                     |                                             |
|----|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| 1. | Senior Official of the Scientific Section or as deputed by Chairman                                                 | Mrs. Jenica Sequeira, Scientist 'C'         |
| 2. | Senior Official of the Technical Section or as deputed by the Chairman                                              | Mr. Sanjeev Joglekar Environmental Engineer |
| 3. | Concerned Taluka JEE / EA                                                                                           |                                             |
| 4. | Expert in the field from reputed Engineering Colleges, NIO, Auditors or any other experts appointed by the Chairman |                                             |

( Separate Orders shall be issued nominating the Officers, depending on the category and scale of the industry.)

The scope of the Panel:

- The Panel so constituted shall carry out field as well as well as verification of documents.
- The duration of the audit will depend on the scope of the project.

The non official members shall be paid a fee of Rs. 3000/- per day ( depending on the category of the industry and scale ) which shall include travelling and other allowances. The cost of the audit will be borne by the industry / establishment

In the event an Expert is nominated from Central Pollution Control Board / other State, the Expert Member shall be paid to and fro fare and accommodation besides the honorarium.

( Dr. Shamila Monteiro )  
Member Secretary

To,  
The Members of the Committee listed above.

c.c. to: 1. S.H. – Scientific, Technical, Legal, Accounts, I.T 2. JEE's / E.A's 3. Admn. section 4. Office copy 5. Guard file.

## ANNEXURE VI A

# GOA STATE POLLUTION CONTROL BOARD

गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015. OHSAS 18001:2007 Certified Board)

Phone Nos. : 0832-2407700  
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Tel/Fax No. : 0832-2407700



Email Ids:  
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Member Secretary GSPCB: ms-gspcb.goa@nic.in  
Environment Engineer, GSPCB: ee-gspcb.goa@nic.in  
Scientist, GSPCB: scientist-gspcb.goa@nic.in  
Office: goapcb@gspcb.in

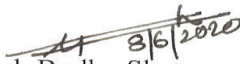
No. 8/11/09-PCB/Vol./VII/Admn/ 2729

08/06/2020  
09/06/2020

### OFFICE ORDER

- Read: 1. Office order no. 8/11/09-PCB/Vol.VII/Admn/16149 dated 10/12/2018, re-constituting the Technical Advisory Committee (TAC)
2. Amendment to the office order vide no. 8/11/09-PCB/Vol.VIII /Admn./205 dated 03/04/2019.

Ex post facto approval of the Board is hereby accorded, as per the decision taken at the 143<sup>rd</sup> meeting of the Board held on 22<sup>nd</sup> May, 2020, to the Technical Advisory Committee of the Board constituted vide the Order / amendment referred to above for calculation of the score for Categorisation of Industries as per the guidelines of the Central Pollution Control Board.

  
(Ganesh Budhu Shetgaonkar)  
Chairman, GSPCB

To,

|    |                         |
|----|-------------------------|
| 1. | The Members of the TAC. |
|----|-------------------------|

c.c for information to:

|    |                                                                             |
|----|-----------------------------------------------------------------------------|
| 1. | The Principal, Agnel Institute of Technology & Design, Assagao, Bardez Goa. |
| 2. | The Dean, BITS Pilani, Goa Campus, Zuarinagar, Goa                          |

c.c to:

|    |                                                                                             |
|----|---------------------------------------------------------------------------------------------|
| 1. | Senior Environmental Engineer, GSPCB                                                        |
| 2. | Accounts cum Admn. Officer, GSPCB                                                           |
| 3. | Scientist 'C' – Lab In-charge, GSPCB                                                        |
| 4. | The Director, Department of Environment, Deendayal U. Bldg., Pundalik Nagar, Porvorim, Goa. |
| 5. | Chairman's file                                                                             |
| 6. | TAC file                                                                                    |
| 7. | 143 <sup>rd</sup> Board Meeting file                                                        |
| 8. | Admn. Section                                                                               |
| 9. | Guard file                                                                                  |



## ANNEXURE VI B

# GOA STATE POLLUTION CONTROL BOARD

## गोंय राज्य प्रदूषण नियंत्रण मंडळ

(An ISO 9001:2015, ISO 14001:2015. OHSAS 18001:2007 Certified Board)

Phone Nos. : 0832-2407700  
2407701, 2407702  
2407703

Tel/Fax No. : 0832-2407700



Email Ids:  
Chairman, GSPCB: chairman-gspcb.goa@nic.in  
Member Secretary GSPCB: ms-gspcb.goa@nic.in  
Environment Engineer, GSPCB: ee-gspcb.goa@nic.in  
Scientist, GSPCB: scientist-gspcb.goa@nic.in  
Office: goapcb@gspcb.in

No. 8/11/09-PCB/Vol./VII/Admn/657

22/07/2020

### OFFICE ORDER

- Read: 1. Office order no. 8/11/09-PCB/Vol.VII/Admn/16149 dated 10/12/2018, re-constituting the Technical Advisory Committee (TAC)
2. Amendment to the office order vide no. 8/11/09-PCB/Vol.VIII /Admn./205 dated 03/04/2019.
3. Office Order no. 8/11/90-PCB/Vol.VII/Admn./2729 dated 09/06/2020

Approval of the Board is hereby accorded, as per the decision taken at the 144<sup>th</sup> meeting of the Board held on 06<sup>th</sup> July, 2020, to the Technical Advisory Committee of the Board constituted vide the Order / amendment referred to above for calculation of the penalty to be levied under the Polluter Pays Principle as adopted by the Central Pollution Control Board.

  
(Ganesh Budhu Shetgaonkar)  
Chairman, GSPCB

To,

1. The Members of the TAC.

c.c for information to:

1. The Principal, Goa College of Engineering, Farmagudi, Goa.  
2. The Dean, BITS Pilani, Goa Campus, Zuarinagar, Goa

c.c to:

1. Environmental Engineer, GSPCB  
2. Accounts cum Admn. Officer, GSPCB  
3. Scientist 'C' – Lab In-charge, GSPCB  
4. The Director, Department of Environment, Deendayal U. Bldg., Pundalik Nagar, Porvorim, Goa.  
5. Chairman's file  
6. TAC file 7. 144th Board Meeting file 8. Admn. Section 9. Guard file

## ANNEXURE VII

### NAAQS Monitoring & Analysis Guidelines Volume-I

#### NATIONAL AMBIENT AIR QUALITY STANDARDS (2009)

| Pollutants                                                                         | Time Weighted Average   | Concentration in Ambient Air                   |                                                              | Methods of Measurement                                                                                   |
|------------------------------------------------------------------------------------|-------------------------|------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|                                                                                    |                         | Industrial, Residential, Rural and other Areas | Ecologically Sensitive Area (Notified by Central Government) |                                                                                                          |
| Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>                              | Annual *<br>24 Hours ** | 50<br>80                                       | 20<br>80                                                     | -Improved West and Gaeke Method<br>-Ultraviolet Fluorescence                                             |
| Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>                             | Annual *<br>24 Hours ** | 40<br>80                                       | 30<br>80                                                     | -Jacob & Hochheiser modified (NaOH-NaAsO <sub>2</sub> ) Method<br>-Gas Phase Chemiluminescence           |
| Particulate Matter (Size less than 10µm) or PM <sub>10</sub> , µg/m <sup>3</sup>   | Annual *<br>24 Hours ** | 60<br>100                                      | 60<br>100                                                    | -Gravimetric<br>-TEOM<br>-Beta attenuation                                                               |
| Particulate Matter (Size less than 2.5µm) or PM <sub>2.5</sub> , µg/m <sup>3</sup> | Annual *<br>24 Hours ** | 40<br>60                                       | 40<br>60                                                     | -Gravimetric<br>-TEOM<br>-Beta attenuation                                                               |
| Ozone (O <sub>3</sub> ) µg/m <sup>3</sup>                                          | 8 Hours *<br>1 Hour **  | 100<br>180                                     | 100<br>180                                                   | -UV Photometric<br>-Chemiluminescence<br>-Chemical Method                                                |
| Lead (Pb) µg/m <sup>3</sup>                                                        | Annual *<br>24 Hours ** | 0.50<br>1.0                                    | 0.50<br>1.0                                                  | -AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper<br>-ED-XRF using Teflon filter     |
| Carbon Monoxide(CO), mg/m <sup>3</sup>                                             | 8 Hours **<br>1 Hour ** | 02<br>04                                       | 02<br>04                                                     | -Non dispersive Infrared (NDIR) Spectroscopy                                                             |
| Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>                                      | Annual *<br>24 Hours ** | 100<br>400                                     | 100<br>400                                                   | -Chemiluminescence<br>-Indophenol blue method                                                            |
| Benzene (C <sub>6</sub> H <sub>6</sub> ), µg/m <sup>3</sup>                        | Annual *                | 05                                             | 05                                                           | -Gas Chromatography (GC) based continuous analyzer<br>-Adsorption and desorption followed by GC analysis |
| Benzo(a)Pyrene (BaP) Particulate phase only, ng/m <sup>3</sup>                     | Annual *                | 01                                             | 01                                                           | -Solvent extraction followed by HPLC/GC analysis                                                         |
| Arsenic (As), ng/m <sup>3</sup>                                                    | Annual *                | 06                                             | 06                                                           | -AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper                                    |
| Nickel (Ni), ng/m <sup>3</sup>                                                     | Annual *                | 20                                             | 20                                                           | -AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper                                    |

\* Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

\*\* 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

NOTE: Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigations.

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |            |                                                                         |                   |                 |                 |              |              |
|----------------------------------------------------------------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|--------------|--------------|
| Station: Infront of GSPCB premises,Panaji                      |            |                                                                         |                   |                 |                 | City: Panaji |              |
| Sr.No                                                          |            | Time Weighted Average (TWA)                                             |                   |                 |                 | AQI          | AIR QLTY     |
|                                                                | Parameters | 24 - Hour                                                               | 24 - Hour         | 24 - Hour       | 24 - Hour       |              |              |
|                                                                |            | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |              |              |
|                                                                | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |              |              |
| APRIL                                                          |            |                                                                         |                   |                 |                 |              |              |
| 1                                                              | 4/1/2020   | 71                                                                      | 57                | 2               | 5               | 95           | Satisfactory |
| 2                                                              | 4/3/2020   | 43                                                                      | 28                | 2               | 5               | 47           | Good         |
| 3                                                              | 4/7/2020   | 51                                                                      | 7                 | 2               | 5               | 51           | Satisfactory |
| 4                                                              | 4/9/2020   | 54                                                                      | 30                | 2               | 5               | 54           | Satisfactory |
| 5                                                              | 4/15/2020  | 40                                                                      | 28                | 2               | 5               | 47           | Good         |
| 6                                                              | 4/17/2020  | 47                                                                      | 9                 | 2               | 5               | 47           | Good         |
| 7                                                              | 4/22/2020  | 44                                                                      | 23                | 2               | 9               | 44           | Good         |
| 8                                                              | 4/24/2020  | 41                                                                      | 21                | 2               | 5               | 41           | Good         |
| 9                                                              | 4/28/2020  | 41                                                                      | 24                | 2               | 9               | 41           | Good         |
| 10                                                             | 4/30/2020  | 45                                                                      | 14                | 2               | 5               | 45           | Good         |
| MAY                                                            |            |                                                                         |                   |                 |                 |              |              |
| 11                                                             | 5/6/2020   | 70                                                                      | 21                | 2               | 5               | 70           | Satisfactory |
| 12                                                             | 5/8/2020   | 193                                                                     | 8                 | 2               | 5               | 162          | Moderate     |
| 13                                                             | 5/13/2020  | 83                                                                      | 9                 | 2               | 5               | 83           | Satisfactory |
| 14                                                             | 5/15/2020  | 66                                                                      | 11                | 2               | 5               | 66           | Satisfactory |
| 15                                                             | 5/20/2020  | 45                                                                      | 11                | 2               | 5               | 45           | Good         |
| 16                                                             | 5/22/2020  | 71                                                                      | 23                | 2               | 6               | 71           | Satisfactory |
| 17                                                             | 5/27/2020  | 53                                                                      | 7                 | 2               | 9               | 53           | Satisfactory |
| 18                                                             | 5/29/2020  | 83                                                                      | 6                 | 2               | 5               | 83           | Satisfactory |

| JUNE      |           |    |   |   |    |    |              |
|-----------|-----------|----|---|---|----|----|--------------|
| 19        | 6/5/2020  | 92 | * | 2 | 5  | 92 | Satisfactory |
| 20        | 6/10/2020 | 35 | * | 2 | 7  | 35 | Good         |
| 21        | 6/19/2020 | 50 | * | 2 | 6  | 50 | Good         |
| 22        | 6/24/2020 | 57 | * | 2 | 11 | 57 | Satisfactory |
| 23        | 6/26/2020 | 31 | * | 2 | 12 | 31 | Good         |
| JULY      |           |    |   |   |    |    |              |
| 24        | 7/1/2020  | 30 | * | 2 | 5  | 30 | Good         |
| 25        | 7/10/2020 | 41 | * | 2 | 9  | 41 | Good         |
| 26        | 7/22/2020 | 15 | * | 2 | 10 | 15 | Good         |
| 27        | 7/24/2020 | 23 | * | 2 | 11 | 23 | Good         |
| 28        | 7/29/2020 | 33 | * | 2 | 13 | 33 | Good         |
| 29        | 7/31/2020 | 69 | * | 2 | 12 | 69 | Satisfactory |
| AUGUST    |           |    |   |   |    |    |              |
| 30        | 8/7/2020  | 17 | * | 2 | 12 | 17 | Good         |
| 31        | 8/12/2020 | 19 | * | 2 | 12 | 19 | Good         |
| 32        | 8/14/2020 | 27 | * | 2 | 9  | 27 | Good         |
| 33        | 8/19/2020 | 21 | * | 2 | 9  | 21 | Good         |
| 34        | 8/26/2020 | 45 | * | 2 | 10 | 45 | Good         |
| 35        | 8/28/2020 | 23 | * | 2 | 11 | 23 | Good         |
| SEPTEMBER |           |    |   |   |    |    |              |
| 36        | 9/2/2020  | 22 | * | 2 | 11 | 22 | Good         |
| 37        | 9/4/2020  | 34 | * | 2 | 9  | 34 | Good         |
| 38        | 9/9/2020  | 35 | * | 2 | 12 | 35 | Good         |
| 39        | 9/16/2020 | 21 | * | 2 | 9  | 21 | Good         |
| 40        | 9/23/2020 | 20 | * | 2 | 5  | 20 | Good         |
| 41        | 9/29/2020 | 35 | * | 2 | 5  | 35 | Good         |
| OCTOBER   |           |    |   |   |    |    |              |
| 42        | 10/1/2020 | 35 | * | 2 | 5  | 35 | Good         |

|          |            |            |           |   |    |            |              |
|----------|------------|------------|-----------|---|----|------------|--------------|
| 43       | 10/7/2020  | 41         | *         | 2 | 7  | <b>41</b>  | Good         |
| 44       | 10/9/2020  | 38         | *         | 2 | 7  | <b>38</b>  | Good         |
| 45       | 10/14/2020 | 27         | *         | 2 | 5  | <b>27</b>  | Good         |
| 46       | 10/16/2020 | 33         | *         | 2 | 9  | <b>33</b>  | Good         |
| 47       | 10/21/2020 | 94         | *         | 2 | 5  | <b>94</b>  | Satisfactory |
| 48       | 10/23/2020 | 73         | *         | 2 | 5  | <b>73</b>  | Satisfactory |
| 49       | 10/28/2020 | 31         | *         | 2 | 9  | <b>31</b>  | Good         |
| 50       | 10/30/2020 | 59         | *         | 2 | 9  | <b>59</b>  | Satisfactory |
| NOVEMBER |            |            |           |   |    |            |              |
| 51       | 11/4/2020  | 46         | *         | 2 | 15 | <b>46</b>  | Good         |
| 52       | 11/6/2020  | 88         | *         | 2 | 15 | <b>88</b>  | Satisfactory |
| 53       | 11/11/2020 | 72         | 29        | 2 | 17 | <b>72</b>  | Satisfactory |
| 54       | 11/13/2020 | 62         | 30        | 2 | 16 | <b>62</b>  | Satisfactory |
| 55       | 11/18/2020 | 39         | 24        | 2 | 14 | <b>40</b>  | Good         |
| 56       | 11/20/2020 | 28         | 8         | 2 | 10 | <b>28</b>  | Good         |
| 57       | 11/25/2020 | 40         | 58        | 2 | 5  | <b>97</b>  | Satisfactory |
| 58       | 11/27/2020 | 50         | *         | 2 | 5  | <b>50</b>  | Good         |
| DECEMBER |            |            |           |   |    |            |              |
| 59       | 12/1/2020  | 84         | 35        | 2 | 5  | <b>84</b>  | Satisfactory |
| 60       | 12/4/2020  | 110        | 17        | 2 | 12 | <b>107</b> | Moderate     |
| 61       | 12/9/2020  | 60         | 24        | 2 | 9  | <b>60</b>  | Satisfactory |
| 62       | 12/11/2020 | 65         | 44        | 2 | 5  | <b>73</b>  | Satisfactory |
| 63       | 12/16/2020 | 62         | 51        | 2 | 11 | <b>85</b>  | Satisfactory |
| 64       | 12/18/2020 | 63         | 44        | 2 | 11 | <b>73</b>  | Satisfactory |
| 65       | 12/30/2020 | 177        | 70        | 2 | 11 | <b>151</b> | Moderate     |
| JANUARY  |            |            |           |   |    |            |              |
| 66       | 1/1/2021   | <b>121</b> | <b>91</b> | 2 | 12 | <b>203</b> | Poor         |
| 67       | 1/6/2021   | 66         | 30        | 2 | 13 | <b>66</b>  | Satisfactory |
| 68       | 1/8/2021   | 43         | *         | 2 | 12 | <b>43</b>  | Good         |

|          |           |            |    |   |    |            |              |
|----------|-----------|------------|----|---|----|------------|--------------|
| 69       | 1/13/2021 | <b>115</b> | 8  | 2 | 14 | <b>110</b> | Moderate     |
| 70       | 1/20/2021 | <b>114</b> | 8  | 2 | 12 | <b>109</b> | Moderate     |
| 71       | 1/22/2021 | 100        | 17 | 2 | 12 | <b>100</b> | Satisfactory |
| 72       | 1/27/2021 | <b>125</b> | 4  | 2 | 12 | <b>117</b> | Moderate     |
| 73       | 1/29/2021 | 80         | 45 | 2 | 13 | <b>80</b>  | Satisfactory |
| FEBRUARY |           |            |    |   |    |            |              |
| 74       | 2/3/2021  | 167        | 11 | 2 | 29 | <b>145</b> | Moderate     |
| 75       | 2/5/2021  | 97         | 60 | 2 | 14 | <b>100</b> | Satisfactory |
| 76       | 2/10/2021 | 108        | 36 | 2 | 11 | <b>105</b> | Moderate     |
| 77       | 2/12/2021 | 137        | 23 | 2 | 17 | <b>125</b> | Moderate     |
| 78       | 2/17/2021 | 71         | 29 | 2 | 26 | <b>71</b>  | Satisfactory |
| 79       | 2/19/2021 | 79         | 14 | 2 | 21 | <b>79</b>  | Satisfactory |
| 80       | 2/24/2021 | 90         | 29 | 2 | 19 | <b>90</b>  | Satisfactory |
| 81       | 2/26/2021 | 87         | 10 | 2 | 20 | <b>87</b>  | Satisfactory |
| MARCH    |           |            |    |   |    |            |              |
| 82       | 3/3/2021  | 87         | 28 | 2 | 16 | <b>87</b>  | Satisfactory |
| 83       | 3/5/2021  | 114        | 35 | 2 | 5  | <b>109</b> | Moderate     |
| 84       | 3/10/2021 | 87         | 17 | 2 | 18 | <b>87</b>  | Satisfactory |
| 85       | 3/12/2021 | 62         | 26 | 2 | 19 | <b>62</b>  | Satisfactory |
| 86       | 3/17/2021 | 105        | 13 | 2 | 26 | <b>103</b> | Moderate     |
| 87       | 3/19/2021 | 91         | 8  | 2 | 23 | <b>91</b>  | Satisfactory |
| 88       | 3/24/2021 | 78         | 8  | 2 | 18 | <b>78</b>  | Satisfactory |
| 89       | 3/26/2021 | 80         | 9  | 2 | 29 | <b>80</b>  | Satisfactory |
| 90       | 3/30/2021 | 51         | 13 | 2 | 25 | <b>51</b>  | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |            |                                                                         |                   |                 |                 |              |              |
|----------------------------------------------------------------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|--------------|--------------|
| Station: Within the premises of Muncipal Building              |            |                                                                         |                   |                 |                 | City: Mapusa |              |
| Sr. No                                                         |            | Time Weighted Average (TWA)                                             |                   |                 |                 | AQI          | AIR QLTY     |
|                                                                | Parameters | 24 - Hour                                                               | 24 - Hour         | 24 - Hour       | 24 - Hour       |              |              |
|                                                                |            | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |              |              |
|                                                                | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |              |              |
| APRIL                                                          |            |                                                                         |                   |                 |                 |              |              |
| 1                                                              | 4/1/2020   | 71                                                                      | 55                | 2               | 5               | 92           | Satisfactory |
| 2                                                              | 4/3/2020   | 47                                                                      | 35                | 2               | 6               | 58           | Satisfactory |
| 3                                                              | 4/7/2020   | 57                                                                      | 31                | 2               | 5               | 57           | Satisfactory |
| 4                                                              | 4/9/2020   | 35                                                                      | 29                | 2               | 5               | 48           | Good         |
| 5                                                              | 4/15/2020  | 32                                                                      | 28                | 2               | 5               | 47           | Good         |
| 6                                                              | 4/17/2020  | 23                                                                      | 19                | 2               | 5               | 32           | Good         |
| 7                                                              | 4/22/2020  | 30                                                                      | 18                | 2               | 5               | 30           | Good         |
| 8                                                              | 4/24/2020  | 32                                                                      | 14                | 2               | 5               | 32           | Good         |
| 9                                                              | 4/28/2020  | 32                                                                      | *                 | 2               | 5               | 32           | Good         |
| 10                                                             | 4/30/2020  | 33                                                                      | *                 | 2               | 7               | 33           | Good         |
| MAY                                                            |            |                                                                         |                   |                 |                 |              |              |
| 11                                                             | 5/6/2020   | 71                                                                      | *                 | 2               | 5               | 71           | Satisfactory |
| 12                                                             | 5/8/2020   | 47                                                                      | *                 | 2               | 5               | 47           | Good         |
| 13                                                             | 5/13/2020  | 31                                                                      | *                 | 2               | 8               | 31           | Good         |
| 14                                                             | 5/15/2020  | 29                                                                      | *                 | 2               | 8               | 29           | Good         |
| 15                                                             | 5/20/2020  | 50                                                                      | *                 | 2               | 10              | 50           | Good         |
| 16                                                             | 5/22/2020  | 35                                                                      | *                 | 2               | 11              | 35           | Good         |
| 17                                                             | 5/27/2020  | 33                                                                      | *                 | 2               | 7               | 33           | Good         |
| 18                                                             | 5/29/2020  | 21                                                                      | *                 | 2               | 5               | 21           | Good         |
| JUNE                                                           |            |                                                                         |                   |                 |                 |              |              |
| 19                                                             | 6/5/2020   | 22                                                                      | *                 | 2               | 5               | 22           | Good         |
| 20                                                             | 6/10/2020  | 28                                                                      | *                 | 2               | 7               | 28           | Good         |
| 21                                                             | 6/19/2020  | 32                                                                      | *                 | 2               | 5               | 32           | Good         |
| 22                                                             | 6/24/2020  | 29                                                                      | *                 | 2               | 5               | 29           | Good         |
| 23                                                             | 6/26/2020  | 33                                                                      | *                 | 2               | 5               | 33           | Good         |
| JULY                                                           |            |                                                                         |                   |                 |                 |              |              |



|           |            |    |    |   |    |           |              |
|-----------|------------|----|----|---|----|-----------|--------------|
| 24        | 7/1/2020   | 40 | *  | 2 | 5  | <b>40</b> | Good         |
| 25        | 7/10/2020  | 32 | *  | 2 | 5  | <b>32</b> | Good         |
| 26        | 7/22/2020  | 23 | *  | 2 | 14 | <b>23</b> | Good         |
| 27        | 7/24/2020  | 18 | *  | 2 | 9  | <b>18</b> | Good         |
| 28        | 7/29/2020  | 13 | *  | 2 | 9  | <b>13</b> | Good         |
| 29        | 7/31/2020  | 12 | *  | 2 | 10 | <b>13</b> | Good         |
| AUGUST    |            |    |    |   |    |           |              |
| 30        | 8/7/2020   | 14 | *  | 2 | 12 | <b>15</b> | Good         |
| 31        | 8/12/2020  | 14 | *  | 3 | 9  | <b>14</b> | Good         |
| 32        | 8/14/2020  | 19 | *  | 2 | 10 | <b>19</b> | Good         |
| 33        | 8/19/2020  | 12 | *  | 2 | 9  | <b>12</b> | Good         |
| 34        | 8/26/2020  | 20 | *  | 2 | 5  | <b>20</b> | Good         |
| 35        | 8/28/2020  | 23 | *  | 3 | 7  | <b>23</b> | Good         |
| SEPTEMBER |            |    |    |   |    |           |              |
| 36        | 9/2/2020   | 8  | *  | 2 | 14 | <b>18</b> | Good         |
| 37        | 9/4/2020   | 64 | *  | 2 | 5  | <b>64</b> | Satisfactory |
| 38        | 9/9/2020   | 25 | *  | 2 | 5  | <b>25</b> | Good         |
| 39        | 9/16/2020  | 93 | *  | 2 | 11 | <b>93</b> | Satisfactory |
| 40        | 9/23/2020  | 35 | *  | 2 | 13 | <b>35</b> | Good         |
| 41        | 9/25/2020  | 37 | *  | 2 | 24 | <b>37</b> | Good         |
| 42        | 9/29/2020  | 18 | *  | 2 | 9  | <b>18</b> | Good         |
| OCTOBER   |            |    |    |   |    |           |              |
| 43        | 10/1/2020  | 24 | *  | 2 | 5  | <b>24</b> | Good         |
| 44        | 10/7/2020  | 30 | 10 | 2 | 5  | <b>30</b> | Good         |
| 45        | 10/9/2020  | 23 | 14 | 2 | 9  | <b>23</b> | Good         |
| 46        | 10/14/2020 | 40 | 12 | 2 | 6  | <b>40</b> | Good         |
| 47        | 10/16/2020 | 33 | 7  | 2 | 5  | <b>33</b> | Good         |
| 48        | 10/21/2020 | 24 | 12 | 2 | 5  | <b>24</b> | Good         |
| 49        | 10/23/2020 | 30 | 16 | 2 | 6  | <b>30</b> | Good         |
| 50        | 10/28/2020 | 16 | 6  | 2 | 12 | <b>16</b> | Good         |
| 51        | 10/30/2020 | 19 | 9  | 2 | 10 | <b>19</b> | Good         |
| NOVEMBER  |            |    |    |   |    |           |              |
| 52        | 11/4/2020  | 22 | 13 | 2 | 12 | <b>22</b> | Good         |
| 53        | 11/6/2020  | 34 | 41 | 2 | 22 | <b>68</b> | Satisfactory |
| 54        | 11/11/2020 | 34 | 19 | 2 | 9  | <b>34</b> | Good         |
| 55        | 11/13/2020 | 56 | 20 | 2 | 19 | <b>56</b> | Satisfactory |
| 56        | 11/18/2020 | 34 | 12 | 5 | 16 | <b>34</b> | Good         |
| 57        | 11/20/2020 | 45 | 12 | 4 | 12 | <b>45</b> | Good         |

|          |            |     |    |   |    |            |              |
|----------|------------|-----|----|---|----|------------|--------------|
| 58       | 11/25/2020 | 33  | 47 | 2 | 16 | <b>78</b>  | Satisfactory |
| 59       | 11/27/2020 | 25  | 13 | 2 | 16 | <b>25</b>  | Good         |
| DECEMBER |            |     |    |   |    |            |              |
| 60       | 12/1/2020  | 56  | 47 | 2 | 13 | <b>78</b>  | Satisfactory |
| 61       | 12/4/2020  | 51  | 40 | 2 | 12 | <b>67</b>  | Satisfactory |
| 62       | 12/9/2020  | 44  | 34 | 4 | 17 | <b>57</b>  | Satisfactory |
| 63       | 12/11/2020 | 57  | 36 | 6 | 10 | <b>60</b>  | Satisfactory |
| 64       | 12/16/2020 | 35  | 29 | 2 | 5  | <b>48</b>  | Good         |
| 65       | 12/18/2020 | 60  | 35 | 2 | 11 | <b>60</b>  | Satisfactory |
| 66       | 12/22/2020 | 56  | 30 | 2 | 11 | <b>56</b>  | Satisfactory |
| 67       | 12/24/2020 | 74  | *  | 7 | 9  | <b>74</b>  | Satisfactory |
| 68       | 12/30/2020 | 76  | *  | 2 | 12 | <b>76</b>  | Satisfactory |
| JANUARY  |            |     |    |   |    |            |              |
| 69       | 1/1/2021   | 63  | *  | 2 | 13 | <b>63</b>  | Satisfactory |
| 70       | 1/6/2021   | 47  | *  | 2 | 11 | <b>47</b>  | Good         |
| 71       | 1/8/2021   | 25  | *  | 2 | 13 | <b>25</b>  | Good         |
| 72       | 1/13/2021  | 31  | *  | 2 | 12 | <b>31</b>  | Good         |
| 73       | 1/15/2021  | 36  | *  | 2 | 12 | <b>36</b>  | Good         |
| 74       | 1/20/2021  | 54  | *  | 2 | 13 | <b>54</b>  | Satisfactory |
| 75       | 1/22/2021  | 58  | *  | 2 | 12 | <b>58</b>  | Satisfactory |
| 76       | 1/27/2021  | 54  | *  | 2 | 14 | <b>54</b>  | Satisfactory |
| 77       | 1/29/2021  | 58  | *  | 2 | 13 | <b>58</b>  | Satisfactory |
| FEBRUARY |            |     |    |   |    |            |              |
| 78       | 2/3/2021   | 53  | *  | 2 | 12 | <b>53</b>  | Satisfactory |
| 79       | 2/5/2021   | 58  | *  | 2 | 12 | <b>58</b>  | Satisfactory |
| 80       | 2/10/2021  | 53  | 49 | 2 | 12 | <b>82</b>  | Satisfactory |
| 81       | 2/12/2021  | 124 | 50 | 2 | 19 | <b>116</b> | Moderate     |
| 82       | 2/17/2021  | 96  | 35 | 2 | 23 | <b>96</b>  | Satisfactory |
| 83       | 2/19/2021  | 79  | 14 | 2 | 21 | <b>79</b>  | Satisfactory |
| 84       | 2/24/2021  | 71  | 9  | 2 | 17 | <b>71</b>  | Satisfactory |
| 85       | 2/26/2021  | 75  | 3  | 2 | 22 | <b>75</b>  | Satisfactory |
| MARCH    |            |     |    |   |    |            |              |
| 86       | 3/3/2021   | 60  | 11 | 2 | 21 | <b>60</b>  | Satisfactory |
| 87       | 3/5/2021   | 94  | 24 | 2 | 13 | <b>94</b>  | Satisfactory |
| 88       | 3/10/2021  | 45  | 11 | 2 | 20 | <b>45</b>  | Good         |
| 89       | 3/12/2021  | 90  | 47 | 2 | 22 | <b>90</b>  | Satisfactory |
| 90       | 3/17/2021  | 96  | 51 | 2 | 25 | <b>96</b>  | Satisfactory |
| 91       | 3/19/2021  | 87  | 22 | 2 | 22 | <b>87</b>  | Satisfactory |

|    |           |     |    |   |    |            |              |
|----|-----------|-----|----|---|----|------------|--------------|
| 92 | 3/24/2021 | 75  | 47 | 2 | 24 | <b>78</b>  | Satisfactory |
| 93 | 3/26/2021 | 110 | 58 | 2 | 22 | <b>107</b> | Moderate     |
| 94 | 3/30/2021 | 89  | 26 | 2 | 26 | <b>89</b>  | Satisfactory |

### ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021

**Station:MPT Quarters**

**City: Baina**

| Sr. No    |            | Time Weighted Average (TWA)                                             |                   |                 |                 | AQI | AIR QLTY     |
|-----------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|-----|--------------|
|           | Parameters | 24 - Hour                                                               | 24 - Hour         | 24 - Hour       | 24 - Hour       |     |              |
|           |            | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |     |              |
|           | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |     |              |
| APRIL     |            |                                                                         |                   |                 |                 |     |              |
| 1         | 4/1/2020   | 46                                                                      | *                 | 2               | 21              | 46  | Good         |
| 2         | 4/3/2020   | 43                                                                      | *                 | 2               | 15              | 43  | Good         |
| 3         | 4/6/2020   | 28                                                                      | *                 | 2               | 5               | 28  | Good         |
| 4         | 4/8/2020   | 36                                                                      | *                 | 2               | 5               | 36  | Good         |
| 5         | 4/15/2020  | 46                                                                      | *                 | 2               | 5               | 46  | Good         |
| 6         | 4/17/2020  | 21                                                                      | *                 | 2               | 5               | 21  | Good         |
| 7         | 4/22/2020  | 17                                                                      | 4                 | 2               | 5               | 17  | Good         |
| 8         | 4/24/2020  | 15                                                                      | 41                | 2               | 5               | 68  | Satisfactory |
| 9         | 4/28/2020  | 30                                                                      | 20                | 2               | 5               | 33  | Good         |
| 10        | 4/30/2020  | 28                                                                      | 8                 | 2               | 5               | 28  | Good         |
| MAY       |            |                                                                         |                   |                 |                 |     |              |
| 11        | 5/6/2020   | 35                                                                      | 10                | 2               | 5               | 35  | Good         |
| 12        | 5/8/2020   | 30                                                                      | 6                 | 2               | 5               | 30  | Good         |
| 13        | 5/13/2020  | 29                                                                      | 5                 | 2               | 5               | 29  | Good         |
| 14        | 5/15/2020  | 32                                                                      | 2                 | 2               | 5               | 32  | Good         |
| 15        | 5/20/2020  | 31                                                                      | 12                | 2               | 8               | 31  | Good         |
| 16        | 5/22/2020  | 40                                                                      | 4                 | 2               | 5               | 40  | Good         |
| 17        | 5/27/2020  | 33                                                                      | 4                 | 2               | 6               | 33  | Good         |
| 18        | 5/29/2020  | 26                                                                      | 17                | 2               | 5               | 28  | Good         |
| SEPTEMBER |            |                                                                         |                   |                 |                 |     |              |
| 19        | 9/9/2020   | 20                                                                      | *                 | 2               | 5               | 20  | Good         |
| 20        | 9/16/2020  | 47                                                                      | *                 | 2               | 5               | 47  | Good         |

|          |            |    |    |   |     |            |              |
|----------|------------|----|----|---|-----|------------|--------------|
| 21       | 9/23/2020  | 39 | *  | 2 | 11  | <b>39</b>  | Good         |
| 22       | 9/29/2020  | 57 | *  | 2 | 5   | <b>57</b>  | Satisfactory |
| OCTOBER  |            |    |    |   |     |            |              |
| 23       | 10/1/2020  | 32 | *  | 2 | 5   | <b>32</b>  | Good         |
| 24       | 10/7/2020  | 65 | 11 | 2 | 5   | <b>65</b>  | Satisfactory |
| 25       | 10/9/2020  | 54 | 23 | 2 | 5   | <b>54</b>  | Satisfactory |
| 26       | 10/14/2020 | 34 | 12 | 2 | 5   | <b>34</b>  | Good         |
| 27       | 10/16/2020 | 59 | 6  | 2 | 8   | <b>59</b>  | Satisfactory |
| 28       | 10/21/2020 | 54 | 8  | 2 | 5   | <b>54</b>  | Satisfactory |
| 29       | 10/23/2020 | 15 | 18 | 2 | 5   | <b>30</b>  | Good         |
| 30       | 10/28/2020 | 37 | *  | 2 | 5   | <b>37</b>  | Good         |
| 31       | 10/30/2020 | 31 | *  | 2 | 5   | <b>31</b>  | Good         |
| NOVEMBER |            |    |    |   |     |            |              |
| 32       | 11/4/2020  | 53 | 80 | 2 | 4.5 | <b>167</b> | Moderate     |
| 33       | 11/6/2020  | 57 | 57 | 2 | 4.5 | <b>95</b>  | Satisfactory |
| 34       | 11/11/2020 | 72 | 59 | 2 | 4.5 | <b>98</b>  | Satisfactory |
| 35       | 11/13/2020 | 30 | 40 | 2 | 4.5 | <b>67</b>  | Satisfactory |
| 36       | 11/18/2020 | 17 | 25 | 2 | 4.5 | <b>42</b>  | Good         |
| 37       | 11/20/2020 | 24 | 11 | 2 | 4.5 | <b>24</b>  | Good         |
| 38       | 11/25/2020 | 58 | *  | 2 | 9   | <b>58</b>  | Satisfactory |
| 39       | 11/27/2020 | 33 | 47 | 2 | 16  | <b>78</b>  | Satisfactory |
| DECEMBER |            |    |    |   |     |            |              |
| 40       | 12/1/2020  | 44 | 74 | 2 | 5   | <b>147</b> | Moderate     |
| 41       | 12/4/2020  | 53 | 60 | 2 | 12  | <b>100</b> | Satisfactory |
| 42       | 12/9/2020  | 62 | 36 | 2 | 5   | <b>62</b>  | Satisfactory |
| 43       | 12/11/2020 | 25 | 62 | 2 | 5   | <b>107</b> | Moderate     |
| 44       | 12/16/2020 | 56 | 55 | 2 | 13  | <b>92</b>  | Satisfactory |
| 45       | 12/18/2020 | 53 | 15 | 2 | 9   | <b>53</b>  | Satisfactory |
| 46       | 12/22/2020 | 68 | 60 | 2 | 13  | <b>100</b> | Satisfactory |
| 47       | 12/24/2020 | 67 | 40 | 2 | 11  | <b>67</b>  | Satisfactory |
| 48       | 12/30/2020 | 96 | 69 | 2 | 11  | <b>130</b> | Moderate     |
| JANUARY  |            |    |    |   |     |            |              |
| 49       | 1/1/2021   | 76 | 48 | 2 | 12  | <b>80</b>  | Satisfactory |
| 50       | 1/6/2021   | 43 | 30 | 2 | 13  | <b>50</b>  | Good         |
| 51       | 1/8/2021   | 32 | 56 | 2 | 11  | <b>93</b>  | Satisfactory |
| 52       | 1/13/2021  | 55 | 8  | 2 | 12  | <b>55</b>  | Satisfactory |
| 53       | 1/15/2021  | 60 | 60 | 2 | 14  | <b>100</b> | Satisfactory |
| 54       | 1/20/2021  | 62 | 53 | 2 | 11  | <b>88</b>  | Satisfactory |

|          |           |     |            |   |    |            |              |
|----------|-----------|-----|------------|---|----|------------|--------------|
| 55       | 1/22/2021 | 64  | <b>71</b>  | 2 | 10 | <b>137</b> | Moderate     |
| 56       | 1/27/2021 | 67  | <b>142</b> | 2 | 13 | <b>317</b> | Very Poor    |
| 57       | 1/29/2021 | 88  | 30         | 2 | 14 | <b>88</b>  | Satisfactory |
| FEBRUARY |           |     |            |   |    |            |              |
| 58       | 2/3/2021  | 59  | 27         | 2 | 5  | <b>59</b>  | Satisfactory |
| 59       | 2/5/2021  | 73  | 47         | 2 | 11 | <b>78</b>  | Satisfactory |
| 60       | 2/10/2021 | 67  | 53         | 2 | 14 | <b>88</b>  | Satisfactory |
| 61       | 2/12/2021 | 105 | 12         | 2 | 22 | <b>103</b> | Moderate     |
| 62       | 2/17/2021 | 70  | 26         | 2 | 23 | <b>70</b>  | Satisfactory |
| 63       | 2/19/2021 | 61  | 82         | 2 | 20 | <b>173</b> | Moderate     |
| 64       | 2/24/2021 | 49  | 33         | 2 | 22 | <b>55</b>  | Satisfactory |
| 65       | 2/26/2021 | 78  | 30         | 2 | 19 | <b>78</b>  | Satisfactory |
| MARCH    |           |     |            |   |    |            |              |
| 66       | 3/3/2021  | 51  | 18         | 2 | 19 | <b>51</b>  | Satisfactory |
| 67       | 3/5/2021  | 78  | 24         | 2 | 9  | <b>78</b>  | Satisfactory |
| 68       | 3/10/2021 | 48  | 19         | 2 | 19 | <b>48</b>  | Good         |
| 69       | 3/12/2021 | 60  | 42         | 2 | 22 | <b>70</b>  | Satisfactory |
| 70       | 3/17/2021 | 58  | 15         | 2 | 25 | <b>58</b>  | Satisfactory |
| 71       | 3/19/2021 | 67  | 10         | 2 | 23 | <b>67</b>  | Satisfactory |
| 72       | 3/24/2021 | 56  | 15         | 2 | 19 | <b>56</b>  | Satisfactory |
| 73       | 3/26/2021 | 61  | 10         | 2 | 23 | <b>61</b>  | Satisfactory |
| 74       | 3/30/2021 | 55  | 33         | 2 | 40 | <b>55</b>  | Satisfactory |

## ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021

**Station: Fuse Call Office**

**City: Vasco**

| Sr. No    |            | Time Weighted Average (TWA)                                             |                   |                 |                 | AQI | AIR QLTY     |
|-----------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|-----|--------------|
|           | Parameters | 24 - Hour                                                               | 24 - Hour         | 24 - Hour       | 24 - Hour       |     |              |
|           |            | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |     |              |
|           | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |     |              |
| APRIL     |            |                                                                         |                   |                 |                 |     |              |
| 1         | 4/1/2020   | 57                                                                      | 52                | 2               | 14              | 87  | Satisfactory |
| 2         | 4/3/2020   | 54                                                                      | 41                | 2               | 7               | 68  | Satisfactory |
| 3         | 4/6/2020   | 19                                                                      | 15                | 2               | 5               | 25  | Good         |
| 4         | 4/8/2020   | 59                                                                      | 15                | 2               | 5               | 59  | Satisfactory |
| 5         | 4/15/2020  | 59                                                                      | 13                | 2               | 5               | 59  | Satisfactory |
| 6         | 4/17/2020  | 37                                                                      | 23                | 2               | 5               | 38  | Good         |
| 7         | 4/22/2020  | 31                                                                      | 22                | 2               | 5               | 37  | Good         |
| 8         | 4/24/2020  | 45                                                                      | 24                | 3               | 5               | 45  | Good         |
| 9         | 4/28/2020  | 38                                                                      | 11                | 2               | 5               | 38  | Good         |
| 10        | 4/30/2020  | 57                                                                      | 8                 | 2               | 5               | 57  | Satisfactory |
| MAY       |            |                                                                         |                   |                 |                 |     |              |
| 11        | 5/6/2020   | 35                                                                      | 10                | 2               | 5               | 35  | Good         |
| 12        | 5/8/2020   | 34                                                                      | 8                 | 2               | 5               | 34  | Good         |
| 13        | 5/13/2020  | 41                                                                      | 13                | 2               | 5               | 41  | Good         |
| 14        | 5/15/2020  | 56                                                                      | 51                | 2               | 5               | 85  | Satisfactory |
| 15        | 5/20/2020  | 55                                                                      | 22                | 2               | 8               | 55  | Satisfactory |
| 16        | 5/22/2020  | 44                                                                      | 2                 | 2               | 5               | 44  | Good         |
| 17        | 5/27/2020  | 72                                                                      | 4                 | 2               | 5               | 72  | Satisfactory |
| 18        | 5/29/2020  | 66                                                                      | 8                 | 2               | 5               | 66  | Satisfactory |
| JUNE      |            |                                                                         |                   |                 |                 |     |              |
| 19        | 6/5/2020   | 142                                                                     | *                 | 2               | 5               | 128 | Moderate     |
| SEPTEMBER |            |                                                                         |                   |                 |                 |     |              |
| 20        | 9/2/2020   | 51                                                                      | *                 | 2               | 5               | 51  | Satisfactory |
| 21        | 9/4/2020   | 48                                                                      | *                 | 2               | 9               | 48  | Good         |
| 22        | 9/9/2020   | 27                                                                      | *                 | 2               | 5               | 27  | Good         |
| 23        | 9/16/2020  | 43                                                                      | *                 | 2               | 5               | 43  | Good         |

|          |            |     |           |   |     |            |              |
|----------|------------|-----|-----------|---|-----|------------|--------------|
| 24       | 9/23/2020  | 21  | *         | 2 | 5   | <b>21</b>  | Good         |
| 25       | 9/29/2020  | 57  | *         | 2 | 5   | <b>57</b>  | Satisfactory |
| OCTOBER  |            |     |           |   |     |            |              |
| 26       | 10/1/2020  | 39  | *         | 2 | 5   | <b>39</b>  | Good         |
| 27       | 10/7/2020  | 25  | 7         | 2 | 5   | <b>25</b>  | Good         |
| 28       | 10/9/2020  | 25  | *         | 2 | 11  | <b>25</b>  | Good         |
| 29       | 10/14/2020 | 28  | *         | 2 | 5   | <b>28</b>  | Good         |
| 30       | 10/16/2020 | 25  | *         | 2 | 5   | <b>25</b>  | Good         |
| 31       | 10/21/2020 | 25  | *         | 2 | 5   | <b>25</b>  | Good         |
| 32       | 10/23/2020 | 30  | *         | 2 | 5   | <b>30</b>  | Good         |
| 33       | 10/28/2020 | 35  | *         | 2 | 5   | <b>35</b>  | Good         |
| 34       | 10/30/2020 | 21  | *         | 2 | 5   | <b>21</b>  | Good         |
| NOVEMBER |            |     |           |   |     |            |              |
| 35       | 11/4/2020  | 40  | *         | 2 | 4.5 | <b>40</b>  | Good         |
| 36       | 11/6/2020  | 44  | *         | 2 | 4.5 | <b>44</b>  | Good         |
| 37       | 11/11/2020 | 77  | *         | 2 | 4.5 | <b>77</b>  | Satisfactory |
| 38       | 11/13/2020 | 19  | *         | 2 | 4.5 | <b>19</b>  | Good         |
| 39       | 11/18/2020 | 28  | *         | 2 | 4.5 | <b>28</b>  | Good         |
| 40       | 11/20/2020 | 50  | *         | 2 | 4.5 | <b>50</b>  | Good         |
| 41       | 11/25/2020 | 76  | *         | 2 | 11  | <b>76</b>  | Satisfactory |
| 42       | 11/27/2020 | 54  | *         | 2 | 11  | <b>54</b>  | Satisfactory |
| DECEMBER |            |     |           |   |     |            |              |
| 43       | 12/1/2020  | 47  | *         | 2 | 5   | <b>47</b>  | Good         |
| 44       | 12/4/2020  | 66  | *         | 2 | 11  | <b>66</b>  | Satisfactory |
| 45       | 12/9/2020  | 59  | *         | 9 | 5   | <b>59</b>  | Satisfactory |
| 46       | 12/11/2020 | 30  | *         | 2 | 9   | <b>30</b>  | Good         |
| 47       | 12/16/2020 | 62  | *         | 2 | 10  | <b>62</b>  | Satisfactory |
| 48       | 12/18/2020 | 106 | *         | 2 | 12  | <b>104</b> | Moderate     |
| 49       | 12/22/2020 | 61  | *         | 2 | 10  | <b>61</b>  | Satisfactory |
| 50       | 12/24/2020 | 58  | *         | 2 | 11  | <b>58</b>  | Satisfactory |
| 51       | 12/30/2020 | 98  | *         | 2 | 11  | <b>98</b>  | Satisfactory |
| JANUARY  |            |     |           |   |     |            |              |
| 52       | 1/1/2021   | 69  | *         | 2 | 12  | <b>69</b>  | Satisfactory |
| 53       | 1/6/2021   | 46  | *         | 2 | 11  | <b>46</b>  | Good         |
| 54       | 1/8/2021   | 41  | *         | 2 | 13  | <b>41</b>  | Good         |
| 55       | 1/13/2021  | 69  | <b>63</b> | 2 | 12  | <b>110</b> | Moderate     |
| 56       | 1/15/2021  | 75  | 42        | 2 | 13  | <b>75</b>  | Satisfactory |
| 57       | 1/20/2021  | 78  | 56        | 2 | 12  | <b>93</b>  | Satisfactory |



|          |           |     |    |    |    |     |              |
|----------|-----------|-----|----|----|----|-----|--------------|
| 58       | 1/22/2021 | 78  | 85 | 2  | 13 | 183 | Moderate     |
| 59       | 1/27/2021 | 115 | 82 | 2  | 10 | 173 | Moderate     |
| 60       | 1/29/2021 | 100 | 91 | 2  | 11 | 203 | Poor         |
| FEBRUARY |           |     |    |    |    |     |              |
| 61       | 2/3/2021  | 67  | 37 | 2  | 5  | 67  | Satisfactory |
| 62       | 2/5/2021  | 99  | 57 | 2  | 12 | 99  | Satisfactory |
| 63       | 2/10/2021 | 76  | 36 | 2  | 15 | 76  | Satisfactory |
| 64       | 2/12/2021 | 117 | 60 | 2  | 24 | 111 | Moderate     |
| 65       | 2/17/2021 | 111 | 65 | 2  | 22 | 117 | Moderate     |
| 66       | 2/19/2021 | 69  | 74 | 2  | 21 | 147 | Moderate     |
| 67       | 2/24/2021 | 78  | 21 | 2  | 16 | 78  | Satisfactory |
| 68       | 2/26/2021 | 83  | 21 | 2  | 23 | 83  | Satisfactory |
| MARCH    |           |     |    |    |    |     |              |
| 69       | 3/3/2021  | 69  | 10 | 2  | 22 | 69  | Satisfactory |
| 70       | 3/5/2021  | 88  | 25 | 2  | 11 | 88  | Satisfactory |
| 71       | 3/10/2021 | 66  | 9  | 2  | 22 | 66  | Satisfactory |
| 72       | 3/12/2021 | 73  | 45 | 2  | 20 | 75  | Satisfactory |
| 73       | 3/17/2021 | 72  | 12 | 2  | 27 | 72  | Satisfactory |
| 74       | 3/19/2021 | 125 | 46 | 2  | 21 | 117 | Moderate     |
| 75       | 3/24/2021 | 71  | 45 | 2  | 11 | 75  | Satisfactory |
| 76       | 3/26/2021 | 89  | 66 | 12 | 25 | 120 | Moderate     |
| 77       | 3/30/2021 | 59  | 45 | 2  | 26 | 75  | Satisfactory |

### ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021

**Station: Roof top of Municipal market**

**City: Ponda**

| Sr. No |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
|        | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| APRIL  |             |                                                                      |                   |                 |                 |           |                |           |     |              |
| 1      | 4/21/2020   | 20                                                                   | 17                | 9               | 12              | 0.05      | 12             | BDL       | 28  | Good         |
| 2      | 4/24/2020   | 47                                                                   | 20                | 10              | 14              | 0.06      | 14             | BDL       | 47  | Good         |
| 3      | 4/28/2020   | 57                                                                   | 21                | 11              | 14              | 0.06      | 14             | BDL       | 57  | Satisfactory |
| MAY    |             |                                                                      |                   |                 |                 |           |                |           |     |              |
| 4      | 5/1/2020    | 54                                                                   | 30                | 8               | 13              | 0.05      | 15             | BDL       | 54  | Satisfactory |

|        |           |    |    |    |    |      |    |     |           |              |
|--------|-----------|----|----|----|----|------|----|-----|-----------|--------------|
| 5      | 5/5/2020  | 43 | 24 | 8  | 12 | 0.05 | 14 | BDL | <b>43</b> | Good         |
| 6      | 5/9/2020  | 60 | 33 | 9  | 12 | 0.05 | 15 | BDL | <b>60</b> | Satisfactory |
| 7      | 5/12/2020 | 60 | 32 | 10 | 13 | 0.07 | 15 | BDL | <b>60</b> | Satisfactory |
| 8      | 5/15/2020 | 59 | 34 | 9  | 13 | 0.05 | 15 | BDL | <b>59</b> | Satisfactory |
| 9      | 5/19/2020 | 55 | 32 | 9  | 13 | 0.05 | 15 | BDL | <b>55</b> | Satisfactory |
| 10     | 5/23/2020 | 62 | 33 | 10 | 13 | 0.06 | 15 | BDL | <b>62</b> | Satisfactory |
| 11     | 5/26/2020 | 52 | 29 | 10 | 13 | 0.05 | 15 | BDL | <b>52</b> | Satisfactory |
| 12     | 5/29/2020 | 58 | 29 | 11 | 14 | 0.56 | 14 | BDL | <b>58</b> | Satisfactory |
| JUNE   |           |    |    |    |    |      |    |     |           |              |
| 13     | 6/2/2020  | 53 | 27 | 9  | 12 | 0.05 | 15 | BDL | <b>53</b> | Satisfactory |
| 14     | 6/6/2020  | 46 | 24 | 8  | 12 | 0.06 | 14 | BDL | <b>46</b> | Good         |
| 15     | 6/9/2020  | 51 | 26 | 8  | 12 | 0.05 | 13 | BDL | <b>51</b> | Satisfactory |
| 16     | 6/12/2020 | 46 | 24 | 9  | 13 | 0.05 | 14 | BDL | <b>46</b> | Good         |
| 17     | 6/16/2020 | 51 | 27 | 8  | 12 | 0.06 | 15 | BDL | <b>51</b> | Satisfactory |
| 18     | 6/19/2020 | 44 | 23 | 9  | 12 | 0.06 | 14 | BDL | <b>44</b> | Good         |
| 19     | 6/23/2020 | 41 | 21 | 7  | 12 | 0.05 | 15 | BDL | <b>41</b> | Good         |
| 20     | 6/26/2020 | 45 | 24 | 7  | 11 | 0.06 | 14 | BDL | <b>45</b> | Good         |
| 21     | 6/30/2020 | 43 | 24 | 8  | 12 | 0.06 | 14 | BDL | <b>43</b> | Good         |
| JULY   |           |    |    |    |    |      |    |     |           |              |
| 22     | 7/3/2020  | 43 | 22 | 7  | 11 | 0.06 | 13 | BDL | <b>43</b> | Good         |
| 23     | 7/8/2020  | 42 | 24 | 6  | 11 | 0.06 | 14 | BDL | <b>42</b> | Good         |
| 24     | 7/10/2020 | 43 | 22 | 7  | 12 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 25     | 7/14/2020 | 44 | 24 | 7  | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 26     | 7/17/2020 | 38 | 20 | 6  | 11 | 0.06 | 13 | BDL | <b>38</b> | Good         |
| 27     | 7/21/2020 | 42 | 23 | 7  | 12 | 0.05 | 13 | BDL | <b>42</b> | Good         |
| 28     | 7/24/2020 | 44 | 21 | 7  | 12 | 0.05 | 14 | BDL | <b>44</b> | Good         |
| 29     | 7/28/2020 | 42 | 23 | 6  | 12 | 0.06 | 14 | BDL | <b>42</b> | Good         |
| 30     | 7/31/2020 | 45 | 24 | 7  | 12 | 0.06 | 13 | BDL | <b>45</b> | Good         |
| AUGUST |           |    |    |    |    |      |    |     |           |              |
| 31     | 8/4/2020  | 44 | 23 | 7  | 12 | 0.06 | 13 | BDL | <b>44</b> | Good         |
| 32     | 8/7/2020  | 42 | 24 | 6  | 11 | 0.06 | 14 | BDL | <b>42</b> | Good         |
| 33     | 8/11/2020 | 43 | 22 | 7  | 12 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 34     | 8/14/2020 | 45 | 23 | 7  | 12 | 0.06 | 13 | BDL | <b>45</b> | Good         |
| 35     | 8/18/2020 | 45 | 21 | 6  | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 36     | 8/21/2020 | 45 | 22 | 6  | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 37     | 8/25/2020 | 45 | 22 | 6  | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 38     | 8/28/2020 | 44 | 23 | 7  | 11 | 0.05 | 14 | BDL | <b>44</b> | Good         |

| SEPTEMBER |            |    |    |    |    |      |    |     |    |              |
|-----------|------------|----|----|----|----|------|----|-----|----|--------------|
| 39        | 9/1/2020   | 51 | 25 | 7  | 12 | 0.06 | 15 | BDL | 51 | Satisfactory |
| 40        | 9/4/2020   | 49 | 23 | 7  | 12 | 0.06 | 14 | BDL | 49 | Good         |
| 41        | 9/8/2020   | 50 | 22 | 7  | 12 | 0.06 | 14 | BDL | 50 | Good         |
| 42        | 9/11/2020  | 46 | 23 | 7  | 12 | 0.06 | 13 | BDL | 46 | Good         |
| 43        | 9/15/2020  | 47 | 23 | 6  | 12 | 0.05 | 14 | BDL | 47 | Good         |
| 44        | 9/18/2020  | 48 | 24 | 6  | 12 | 0.05 | 13 | BDL | 48 | Good         |
| 45        | 9/22/2020  | 50 | 22 | 7  | 12 | 0.06 | 14 | BDL | 50 | Satisfactory |
| 46        | 9/25/2020  | 47 | 24 | 7  | 12 | 0.06 | 14 | BDL | 47 | Good         |
| 47        | 9/29/2020  | 50 | 23 | 7  | 12 | 0.06 | 14 | BDL | 50 | Good         |
| OCTOBER   |            |    |    |    |    |      |    |     |    |              |
| 48        | 10/2/2020  | 57 | 32 | 8  | 13 | 0.06 | 15 | BDL | 57 | Satisfactory |
| 49        | 10/6/2020  | 52 | 30 | 7  | 13 | 0.05 | 14 | BDL | 52 | Satisfactory |
| 50        | 10/9/2020  | 55 | 32 | 7  | 12 | 0.06 | 14 | BDL | 55 | Satisfactory |
| 51        | 10/13/2020 | 52 | 31 | 7  | 13 | 0.06 | 13 | BDL | 52 | Satisfactory |
| 52        | 10/16/2020 | 54 | 32 | 7  | 12 | 0.06 | 13 | BDL | 54 | Satisfactory |
| 53        | 10/20/2020 | 60 | 34 | 7  | 12 | 0.06 | 13 | BDL | 60 | Satisfactory |
| 54        | 10/23/2020 | 58 | 30 | 8  | 13 | 0.06 | 13 | BDL | 58 | Satisfactory |
| 55        | 10/27/2020 | 55 | 33 | 7  | 12 | 0.06 | 13 | BDL | 55 | Satisfactory |
| 56        | 10/30/2020 | 61 | 34 | 7  | 13 | 0.06 | 14 | BDL | 61 | Satisfactory |
| NOVEMBER  |            |    |    |    |    |      |    |     |    |              |
| 57        | 11/3/2020  | 62 | 36 | 7  | 13 | 0.07 | 14 | BDL | 62 | Satisfactory |
| 58        | 11/6/2020  | 58 | 34 | 7  | 13 | 0.06 | 13 | BDL | 58 | Satisfactory |
| 59        | 11/10/2020 | 65 | 35 | 7  | 12 | 0.07 | 14 | BDL | 65 | Satisfactory |
| 60        | 11/13/2020 | 75 | 33 | 9  | 13 | 0.06 | 13 | BDL | 75 | Satisfactory |
| 61        | 11/17/2020 | 69 | 33 | 8  | 13 | 0.06 | 14 | BDL | 69 | Satisfactory |
| 62        | 11/20/2020 | 65 | 32 | 7  | 13 | 0.06 | 14 | BDL | 65 | Satisfactory |
| 63        | 11/24/2020 | 70 | 36 | 7  | 12 | 0.06 | 14 | BDL | 70 | Satisfactory |
| 64        | 11/27/2020 | 71 | 35 | 8  | 13 | 0.07 | 14 | BDL | 71 | Satisfactory |
| DECEMBER  |            |    |    |    |    |      |    |     |    |              |
| 65        | 12/1/2020  | 81 | 42 | 9  | 14 | 0.08 | 15 | BDL | 81 | Satisfactory |
| 66        | 12/4/2020  | 83 | 42 | 9  | 14 | 0.07 | 15 | BDL | 83 | Satisfactory |
| 67        | 12/8/2020  | 82 | 42 | 10 | 14 | 0.07 | 14 | BDL | 82 | Satisfactory |
| 68        | 12/11/2020 | 82 | 41 | 9  | 13 | 0.07 | 14 | BDL | 82 | Satisfactory |
| 69        | 12/15/2020 | 80 | 40 | 10 | 14 | 0.06 | 14 | BDL | 80 | Satisfactory |
| 70        | 12/18/2020 | 74 | 34 | 7  | 13 | 0.08 | 15 | BDL | 74 | Satisfactory |
| 71        | 12/22/2020 | 77 | 37 | 9  | 14 | 0.07 | 14 | BDL | 77 | Satisfactory |
| 72        | 12/25/2020 | 76 | 39 | 8  | 13 | 0.07 | 14 | BDL | 76 | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 73       | 12/29/2020 | 84 | 41 | 8  | 13 | 0.07 | 15 | BDL | <b>84</b> | Satisfactory |
| JANUARY  |            |    |    |    |    |      |    |     |           |              |
| 74       | 1/1/2021   | 79 | 38 | 7  | 13 | 0.07 | 13 | BDL | <b>79</b> | Satisfactory |
| 75       | 1/5/2021   | 73 | 34 | 7  | 13 | 0.07 | 13 | BDL | <b>73</b> | Satisfactory |
| 76       | 1/8/2021   | 61 | 31 | 7  | 13 | 0.06 | 13 | BDL | <b>61</b> | Satisfactory |
| 77       | 1/12/2021  | 77 | 34 | 8  | 14 | 0.06 | 14 | BDL | <b>77</b> | Satisfactory |
| 78       | 1/15/2021  | 70 | 33 | 8  | 14 | 0.06 | 14 | BDL | <b>70</b> | Satisfactory |
| 79       | 1/19/2021  | 79 | 40 | 7  | 13 | 0.07 | 13 | BDL | <b>79</b> | Satisfactory |
| 80       | 1/22/2021  | 78 | 40 | 8  | 13 | 0.08 | 13 | BDL | <b>78</b> | Satisfactory |
| 81       | 1/26/2021  | 77 | 36 | 6  | 12 | 0.06 | 14 | BDL | <b>77</b> | Satisfactory |
| 82       | 1/29/2021  | 71 | 35 | 7  | 14 | 0.08 | 13 | BDL | <b>71</b> | Satisfactory |
| FEBRUARY |            |    |    |    |    |      |    |     |           |              |
| 83       | 2/2/2021   | 82 | 42 | 9  | 14 | 0.08 | 13 | BDL | <b>82</b> | Satisfactory |
| 84       | 2/5/2021   | 82 | 40 | 7  | 13 | 0.07 | 13 | BDL | <b>82</b> | Satisfactory |
| 85       | 2/9/2021   | 78 | 35 | 8  | 14 | 0.08 | 14 | BDL | <b>78</b> | Satisfactory |
| 86       | 2/12/2021  | 77 | 33 | 9  | 16 | 0.08 | 13 | BDL | <b>77</b> | Satisfactory |
| 87       | 2/16/2021  | 71 | 32 | 9  | 15 | 0.07 | 14 | BDL | <b>71</b> | Satisfactory |
| 88       | 2/19/2021  | 79 | 38 | 9  | 15 | 0.08 | 14 | BDL | <b>79</b> | Satisfactory |
| 89       | 2/23/2021  | 79 | 40 | 9  | 15 | 0.08 | 15 | BDL | <b>79</b> | Satisfactory |
| 90       | 2/26/2021  | 79 | 38 | 10 | 14 | 0.08 | 15 | BDL | <b>79</b> | Satisfactory |
| MARCH    |            |    |    |    |    |      |    |     |           |              |
| 91       | 3/2/2021   | 83 | 42 | 9  | 15 | 0.09 | 14 | BDL | <b>83</b> | Satisfactory |
| 92       | 3/5/2021   | 75 | 38 | 9  | 14 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |
| 93       | 3/9/2021   | 81 | 37 | 9  | 15 | 0.08 | 14 | BDL | <b>81</b> | Satisfactory |
| 94       | 3/12/2021  | 69 | 34 | 9  | 16 | 0.08 | 14 | BDL | <b>69</b> | Satisfactory |
| 95       | 3/16/2021  | 82 | 40 | 10 | 16 | 0.08 | 14 | BDL | <b>82</b> | Satisfactory |
| 96       | 3/19/2021  | 78 | 39 | 10 | 16 | 0.08 | 14 | BDL | <b>78</b> | Satisfactory |
| 97       | 3/23/2021  | 84 | 41 | 11 | 16 | 0.08 | 15 | BDL | <b>84</b> | Satisfactory |
| 98       | 3/26/2021  | 79 | 37 | 11 | 16 | 0.09 | 15 | BDL | <b>79</b> | Satisfactory |
| 99       | 3/30/2021  | 73 | 32 | 10 | 14 | 0.09 | 15 | BDL | <b>73</b> | Satisfactory |

## ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021

**Station: Rooftop of Ravindra Bhavan Building**

**City: Margao**

| Sr.No |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|-------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|       |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|       | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
|       | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| APRIL |            |                                                                      |                   |                 |                 |           |                |           |     |              |
| 1     | 22/04/2020 | 45                                                                   | 23                | 10              | 13              | 0.06      | 13             | BDL       | 45  | Good         |
| 2     | 25/04/2020 | 43                                                                   | 24                | 11              | 15              | 0.06      | 15             | BDL       | 43  | Good         |
| 3     | 29/04/2020 | 42                                                                   | 20                | 11              | 14              | 0.06      | 12             | BDL       | 42  | Good         |
| MAY   |            |                                                                      |                   |                 |                 |           |                |           |     |              |
| 4     | 02/05/2020 | 53                                                                   | 31                | 9               | 12              | 0.05      | 13             | BDL       | 53  | Satisfactory |
| 5     | 06/05/2020 | 52                                                                   | 27                | 9               | 13              | 0.05      | 14             | BDL       | 52  | Satisfactory |
| 6     | 09/05/2020 | 52                                                                   | 29                | 10              | 13              | 0.05      | 15             | BDL       | 52  | Satisfactory |
| 7     | 12/05/2020 | 60                                                                   | 33                | 8               | 12              | 0.06      | 15             | BDL       | 60  | Satisfactory |
| 8     | 16/05/2020 | 55                                                                   | 32                | 10              | 13              | 0.06      | 15             | BDL       | 55  | Satisfactory |
| 9     | 20/05/2020 | 52                                                                   | 27                | 10              | 13              | 0.05      | 15             | BDL       | 52  | Satisfactory |
| 10    | 23/05/2020 | 59                                                                   | 29                | 9               | 13              | 0.05      | 14             | BDL       | 59  | Satisfactory |
| 11    | 27/05/2020 | 56                                                                   | 29                | 10              | 13              | 0.05      | 13             | BDL       | 56  | Satisfactory |
| 12    | 30/05/2020 | 61                                                                   | 31                | 10              | 13              | 0.06      | 15             | BDL       | 61  | Satisfactory |
| JUNE  |            |                                                                      |                   |                 |                 |           |                |           |     |              |
| 13    | 03/06/2020 | 50                                                                   | 31                | 8               | 12              | 0.05      | 13             | BDL       | 52  | Satisfactory |
| 14    | 06/06/2020 | 51                                                                   | 26                | 8               | 12              | 0.05      | 14             | BDL       | 51  | Satisfactory |
| 15    | 10/06/2020 | 48                                                                   | 25                | 9               | 12              | 0.05      | 14             | BDL       | 48  | Good         |
| 16    | 13/06/2020 | 48                                                                   | 24                | 8               | 12              | 0.05      | 14             | BDL       | 48  | Good         |
| 17    | 17/06/2020 | 47                                                                   | 24                | 8               | 12              | 0.06      | 15             | BDL       | 47  | Good         |

|           |            |    |    |   |    |      |    |     |           |                   |
|-----------|------------|----|----|---|----|------|----|-----|-----------|-------------------|
| 18        | 20/06/2020 | 43 | 22 | 7 | 12 | 0.05 | 14 | BDL | <b>43</b> | Good              |
| 19        | 24/06/2020 | 45 | 24 | 7 | 12 | 0.06 | 14 | BDL | <b>45</b> | Good              |
| 20        | 27/06/2020 | 46 | 22 | 8 | 12 | 0.05 | 15 | BDL | <b>46</b> | Good              |
| JULY      |            |    |    |   |    |      |    |     |           |                   |
| 21        | 01/07/2020 | 45 | 23 | 8 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good              |
| 22        | 04/07/2020 | 43 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>43</b> | Good              |
| 23        | 06/07/2020 | 45 | 23 | 7 | 12 | 0.05 | 14 | BDL | <b>45</b> | Good              |
| 24        | 11/07/2020 | 42 | 22 | 6 | 12 | 0.05 | 13 | BDL | <b>42</b> | Good              |
| 25        | 15/07/2020 | 42 | 23 | 7 | 12 | 0.06 | 14 | BDL | <b>42</b> | Good              |
| 26        | 18/07/2020 | 37 | 20 | 6 | 11 | 0.06 | 13 | BDL | <b>37</b> | Good              |
| 27        | 22/07/2020 | 44 | 24 | 6 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good              |
| 28        | 25/07/2020 | 46 | 23 | 6 | 12 | 0.05 | 14 | BDL | <b>46</b> | Good              |
| 29        | 29/07/2020 | 46 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good              |
| AUGUST    |            |    |    |   |    |      |    |     |           |                   |
| 30        | 01/08/2020 | 45 | 23 | 7 | 12 | 0.05 | 14 | BDL | <b>45</b> | Good              |
| 31        | 05/08/2020 | 48 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>48</b> | Good              |
| 32        | 08/08/2020 | 45 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good              |
| 33        | 13/08/2020 | 46 | 22 | 6 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good              |
| 34        | 15/08/2020 | 44 | 22 | 6 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good              |
| 35        | 17/08/2020 | 44 | 21 | 6 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good              |
| 36        | 21/08/2020 | 45 | 22 | 6 | 11 | 0.05 | 13 | BDL | <b>45</b> | Good              |
| 37        | 26/08/2020 | 47 | 23 | 6 | 12 | 0.05 | 14 | BDL | <b>47</b> | Good              |
| 38        | 29/08/2020 | 47 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good              |
| SEPTEMBER |            |    |    |   |    |      |    |     |           |                   |
| 39        | 02/09/2020 | 50 | 25 | 7 | 12 | 0.06 | 14 | BDL | <b>50</b> | Satisfac-<br>tory |
| 40        | 05/09/2020 | 48 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>48</b> | Good              |
| 41        | 09/09/2020 | 46 | 23 | 7 | 12 | 0.06 | 14 | BDL | <b>46</b> | Good              |
| 42        | 12/09/2020 | 47 | 23 | 6 | 12 | 0.06 | 14 | BDL | <b>47</b> | Good              |
| 43        | 16/09/2020 | 46 | 22 | 6 | 11 | 0.05 | 13 | BDL | <b>46</b> | Good              |
| 44        | 19/09/2020 | 45 | 21 | 7 | 12 | 0.06 | 14 | BDL | <b>45</b> | Good              |
| 45        | 23/09/2020 | 47 | 22 | 7 | 11 | 0.06 | 14 | BDL | <b>47</b> | Good              |
| 46        | 26/09/2020 | 45 | 22 | 7 | 12 | 0.06 | 14 | BDL | <b>45</b> | Good              |

|          |            |    |    |   |    |      |    |     |    |              |
|----------|------------|----|----|---|----|------|----|-----|----|--------------|
| 47       | 30/09/2020 | 47 | 23 | 6 | 12 | 0.06 | 14 | BDL | 47 | Good         |
| OCTOBER  |            |    |    |   |    |      |    |     |    |              |
| 48       | 03/10/2020 | 52 | 33 | 7 | 12 | 0.06 | 14 | BDL | 54 | Satisfactory |
| 49       | 07/10/2020 | 55 | 32 | 7 | 12 | 0.05 | 13 | BDL | 55 | Satisfactory |
| 50       | 10/10/2020 | 52 | 30 | 8 | 13 | 0.06 | 13 | BDL | 52 | Satisfactory |
| 51       | 14/10/2020 | 48 | 29 | 7 | 12 | 0.06 | 13 | BDL | 48 | Good         |
| 52       | 17/10/2020 | 57 | 34 | 7 | 12 | 0.05 | 13 | BDL | 57 | Satisfactory |
| 53       | 21/10/2020 | 51 | 31 | 8 | 13 | 0.06 | 13 | BDL | 52 | Satisfactory |
| 54       | 24/10/2020 | 55 | 30 | 7 | 12 | 0.06 | 13 | BDL | 55 | Satisfactory |
| 55       | 28/10/2020 | 60 | 32 | 7 | 13 | 0.06 | 13 | BDL | 60 | Satisfactory |
| 56       | 31/10/2020 | 57 | 34 | 7 | 13 | 0.05 | 14 | BDL | 57 | Satisfactory |
| NOVEMBER |            |    |    |   |    |      |    |     |    |              |
| 57       | 04/11/2020 | 64 | 36 | 7 | 12 | 0.06 | 14 | BDL | 64 | Satisfactory |
| 58       | 07/11/2020 | 57 | 33 | 7 | 13 | 0.06 | 13 | BDL | 57 | Satisfactory |
| 59       | 11/11/2020 | 65 | 31 | 8 | 13 | 0.07 | 14 | BDL | 65 | Satisfactory |
| 60       | 14/11/2020 | 60 | 31 | 7 | 13 | 0.06 | 14 | BDL | 60 | Satisfactory |
| 61       | 18/11/2020 | 65 | 33 | 7 | 13 | 0.06 | 14 | BDL | 65 | Satisfactory |
| 62       | 21/11/2020 | 67 | 34 | 8 | 13 | 0.07 | 14 | BDL | 67 | Satisfactory |
| 63       | 25/11/2020 | 71 | 36 | 7 | 13 | 0.07 | 14 | BDL | 71 | Satisfactory |
| 64       | 28/11/2020 | 65 | 33 | 7 | 13 | 0.06 | 13 | BDL | 65 | Satisfactory |
| DECEMBER |            |    |    |   |    |      |    |     |    |              |
| 65       | 02/12/2020 | 77 | 35 | 9 | 14 | 0.06 | 13 | BDL | 77 | Satisfactory |
| 66       | 05/12/2020 | 76 | 37 | 7 | 13 | 0.06 | 14 | BDL | 76 | Satisfactory |
| 67       | 10/12/2020 | 80 | 41 | 9 | 14 | 0.08 | 14 | BDL | 80 | Satisfactory |
| 68       | 12/12/2020 | 73 | 35 | 8 | 13 | 0.07 | 14 | BDL | 73 | Satisfactory |



|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 69       | 16/12/2020 | 80 | 40 | 9  | 13 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| 70       | 19/12/2020 | 75 | 36 | 9  | 13 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |
| 71       | 23/12/2020 | 78 | 37 | 10 | 14 | 0.08 | 15 | BDL | <b>78</b> | Satisfactory |
| 72       | 26/12/2020 | 82 | 37 | 9  | 13 | 0.07 | 14 | BDL | <b>82</b> | Satisfactory |
| 73       | 30/12/2020 | 79 | 40 | 8  | 14 | 0.07 | 15 | BDL | <b>79</b> | Satisfactory |
| JANUARY  |            |    |    |    |    |      |    |     |           |              |
| 74       | 02/01/2021 | 76 | 38 | 7  | 14 | 0.07 | 13 | BDL | <b>76</b> | Satisfactory |
| 75       | 06/01/2021 | 70 | 35 | 7  | 13 | 0.06 | 14 | BDL | <b>70</b> | Satisfactory |
| 76       | 09/01/2021 | 67 | 32 | 7  | 13 | 0.07 | 14 | BDL | <b>67</b> | Satisfactory |
| 77       | 13/01/2021 | 64 | 30 | 6  | 13 | 0.06 | 13 | BDL | <b>64</b> | Satisfactory |
| 78       | 16/01/2021 | 70 | 37 | 7  | 13 | 0.06 | 14 | BDL | <b>70</b> | Satisfactory |
| 79       | 20/01/2021 | 67 | 34 | 8  | 14 | 0.07 | 14 | BDL | <b>67</b> | Satisfactory |
| 80       | 23/01/2021 | 74 | 36 | 8  | 14 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 81       | 27/01/2021 | 73 | 35 | 7  | 13 | 0.07 | 13 | BDL | <b>73</b> | Satisfactory |
| 82       | 30/01/2021 | 76 | 34 | 7  | 13 | 0.08 | 14 | BDL | <b>76</b> | Satisfactory |
| FEBRUARY |            |    |    |    |    |      |    |     |           |              |
| 83       | 03/02/2021 | 83 | 42 | 7  | 14 | 0.07 | 13 | BDL | <b>83</b> | Satisfactory |
| 84       | 06/02/2021 | 81 | 38 | 9  | 14 | 0.07 | 14 | BDL | <b>81</b> | Satisfactory |
| 85       | 10/02/2021 | 73 | 35 | 9  | 13 | 0.08 | 14 | BDL | <b>73</b> | Satisfactory |
| 86       | 12/02/2021 | 70 | 33 | 7  | 14 | 0.07 | 14 | BDL | <b>70</b> | Satisfactory |
| 87       | 17/02/2021 | 79 | 37 | 9  | 15 | 0.07 | 14 | BDL | <b>79</b> | Satisfactory |
| 88       | 20/02/2021 | 72 | 35 | 8  | 14 | 0.07 | 14 | BDL | <b>72</b> | Satisfactory |
| 89       | 24/02/2021 | 79 | 39 | 8  | 15 | 0.08 | 15 | BDL | <b>79</b> | Satisfactory |
| 90       | 26/02/2021 | 73 | 35 | 8  | 14 | 0.08 | 14 | BDL | <b>73</b> | Satisfactory |

| MARCH |            |    |    |    |    |      |    |     |    |              |
|-------|------------|----|----|----|----|------|----|-----|----|--------------|
| 91    | 03/03/2021 | 70 | 38 | 8  | 15 | 0.08 | 14 | BDL | 70 | Satisfactory |
| 92    | 06/03/2021 | 83 | 41 | 9  | 15 | 0.09 | 14 | BDL | 83 | Satisfactory |
| 93    | 10/03/2021 | 78 | 35 | 9  | 13 | 0.08 | 14 | BDL | 78 | Satisfactory |
| 94    | 13/03/2021 | 70 | 35 | 8  | 14 | 0.08 | 14 | BDL | 70 | Satisfactory |
| 95    | 17/03/2021 | 79 | 38 | 10 | 15 | 0.08 | 13 | BDL | 79 | Satisfactory |
| 96    | 20/03/2021 | 76 | 34 | 9  | 15 | 0.08 | 14 | BDL | 76 | Satisfactory |
| 97    | 24/03/2021 | 76 | 39 | 10 | 15 | 0.09 | 14 | BDL | 76 | Satisfactory |
| 98    | 27/03/2021 | 67 | 32 | 9  | 15 | 0.09 | 14 | BDL | 67 | Satisfactory |
| 99    | 31/03/2021 | 70 | 35 | 9  | 14 | 0.09 | 15 | BDL | 70 | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |            |                                                                      |                   |                 |                 |           |                |           |                |              |
|----------------------------------------------------------------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|----------------|--------------|
| Station: Residence of Mr. Rama Naik, Assanora Junction         |            |                                                                      |                   |                 |                 |           |                |           | City: Assanora |              |
| Sr. No                                                         |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI            | AIR QLTY     |
|                                                                |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |                |              |
|                                                                | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |                |              |
|                                                                | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |                |              |
| APRIL                                                          |            |                                                                      |                   |                 |                 |           |                |           |                |              |
| 1                                                              | 4/20/2020  | 34                                                                   | 27                | 11              | 14              | 0.06      | 13             | BDL       | 44             | Good         |
| 2                                                              | 4/23/2020  | 41                                                                   | 25                | 10              | 14              | 0.06      | 13             | BDL       | 42             | Good         |
| 3                                                              | 4/27/2020  | 46                                                                   | 29                | 9               | 12              | 0.06      | 14             | BDL       | 49             | Good         |
| 4                                                              | 4/30/2020  | 33                                                                   | 20                | 11              | 13              | 0.06      | 13             | BDL       | 34             | Good         |
| MAY                                                            |            |                                                                      |                   |                 |                 |           |                |           |                |              |
| 5                                                              | 5/4/2020   | 48                                                                   | 30                | 9               | 13              | 0.05      | 15             | BDL       | 49             | Good         |
| 6                                                              | 5/7/2020   | 51                                                                   | 28                | 10              | 14              | 0.07      | 15             | BDL       | 51             | Satisfactory |
| 7                                                              | 5/11/2020  | 53                                                                   | 28                | 10              | 13              | 0.05      | 15             | BDL       | 53             | Satisfactory |
| 8                                                              | 5/14/2020  | 60                                                                   | 31                | 9               | 13              | 0.05      | 15             | BDL       | 60             | Satisfactory |

|        |           |    |    |    |    |      |    |     |           |              |
|--------|-----------|----|----|----|----|------|----|-----|-----------|--------------|
| 9      | 5/18/2020 | 63 | 33 | 9  | 13 | 0.05 | 14 | BDL | <b>63</b> | Satisfactory |
| 10     | 5/21/2020 | 58 | 31 | 10 | 13 | 0.07 | 16 | BDL | <b>58</b> | Satisfactory |
| 11     | 5/25/2020 | 61 | 33 | 10 | 13 | 0.06 | 14 | BDL | <b>61</b> | Satisfactory |
| 12     | 5/28/2020 | 62 | 32 | 10 | 14 | 0.06 | 15 | BDL | <b>62</b> | Satisfactory |
| JUNE   |           |    |    |    |    |      |    |     |           |              |
| 13     | 6/1/2020  | 50 | 27 | 9  | 13 | 0.05 | 15 | BDL | <b>50</b> | Satisfactory |
| 14     | 6/4/2020  | 62 | 32 | 9  | 13 | 0.06 | 14 | BDL | <b>62</b> | Satisfactory |
| 15     | 6/8/2020  | 48 | 28 | 9  | 13 | 0.05 | 14 | BDL | <b>48</b> | Good         |
| 16     | 6/11/2020 | 48 | 26 | 8  | 12 | 0.05 | 14 | BDL | <b>48</b> | Good         |
| 17     | 6/15/2020 | 51 | 26 | 8  | 12 | 0.05 | 14 | BDL | <b>51</b> | Satisfactory |
| 18     | 6/18/2020 | 50 | 26 | 8  | 12 | 0.06 | 14 | BDL | <b>50</b> | Good         |
| 19     | 6/22/2020 | 45 | 27 | 9  | 13 | 0.05 | 15 | BDL | <b>45</b> | Good         |
| 20     | 6/25/2020 | 43 | 23 | 7  | 11 | 0.05 | 14 | BDL | <b>43</b> | Good         |
| 21     | 6/29/2020 | 49 | 25 | 7  | 12 | 0.06 | 14 | BDL | <b>49</b> | Good         |
| JULY   |           |    |    |    |    |      |    |     |           |              |
| 22     | 7/2/2020  | 49 | 26 | 8  | 13 | 0.06 | 13 | BDL | <b>49</b> | Good         |
| 23     | 7/6/2020  | 46 | 24 | 7  | 12 | 0.06 | 14 | BDL | <b>46</b> | Good         |
| 24     | 7/9/2020  | 40 | 23 | 7  | 12 | 0.05 | 13 | BDL | <b>40</b> | Good         |
| 25     | 7/13/2020 | 38 | 21 | 6  | 11 | 0.05 | 13 | BDL | <b>38</b> | Good         |
| 26     | 7/16/2020 | 43 | 24 | 6  | 11 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 27     | 7/20/2020 | 47 | 25 | 6  | 12 | 0.06 | 13 | BDL | <b>47</b> | Good         |
| 28     | 7/23/2020 | 45 | 24 | 7  | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 29     | 7/27/2020 | 45 | 23 | 6  | 12 | 0.05 | 14 | BDL | <b>45</b> | Good         |
| 30     | 7/30/2020 | 48 | 23 | 6  | 12 | 0.06 | 13 | BDL | <b>48</b> | Good         |
| AUGUST |           |    |    |    |    |      |    |     |           |              |
| 31     | 8/3/2020  | 48 | 25 | 7  | 12 | 0.05 | 13 | BDL | <b>48</b> | Good         |
| 32     | 8/6/2020  | 46 | 23 | 7  | 12 | 0.06 | 14 | BDL | <b>46</b> | Good         |
| 33     | 8/10/2020 | 46 | 23 | 7  | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 34     | 8/13/2020 | 46 | 22 | 6  | 11 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 35     | 8/17/2020 | 44 | 24 | 6  | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 36     | 8/20/2020 | 45 | 23 | 6  | 11 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 37     | 8/24/2020 | 45 | 23 | 7  | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |

|           |            |    |    |   |    |      |    |     |           |              |
|-----------|------------|----|----|---|----|------|----|-----|-----------|--------------|
| 38        | 8/27/2020  | 44 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 39        | 8/31/2020  | 45 | 23 | 6 | 12 | 0.06 | 13 | BDL | <b>45</b> | Good         |
| SEPTEMBER |            |    |    |   |    |      |    |     |           |              |
| 40        | 9/3/2020   | 46 | 23 | 7 | 12 | 0.05 | 14 | BDL | <b>46</b> | Good         |
| 41        | 9/7/2020   | 47 | 22 | 7 | 12 | 0.05 | 14 | BDL | <b>47</b> | Good         |
| 42        | 9/10/2020  | 47 | 24 | 7 | 12 | 0.06 | 14 | BDL | <b>47</b> | Good         |
| 43        | 9/14/2020  | 47 | 22 | 6 | 12 | 0.05 | 14 | BDL | <b>47</b> | Good         |
| 44        | 9/17/2020  | 44 | 24 | 6 | 11 | 0.06 | 13 | BDL | <b>44</b> | Good         |
| 45        | 9/21/2020  | 39 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>39</b> | Good         |
| 46        | 9/24/2020  | 46 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 47        | 9/28/2020  | 48 | 24 | 6 | 11 | 0.06 | 14 | BDL | <b>48</b> | Good         |
| OCTOBER   |            |    |    |   |    |      |    |     |           |              |
| 48        | 10/1/2020  | 51 | 31 | 7 | 12 | 0.06 | 13 | BDL | <b>52</b> | Satisfactory |
| 49        | 10/5/2020  | 53 | 28 | 6 | 11 | 0.05 | 13 | BDL | <b>53</b> | Satisfactory |
| 50        | 10/8/2020  | 51 | 30 | 7 | 13 | 0.06 | 13 | BDL | <b>51</b> | Satisfactory |
| 51        | 10/12/2020 | 48 | 27 | 7 | 12 | 0.05 | 13 | BDL | <b>48</b> | Good         |
| 52        | 10/15/2020 | 47 | 25 | 7 | 12 | 0.06 | 13 | BDL | <b>47</b> | Good         |
| 53        | 10/19/2020 | 54 | 31 | 6 | 12 | 0.06 | 14 | BDL | <b>54</b> | Satisfactory |
| 54        | 10/22/2020 | 50 | 28 | 7 | 12 | 0.05 | 13 | BDL | <b>50</b> | Satisfactory |
| 55        | 10/26/2020 | 55 | 30 | 6 | 12 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 56        | 10/29/2020 | 58 | 34 | 6 | 12 | 0.06 | 13 | BDL | <b>58</b> | Satisfactory |
| NOVEMBER  |            |    |    |   |    |      |    |     |           |              |
| 57        | 11/2/2020  | 61 | 34 | 7 | 12 | 0.07 | 14 | BDL | <b>61</b> | Satisfactory |
| 58        | 11/5/2020  | 56 | 31 | 7 | 12 | 0.06 | 14 | BDL | <b>56</b> | Satisfactory |
| 59        | 11/9/2020  | 60 | 32 | 7 | 13 | 0.06 | 14 | BDL | <b>60</b> | Satisfactory |
| 60        | 11/12/2020 | 57 | 29 | 7 | 12 | 0.05 | 13 | BDL | <b>57</b> | Satisfactory |
| 61        | 11/16/2020 | 57 | 31 | 7 | 12 | 0.06 | 13 | BDL | <b>57</b> | Satisfactory |
| 62        | 11/19/2020 | 59 | 31 | 7 | 12 | 0.06 | 13 | BDL | <b>59</b> | Satisfactory |
| 63        | 11/23/2020 | 56 | 31 | 7 | 12 | 0.05 | 13 | BDL | <b>56</b> | Satisfactory |
| 64        | 11/26/2020 | 57 | 33 | 8 | 12 | 0.06 | 14 | BDL | <b>57</b> | Satisfactory |
| 65        | 11/30/2020 | 62 | 34 | 7 | 13 | 0.07 | 14 | BDL | <b>62</b> | Satisfactory |
| DECEMBER  |            |    |    |   |    |      |    |     |           |              |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 66       | 12/3/2020  | 61 | 32 | 8  | 13 | 0.06 | 14 | BDL | <b>61</b> | Satisfactory |
| 67       | 12/7/2020  | 62 | 32 | 7  | 13 | 0.07 | 14 | BDL | <b>62</b> | Satisfactory |
| 68       | 12/10/2020 | 80 | 41 | 10 | 14 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| 69       | 12/14/2020 | 82 | 43 | 9  | 14 | 0.08 | 15 | BDL | <b>82</b> | Satisfactory |
| 70       | 12/17/2020 | 74 | 38 | 9  | 13 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 71       | 12/21/2020 | 72 | 36 | 7  | 14 | 0.07 | 14 | BDL | <b>72</b> | Satisfactory |
| 72       | 12/24/2020 | 75 | 37 | 9  | 14 | 0.06 | 14 | BDL | <b>75</b> | Satisfactory |
| 73       | 12/28/2020 | 81 | 40 | 8  | 13 | 0.07 | 15 | BDL | <b>81</b> | Satisfactory |
| 74       | 12/31/3030 | 84 | 43 | 7  | 13 | 0.08 | 15 | BDL | <b>84</b> | Satisfactory |
| JANUARY  |            |    |    |    |    |      |    |     |           |              |
| 75       | 1/4/2021   | 76 | 34 | 7  | 13 | 0.07 | 13 | BDL | <b>76</b> | Satisfactory |
| 76       | 1/7/2020   | 63 | 32 | 6  | 12 | 0.06 | 13 | BDL | <b>63</b> | Satisfactory |
| 77       | 1/11/2021  | 60 | 32 | 6  | 13 | 0.07 | 13 | BDL | <b>60</b> | Satisfactory |
| 78       | 1/14/2021  | 57 | 31 | 6  | 13 | 0.06 | 13 | BDL | <b>57</b> | Satisfactory |
| 79       | 1/18/2021  | 60 | 32 | 7  | 13 | 0.07 | 13 | BDL | <b>60</b> | Satisfactory |
| 80       | 1/21/2021  | 66 | 34 | 6  | 12 | 0.08 | 14 | BDL | <b>66</b> | Satisfactory |
| 81       | 1/25/2021  | 65 | 31 | 6  | 13 | 0.07 | 14 | BDL | <b>65</b> | Satisfactory |
| 82       | 1/28/2021  | 69 | 36 | 7  | 13 | 0.07 | 14 | BDL | <b>69</b> | Satisfactory |
| FEBRUARY |            |    |    |    |    |      |    |     |           |              |
| 83       | 2/1/2021   | 73 | 33 | 8  | 14 | 0.07 | 14 | BDL | <b>73</b> | Satisfactory |
| 84       | 2/4/2021   | 69 | 34 | 6  | 12 | 0.07 | 14 | BDL | <b>69</b> | Satisfactory |
| 85       | 2/8/2021   | 68 | 33 | 6  | 13 | 0.07 | 13 | BDL | <b>68</b> | Satisfactory |
| 86       | 2/11/2021  | 60 | 30 | 7  | 13 | 0.07 | 14 | BDL | <b>60</b> | Satisfactory |
| 87       | 2/15/2021  | 64 | 31 | 7  | 14 | 0.06 | 14 | BDL | <b>64</b> | Satisfactory |
| 88       | 2/18/2021  | 65 | 34 | 6  | 12 | 0.08 | 14 | BDL | <b>65</b> | Satisfactory |
| 89       | 2/22/2021  | 69 | 31 | 7  | 13 | 0.08 | 14 | BDL | <b>69</b> | Satisfactory |
| 90       | 2/25/2021  | 70 | 35 | 7  | 14 | 0.08 | 13 | BDL | <b>70</b> | Satisfactory |
| MARCH    |            |    |    |    |    |      |    |     |           |              |
| 91       | 3/1/2021   | 75 | 32 | 8  | 14 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |
| 92       | 3/4/2021   | 69 | 35 | 7  | 14 | 0.08 | 14 | BDL | <b>69</b> | Satisfactory |
| 93       | 3/8/2021   | 70 | 35 | 7  | 14 | 0.07 | 14 | BDL | <b>70</b> | Satisfactory |
| 94       | 3/11/2021  | 75 | 32 | 8  | 14 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |

|    |           |    |    |   |    |      |    |     |           |              |
|----|-----------|----|----|---|----|------|----|-----|-----------|--------------|
| 95 | 3/15/2021 | 72 | 34 | 7 | 14 | 0.07 | 14 | BDL | <b>72</b> | Satisfactory |
| 96 | 3/18/2021 | 70 | 35 | 8 | 15 | 0.08 | 15 | BDL | <b>70</b> | Satisfactory |
| 97 | 3/22/2021 | 66 | 37 | 9 | 15 | 0.09 | 15 | BDL | <b>66</b> | Satisfactory |
| 98 | 3/25/2021 | 76 | 35 | 8 | 15 | 0.09 | 15 | BDL | <b>76</b> | Satisfactory |
| 99 | 3/29/2021 | 77 | 34 | 8 | 14 | 0.09 | 14 | BDL | <b>77</b> | Satisfactory |

### ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021

**Station: Residence of Mr. Vasudev Sinari**

**City: Amona**

| Sr. No |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
|        | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| APRIL  |            |                                                                      |                   |                 |                 |           |                |           |     |              |
| 1      | 4/17/2020  | 41                                                                   | 15                | 9               | 12              | 0.05      | 12             | BDL       | 41  | Good         |
| 2      | 4/21/2020  | 35                                                                   | 13                | 10              | 13              | 0.06      | 13             | BDL       | 35  | Good         |
| 3      | 4/24/2020  | 53                                                                   | 25                | 10              | 13              | 0.07      | 14             | BDL       | 53  | Satisfactory |
| 4      | 4/28/2020  | 54                                                                   | 26                | 9               | 12              | 0.06      | 13             | BDL       | 54  | Satisfactory |
| MAY    |            |                                                                      |                   |                 |                 |           |                |           |     |              |
| 5      | 5/5/2020   | 54                                                                   | 26                | 9               | 13              | 0.05      | 15             | BDL       | 54  | Satisfactory |
| 6      | 5/8/2020   | 52                                                                   | 30                | 8               | 12              | 0.05      | 14             | BDL       | 52  | Satisfactory |
| 7      | 5/12/2020  | 57                                                                   | 32                | 9               | 13              | 0.07      | 15             | BDL       | 57  | Satisfactory |
| 8      | 5/15/2020  | 66                                                                   | 33                | 9               | 13              | 0.06      | 15             | BDL       | 66  | Satisfactory |
| 9      | 5/19/2020  | 61                                                                   | 31                | 9               | 13              | 0.05      | 14             | BDL       | 61  | Satisfactory |
| 10     | 5/22/2020  | 56                                                                   | 29                | 9               | 13              | 0.05      | 14             | BDL       | 56  | Satisfactory |
| 11     | 5/26/2020  | 60                                                                   | 32                | 10              | 13              | 0.05      | 15             | BDL       | 60  | Satisfactory |
| 12     | 5/29/2020  | 64                                                                   | 34                | 10              | 13              | 0.05      | 15             | BDL       | 64  | Satisfactory |
| JUNE   |            |                                                                      |                   |                 |                 |           |                |           |     |              |
| 13     | 6/2/2020   | 48                                                                   | 25                | 9               | 13              | 0.05      | 13             | BDL       | 48  | Good         |
| 14     | 6/5/2020   | 47                                                                   | 25                | 8               | 13              | 0.05      | 14             | BDL       | 47  | Good         |
| 15     | 6/9/2020   | 54                                                                   | 28                | 8               | 12              | 0.05      | 14             | BDL       | 54  | Satisfactory |
| 16     | 6/12/2020  | 43                                                                   | 23                | 9               | 13              | 0.05      | 14             | BDL       | 43  | Good         |

|           |           |    |    |   |    |      |    |     |           |              |
|-----------|-----------|----|----|---|----|------|----|-----|-----------|--------------|
| 17        | 6/16/2020 | 44 | 22 | 8 | 12 | 0.05 | 14 | BDL | <b>44</b> | Good         |
| 18        | 6/19/2020 | 44 | 23 | 8 | 12 | 0.05 | 15 | BDL | <b>44</b> | Good         |
| 19        | 6/23/2020 | 49 | 23 | 7 | 11 | 0.06 | 15 | BDL | <b>49</b> | Good         |
| 20        | 6/26/2020 | 49 | 26 | 8 | 12 | 0.05 | 14 | BDL | <b>49</b> | Good         |
| 21        | 6/30/2020 | 52 | 27 | 8 | 12 | 0.06 | 14 | BDL | <b>52</b> | Satisfactory |
| JULY      |           |    |    |   |    |      |    |     |           |              |
| 22        | 7/3/2020  | 47 | 25 | 7 | 12 | 0.05 | 14 | BDL | <b>47</b> | Good         |
| 23        | 7/7/2020  | 42 | 22 | 7 | 12 | 0.05 | 14 | BDL | <b>42</b> | Good         |
| 24        | 7/10/2020 | 40 | 22 | 7 | 12 | 0.05 | 13 | BDL | <b>40</b> | Good         |
| 25        | 7/14/2020 | 43 | 25 | 7 | 12 | 0.05 | 14 | BDL | <b>43</b> | Good         |
| 26        | 7/17/2020 | 41 | 21 | 7 | 12 | 0.05 | 13 | BDL | <b>41</b> | Good         |
| 27        | 7/22/2020 | 47 | 24 | 6 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 28        | 7/24/2020 | 46 | 23 | 7 | 12 | 0.06 | 13 | BDL | <b>46</b> | Good         |
| 29        | 7/28/2020 | 46 | 22 | 6 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 30        | 7/31/2020 | 46 | 23 | 7 | 12 | 0.06 | 14 | BDL | <b>46</b> | Good         |
| AUGUST    |           |    |    |   |    |      |    |     |           |              |
| 31        | 8/4/2020  | 46 | 25 | 7 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 32        | 8/7/2020  | 45 | 22 | 6 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 33        | 8/11/2020 | 44 | 21 | 6 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 34        | 8/14/2020 | 46 | 24 | 6 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 35        | 8/18/2020 | 45 | 22 | 6 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 36        | 8/21/2020 | 44 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 37        | 8/25/2020 | 47 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 38        | 8/28/2020 | 46 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| SEPTEMBER |           |    |    |   |    |      |    |     |           |              |
| 39        | 9/1/2020  | 51 | 26 | 7 | 12 | 0.06 | 14 | BDL | <b>51</b> | Satisfactory |
| 40        | 9/4/2020  | 50 | 23 | 6 | 12 | 0.53 | 13 | BDL | <b>50</b> | Good         |
| 41        | 9/8/2020  | 47 | 23 | 6 | 12 | 0.06 | 13 | BDL | <b>47</b> | Good         |
| 42        | 9/11/2020 | 47 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 43        | 9/15/2020 | 53 | 25 | 7 | 12 | 0.06 | 15 | BDL | <b>53</b> | Satisfactory |
| 44        | 9/18/2020 | 46 | 23 | 6 | 12 | 0.05 | 14 | BDL | <b>46</b> | Good         |
| 45        | 9/22/2020 | 46 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |



|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 46       | 9/25/2020  | 48 | 25 | 7  | 12 | 0.06 | 14 | BDL | <b>48</b> | Good         |
| 47       | 9/29/2020  | 47 | 23 | 7  | 12 | 0.06 | 14 | BDL | <b>47</b> | Good         |
| OCTOBER  |            |    |    |    |    |      |    |     |           |              |
| 48       | 10/2/2020  | 51 | 33 | 8  | 13 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 49       | 10/6/2020  | 56 | 33 | 8  | 13 | 0.06 | 13 | BDL | <b>56</b> | Satisfactory |
| 50       | 10/9/2020  | 57 | 35 | 8  | 12 | 0.05 | 14 | BDL | <b>58</b> | Satisfactory |
| 51       | 10/13/2020 | 48 | 26 | 7  | 12 | 0.06 | 13 | BDL | <b>48</b> | Good         |
| 52       | 10/16/2020 | 50 | 28 | 7  | 13 | 0.06 | 13 | BDL | <b>50</b> | Good         |
| 53       | 10/20/2020 | 52 | 30 | 7  | 12 | 0.05 | 13 | BDL | <b>52</b> | Satisfactory |
| 54       | 10/23/2020 | 54 | 33 | 8  | 13 | 0.06 | 13 | BDL | <b>55</b> | Satisfactory |
| 55       | 10/27/2020 | 61 | 31 | 8  | 13 | 0.06 | 13 | BDL | <b>61</b> | Satisfactory |
| 56       | 10/30/2020 | 57 | 35 | 8  | 13 | 0.05 | 13 | BDL | <b>59</b> | Satisfactory |
| NOVEMBER |            |    |    |    |    |      |    |     |           |              |
| 57       | 11/3/2020  | 57 | 34 | 8  | 13 | 0.07 | 14 | BDL | <b>57</b> | Satisfactory |
| 58       | 11/6/2020  | 60 | 34 | 8  | 13 | 0.06 | 13 | BDL | <b>60</b> | Satisfactory |
| 59       | 11/10/2020 | 60 | 34 | 8  | 12 | 0.07 | 14 | BDL | <b>60</b> | Satisfactory |
| 60       | 11/13/2020 | 62 | 34 | 7  | 12 | 0.06 | 14 | BDL | <b>62</b> | Satisfactory |
| 61       | 11/17/2020 | 63 | 32 | 7  | 13 | 0.07 | 13 | BDL | <b>63</b> | Satisfactory |
| 62       | 11/20/2020 | 62 | 33 | 7  | 12 | 0.06 | 14 | BDL | <b>62</b> | Satisfactory |
| 63       | 11/24/2020 | 65 | 35 | 8  | 13 | 0.06 | 14 | BDL | <b>65</b> | Satisfactory |
| 64       | 11/27/2020 | 69 | 35 | 9  | 13 | 0.07 | 14 | BDL | <b>69</b> | Satisfactory |
| DECEMBER |            |    |    |    |    |      |    |     |           |              |
| 65       | 12/2/2020  | 80 | 42 | 8  | 14 | 0.08 | 15 | BDL | <b>80</b> | Satisfactory |
| 66       | 12/4/2020  | 77 | 38 | 8  | 14 | 0.07 | 14 | BDL | <b>77</b> | Satisfactory |
| 67       | 12/8/2020  | 81 | 41 | 10 | 14 | 0.08 | 14 | BDL | <b>81</b> | Satisfactory |
| 68       | 12/11/2020 | 80 | 41 | 8  | 12 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| 69       | 12/15/2020 | 75 | 38 | 8  | 13 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |
| 70       | 12/18/2020 | 77 | 42 | 8  | 14 | 0.08 | 15 | BDL | <b>77</b> | Satisfactory |
| 71       | 12/22/2020 | 81 | 42 | 8  | 13 | 0.09 | 15 | BDL | <b>81</b> | Satisfactory |
| 72       | 12/25/2020 | 81 | 43 | 9  | 13 | 0.08 | 16 | BDL | <b>81</b> | Satisfactory |
| 73       | 12/29/2020 | 70 | 35 | 9  | 13 | 0.07 | 15 | BDL | <b>70</b> | Satisfactory |

| JANUARY  |           |    |    |    |    |      |    |     |           |              |
|----------|-----------|----|----|----|----|------|----|-----|-----------|--------------|
| 74       | 1/1/2021  | 79 | 42 | 7  | 14 | 0.07 | 14 | BDL | <b>79</b> | Satisfactory |
| 75       | 1/5/2021  | 65 | 32 | 7  | 13 | 0.07 | 13 | BDL | <b>65</b> | Satisfactory |
| 76       | 1/8/2021  | 60 | 34 | 7  | 13 | 0.07 | 13 | BDL | <b>60</b> | Satisfactory |
| 77       | 1/12/2021 | 64 | 34 | 6  | 13 | 0.06 | 13 | BDL | <b>64</b> | Satisfactory |
| 78       | 1/15/2021 | 66 | 33 | 6  | 13 | 0.07 | 13 | BDL | <b>66</b> | Satisfactory |
| 79       | 1/19/2021 | 63 | 31 | 7  | 12 | 0.07 | 13 | BDL | <b>63</b> | Satisfactory |
| 80       | 1/22/2021 | 66 | 33 | 7  | 14 | 0.06 | 13 | BDL | <b>66</b> | Satisfactory |
| 81       | 1/26/2021 | 65 | 34 | 8  | 14 | 0.07 | 14 | BDL | <b>65</b> | Satisfactory |
| 82       | 1/29/2021 | 64 | 31 | 7  | 13 | 0.06 | 13 | BDL | <b>64</b> | Satisfactory |
| FEBRUARY |           |    |    |    |    |      |    |     |           |              |
| 83       | 2/2/2021  | 69 | 35 | 8  | 14 | 0.08 | 14 | BDL | <b>69</b> | Satisfactory |
| 84       | 2/6/2021  | 70 | 34 | 7  | 13 | 0.07 | 13 | BDL | <b>70</b> | Satisfactory |
| 85       | 2/9/2021  | 63 | 34 | 8  | 14 | 0.08 | 14 | BDL | <b>63</b> | Satisfactory |
| 86       | 2/11/2021 | 67 | 35 | 7  | 13 | 0.07 | 14 | BDL | <b>67</b> | Satisfactory |
| 87       | 2/16/2021 | 64 | 32 | 7  | 14 | 0.08 | 14 | BDL | <b>64</b> | Satisfactory |
| 88       | 2/19/2021 | 73 | 34 | 8  | 13 | 0.08 | 13 | BDL | <b>73</b> | Satisfactory |
| 89       | 2/23/2021 | 68 | 35 | 7  | 13 | 0.08 | 14 | BDL | <b>68</b> | Satisfactory |
| 90       | 2/26/2021 | 69 | 34 | 10 | 14 | 0.08 | 14 | BDL | <b>69</b> | Satisfactory |
| MARCH    |           |    |    |    |    |      |    |     |           |              |
| 91       | 3/2/2021  | 76 | 38 | 8  | 14 | 0.09 | 15 | BDL | <b>76</b> | Satisfactory |
| 92       | 3/5/2021  | 72 | 36 | 8  | 14 | 0.08 | 14 | BDL | <b>72</b> | Satisfactory |
| 93       | 3/9/2021  | 63 | 34 | 9  | 15 | 0.09 | 15 | BDL | <b>63</b> | Satisfactory |
| 94       | 3/12/2021 | 69 | 33 | 8  | 14 | 0.09 | 15 | BDL | <b>69</b> | Satisfactory |
| 95       | 3/16/2021 | 61 | 33 | 7  | 14 | 0.08 | 14 | BDL | <b>61</b> | Satisfactory |
| 96       | 3/19/2021 | 70 | 35 | 9  | 15 | 0.08 | 14 | BDL | <b>70</b> | Satisfactory |
| 97       | 3/23/2021 | 71 | 36 | 8  | 15 | 0.09 | 15 | BDL | <b>71</b> | Satisfactory |
| 98       | 3/26/2021 | 75 | 36 | 9  | 14 | 0.09 | 15 | BDL | <b>75</b> | Satisfactory |
| 99       | 3/30/2021 | 68 | 35 | 9  | 15 | 0.09 | 15 | BDL | <b>68</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |                |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|----------------|--------------|
| Station: Municipality Building                                 |             |                                                                      |                   |                 |                 |           |                |           | City: Bicholim |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI            | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |                |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |                |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |                |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |                |              |
| 1                                                              | 4/16/2020   | 72                                                                   | 30                | 10              | 14              | 0.05      | 10             | BDL       | 72             | Satisfactory |
| 2                                                              | 4/20/2020   | 51                                                                   | 28                | 11              | 14              | 0.06      | 15             | BDL       | 51             | Satisfactory |
| 3                                                              | 4/23/2020   | 50                                                                   | 27                | 11              | 14              | 0.07      | 14             | BDL       | 50             | Satisfactory |
| 4                                                              | 4/27/2020   | 48                                                                   | 29                | 10              | 14              | 0.06      | 14             | BDL       | 48             | Good         |
| 5                                                              | 4/30/2020   | 47                                                                   | 23                | 10              | 13              | 0.07      | 15             | BDL       | 47             | Good         |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |                |              |
| 6                                                              | 5/4/2020    | 44                                                                   | 30                | 8               | 12              | 0.06      | 14             | BDL       | 50             | Good         |
| 7                                                              | 5/7/2020    | 56                                                                   | 30                | 9               | 13              | 0.05      | 14             | BDL       | 56             | Satisfactory |
| 8                                                              | 5/11/2020   | 64                                                                   | 34                | 10              | 13              | 0.05      | 15             | BDL       | 64             | Satisfactory |
| 9                                                              | 5/15/2020   | 70                                                                   | 36                | 10              | 13              | 0.06      | 15             | BDL       | 70             | Satisfactory |
| 10                                                             | 5/18/2020   | 66                                                                   | 35                | 10              | 13              | 0.06      | 14             | BDL       | 66             | Satisfactory |
| 11                                                             | 5/21/2020   | 71                                                                   | 37                | 10              | 13              | 0.06      | 15             | BDL       | 71             | Satisfactory |
| 12                                                             | 5/25/2020   | 74                                                                   | 38                | 10              | 13              | 0.06      | 15             | BDL       | 74             | Satisfactory |
| 13                                                             | 5/28/2020   | 64                                                                   | 33                | 10              | 13              | 0.05      | 15             | BDL       | 64             | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |                |              |
| 14                                                             | 6/1/2020    | 44                                                                   | 25                | 9               | 12              | 0.06      | 13             | BDL       | 44             | Good         |
| 15                                                             | 6/4/2020    | 52                                                                   | 29                | 9               | 13              | 0.05      | 14             | BDL       | 52             | Satisfactory |
| 16                                                             | 6/8/2020    | 54                                                                   | 29                | 8               | 12              | 0.05      | 14             | BDL       | 54             | Satisfactory |
| 17                                                             | 6/11/2020   | 60                                                                   | 29                | 9               | 13              | 0.06      | 15             | BDL       | 60             | Satisfactory |
| 18                                                             | 6/15/2020   | 46                                                                   | 25                | 9               | 13              | 0.05      | 14             | BDL       | 46             | Good         |
| 19                                                             | 6/18/2020   | 47                                                                   | 24                | 7               | 12              | 0.06      | 15             | BDL       | 47             | Good         |
| 20                                                             | 6/22/2020   | 44                                                                   | 22                | 8               | 12              | 0.06      | 14             | BDL       | 44             | Good         |
| 21                                                             | 6/25/2020   | 49                                                                   | 25                | 8               | 12              | 0.05      | 14             | BDL       | 49             | Good         |
| 22                                                             | 6/29/2020   | 45                                                                   | 24                | 8               | 13              | 0.06      | 14             | BDL       | 45             | Good         |

| JULY      |           |    |    |   |    |      |    |     |           |              |
|-----------|-----------|----|----|---|----|------|----|-----|-----------|--------------|
| 23        | 7/2/2020  | 43 | 23 | 7 | 12 | 0.05 | 14 | BDL | <b>43</b> | Good         |
| 24        | 7/6/2020  | 44 | 24 | 7 | 12 | 0.05 | 14 | BDL | <b>44</b> | Good         |
| 25        | 7/9/2020  | 41 | 24 | 6 | 12 | 0.05 | 13 | BDL | <b>41</b> | Good         |
| 26        | 7/13/2020 | 39 | 20 | 6 | 11 | 0.06 | 13 | BDL | <b>39</b> | Good         |
| 27        | 7/16/2020 | 44 | 24 | 6 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 28        | 7/20/2020 | 48 | 21 | 6 | 11 | 0.05 | 13 | BDL | <b>48</b> | Good         |
| 29        | 7/23/2020 | 47 | 22 | 6 | 12 | 0.06 | 13 | BDL | <b>47</b> | Good         |
| 30        | 7/27/2020 | 48 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>48</b> | Good         |
| 31        | 7/30/2020 | 47 | 23 | 7 | 12 | 0.04 | 13 | BDL | <b>47</b> | Good         |
| AUGUST    |           |    |    |   |    |      |    |     |           |              |
| 32        | 8/3/2020  | 44 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 33        | 8/6/2020  | 44 | 24 | 7 | 12 | 0.05 | 14 | BDL | <b>44</b> | Good         |
| 34        | 8/10/2020 | 43 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 35        | 8/13/2020 | 47 | 21 | 6 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 36        | 8/17/2020 | 45 | 24 | 6 | 11 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 37        | 8/20/2020 | 46 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 38        | 8/24/2020 | 47 | 22 | 6 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 39        | 8/27/2020 | 46 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 40        | 8/31/2020 | 46 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| SEPTEMBER |           |    |    |   |    |      |    |     |           |              |
| 41        | 9/3/2020  | 51 | 24 | 7 | 12 | 0.06 | 14 | BDL | <b>51</b> | Satisfactory |
| 42        | 9/7/2020  | 52 | 24 | 7 | 12 | 0.05 | 14 | BDL | <b>52</b> | Satisfactory |
| 43        | 9/10/2020 | 45 | 23 | 7 | 12 | 0.06 | 13 | BDL | <b>45</b> | Good         |
| 44        | 9/14/2020 | 48 | 22 | 7 | 12 | 0.05 | 14 | BDL | <b>48</b> | Good         |
| 45        | 9/17/2020 | 46 | 25 | 6 | 12 | 0.06 | 13 | BDL | <b>46</b> | Good         |
| 46        | 9/21/2020 | 47 | 23 | 6 | 11 | 0.06 | 14 | BDL | <b>47</b> | Good         |
| 47        | 9/24/2020 | 47 | 22 | 6 | 11 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 48        | 9/28/2020 | 48 | 23 | 7 | 12 | 0.06 | 14 | BDL | <b>48</b> | Good         |
| OCTOBER   |           |    |    |   |    |      |    |     |           |              |
| 49        | 10/1/2020 | 55 | 32 | 7 | 13 | 0.06 | 13 | BDL | <b>55</b> | Satisfactory |
| 50        | 10/5/2020 | 54 | 30 | 6 | 12 | 0.05 | 13 | BDL | <b>54</b> | Satisfactory |
| 51        | 10/8/2020 | 50 | 32 | 7 | 12 | 0.06 | 13 | BDL | <b>54</b> | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 52       | 10/12/2020 | 52 | 31 | 7  | 13 | 0.06 | 13 | BDL | <b>52</b> | Satisfactory |
| 53       | 10/15/2020 | 50 | 30 | 7  | 12 | 0.05 | 14 | BDL | <b>50</b> | Satisfactory |
| 54       | 10/19/2020 | 53 | 30 | 6  | 12 | 0.06 | 13 | BDL | <b>53</b> | Satisfactory |
| 55       | 10/22/2020 | 60 | 35 | 8  | 13 | 0.06 | 14 | BDL | <b>60</b> | Satisfactory |
| 56       | 10/26/2020 | 57 | 34 | 7  | 13 | 0.06 | 13 | BDL | <b>57</b> | Satisfactory |
| 57       | 10/29/2020 | 58 | 35 | 7  | 12 | 0.05 | 13 | BDL | <b>58</b> | Satisfactory |
| NOVEMBER |            |    |    |    |    |      |    |     |           |              |
| 58       | 11/2/2020  | 78 | 36 | 7  | 13 | 0.07 | 14 | BDL | <b>78</b> | Satisfactory |
| 59       | 11/5/2020  | 66 | 34 | 7  | 13 | 0.05 | 13 | BDL | <b>66</b> | Satisfactory |
| 60       | 11/9/2020  | 63 | 33 | 7  | 12 | 0.06 | 14 | BDL | <b>63</b> | Satisfactory |
| 61       | 11/12/2020 | 55 | 32 | 7  | 13 | 0.06 | 13 | BDL | <b>55</b> | Satisfactory |
| 62       | 11/16/2020 | 78 | 35 | 7  | 13 | 0.07 | 14 | BDL | <b>78</b> | Satisfactory |
| 63       | 11/19/2020 | 65 | 33 | 6  | 12 | 0.06 | 14 | BDL | <b>65</b> | Satisfactory |
| 64       | 11/23/2020 | 64 | 36 | 8  | 13 | 0.06 | 13 | BDL | <b>64</b> | Satisfactory |
| 65       | 11/26/2020 | 74 | 35 | 7  | 13 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 66       | 11/30/2020 | 60 | 34 | 7  | 12 | 0.07 | 14 | BDL | <b>60</b> | Satisfactory |
| DECEMBER |            |    |    |    |    |      |    |     |           |              |
| 67       | 12/3/2020  | 81 | 43 | 7  | 13 | 0.07 | 14 | BDL | <b>81</b> | Satisfactory |
| 68       | 12/7/2020  | 83 | 42 | 9  | 13 | 0.08 | 15 | BDL | <b>83</b> | Satisfactory |
| 69       | 12/10/2020 | 83 | 43 | 9  | 13 | 0.08 | 15 | BDL | <b>83</b> | Satisfactory |
| 70       | 12/14/2020 | 79 | 41 | 9  | 14 | 0.08 | 15 | BDL | <b>79</b> | Satisfactory |
| 71       | 12/17/2020 | 81 | 43 | 8  | 13 | 0.08 | 15 | BDL | <b>81</b> | Satisfactory |
| 72       | 12/21/2020 | 80 | 42 | 10 | 15 | 0.07 | 14 | BDL | <b>80</b> | Satisfactory |
| 73       | 12/24/2020 | 81 | 40 | 8  | 13 | 0.07 | 14 | BDL | <b>81</b> | Satisfactory |
| 74       | 12/28/2020 | 82 | 41 | 8  | 13 | 0.08 | 15 | BDL | <b>82</b> | Satisfactory |
| 75       | 12/31/2020 | 76 | 37 | 7  | 13 | 0.07 | 14 | BDL | <b>76</b> | Satisfactory |
| JANUARY  |            |    |    |    |    |      |    |     |           |              |
| 76       | 1/4/2021   | 78 | 36 | 7  | 14 | 0.07 | 13 | BDL | <b>78</b> | Satisfactory |
| 77       | 1/7/2021   | 70 | 35 | 7  | 13 | 0.06 | 13 | BDL | <b>70</b> | Satisfactory |
| 78       | 1/11/2021  | 72 | 36 | 6  | 13 | 0.07 | 14 | BDL | <b>72</b> | Satisfactory |
| 79       | 1/14/2021  | 74 | 33 | 8  | 13 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 80       | 1/18/2021  | 79 | 35 | 8  | 14 | 0.07 | 14 | BDL | <b>79</b> | Satisfactory |

|          |           |    |    |    |    |      |    |     |           |              |
|----------|-----------|----|----|----|----|------|----|-----|-----------|--------------|
| 81       | 1/21/2021 | 67 | 33 | 6  | 13 | 0.06 | 14 | BDL | <b>67</b> | Satisfactory |
| 82       | 1/25/2021 | 78 | 41 | 9  | 13 | 0.07 | 14 | BDL | <b>78</b> | Satisfactory |
| 83       | 1/28/2021 | 74 | 37 | 7  | 13 | 0.07 | 15 | BDL | <b>74</b> | Satisfactory |
| FEBRUARY |           |    |    |    |    |      |    |     |           |              |
| 84       | 2/1/2021  | 79 | 39 | 8  | 14 | 0.07 | 13 | BDL | <b>79</b> | Satisfactory |
| 85       | 2/4/2021  | 72 | 35 | 8  | 14 | 0.08 | 14 | BDL | <b>72</b> | Satisfactory |
| 86       | 2/8/2021  | 74 | 37 | 8  | 13 | 0.08 | 14 | BDL | <b>74</b> | Satisfactory |
| 87       | 2/11/2021 | 74 | 32 | 8  | 14 | 0.08 | 13 | BDL | <b>74</b> | Satisfactory |
| 88       | 2/15/2021 | 76 | 36 | 9  | 15 | 0.08 | 14 | BDL | <b>76</b> | Satisfactory |
| 89       | 2/18/2021 | 74 | 36 | 8  | 14 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 90       | 2/22/2021 | 74 | 39 | 9  | 13 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 91       | 2/25/2021 | 71 | 34 | 9  | 14 | 0.08 | 13 | BDL | <b>71</b> | Satisfactory |
| MARCH    |           |    |    |    |    |      |    |     |           |              |
| 92       | 3/1/2021  | 82 | 40 | 9  | 15 | 0.08 | 14 | BDL | <b>82</b> | Satisfactory |
| 93       | 3/4/2021  | 72 | 35 | 8  | 14 | 0.08 | 14 | BDL | <b>72</b> | Satisfactory |
| 94       | 3/8/2021  | 83 | 38 | 9  | 14 | 0.09 | 14 | BDL | <b>83</b> | Satisfactory |
| 95       | 3/11/2021 | 79 | 36 | 9  | 14 | 0.09 | 15 | BDL | <b>79</b> | Satisfactory |
| 96       | 3/15/2021 | 80 | 40 | 10 | 15 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| 97       | 3/18/2021 | 72 | 33 | 10 | 15 | 0.07 | 15 | BDL | <b>72</b> | Satisfactory |
| 98       | 3/22/2021 | 79 | 38 | 10 | 14 | 0.09 | 15 | BDL | <b>79</b> | Satisfactory |
| 99       | 3/25/2021 | 83 | 38 | 10 | 14 | 0.09 | 15 | BDL | <b>83</b> | Satisfactory |
| 100      | 3/29/2021 | 79 | 40 | 9  | 14 | 0.09 | 15 | BDL | <b>79</b> | Satisfactory |

## ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021

**Station: Near Ajoba temple, Honda junction**

**City: Honda**

| Sr. No |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
|        | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| APRIL  |             |                                                                      |                   |                 |                 |           |                |           |     |              |
| 1      | 4/21/2020   | 50                                                                   | 22                | 11              | 14              | 0.07      | 15             | BDL       | 50  | Good         |
| 2      | 4/24/2020   | 66                                                                   | 34                | 10              | 13              | 0.07      | 14             | BDL       | 66  | Satisfactory |
| 3      | 4/28/2020   | 68                                                                   | 32                | 10              | 13              | 0.07      | 15             | BDL       | 68  | Satisfactory |
| MAY    |             |                                                                      |                   |                 |                 |           |                |           |     |              |
| 4      | 5/1/2020    | 53                                                                   | 26                | 9               | 13              | 0.06      | 15             | BDL       | 53  | Satisfactory |
| 5      | 5/5/2020    | 86                                                                   | 43                | 10              | 13              | 0.05      | 15             | BDL       | 86  | Satisfactory |
| 6      | 5/8/2020    | 92                                                                   | 44                | 10              | 13              | 0.07      | 14             | BDL       | 92  | Satisfactory |
| 7      | 5/12/2020   | 76                                                                   | 41                | 10              | 14              | 0.06      | 15             | BDL       | 76  | Satisfactory |
| 8      | 5/15/2020   | 81                                                                   | 43                | 11              | 14              | 0.06      | 15             | BDL       | 81  | Satisfactory |
| 9      | 5/19/2020   | 72                                                                   | 37                | 11              | 14              | 0.06      | 15             | BDL       | 72  | Satisfactory |
| 10     | 5/22/2020   | 69                                                                   | 35                | 10              | 14              | 0.06      | 14             | BDL       | 69  | Satisfactory |
| 11     | 5/26/2020   | 71                                                                   | 36                | 10              | 13              | 0.06      | 14             | BDL       | 71  | Satisfactory |
| 12     | 5/28/2020   | 72                                                                   | 37                | 11              | 14              | 0.06      | 15             | BDL       | 72  | Satisfactory |
| JUNE   |             |                                                                      |                   |                 |                 |           |                |           |     |              |
| 13     | 6/2/2020    | 57                                                                   | 30                | 9               | 13              | 0.06      | 14             | BDL       | 57  | Satisfactory |
| 14     | 6/5/2020    | 51                                                                   | 26                | 9               | 12              | 0.05      | 14             | BDL       | 51  | Satisfactory |
| 15     | 6/9/2020    | 50                                                                   | 27                | 9               | 13              | 0.05      | 14             | BDL       | 50  | Satisfactory |
| 16     | 6/12/2020   | 55                                                                   | 29                | 8               | 12              | 0.05      | 14             | BDL       | 55  | Satisfactory |
| 17     | 6/16/2020   | 49                                                                   | 26                | 10              | 13              | 0.06      | 14             | BDL       | 49  | Good         |
| 18     | 6/19/2020   | 51                                                                   | 26                | 8               | 12              | 0.05      | 15             | BDL       | 51  | Satisfactory |
| 19     | 23-26-2020  | 49                                                                   | 24                | 8               | 13              | 0.05      | 15             | BDL       | 49  | Good         |
| 20     | 6/26/2020   | 52                                                                   | 28                | 9               | 13              | 0.06      | 14             | BDL       | 52  | Satisfactory |
| 21     | 6/30/2020   | 51                                                                   | 25                | 7               | 11              | 0.05      | 14             | BDL       | 51  | Satisfactory |



| JULY      |           |    |    |    |    |      |    |     |           |              |
|-----------|-----------|----|----|----|----|------|----|-----|-----------|--------------|
| 22        | 7/3/2020  | 46 | 25 | 6  | 12 | 0.05 | 14 | BDL | <b>46</b> | Good         |
| 23        | 7/7/2020  | 42 | 25 | 9  | 12 | 0.05 | 13 | BDL | <b>42</b> | Good         |
| 24        | 7/10/2020 | 40 | 22 | 9  | 12 | 0.05 | 14 | BDL | <b>40</b> | Good         |
| 25        | 7/14/2020 | 43 | 23 | 8  | 12 | 0.05 | 14 | BDL | <b>43</b> | Good         |
| 26        | 7/17/2020 | 39 | 20 | 10 | 11 | 0.05 | 13 | BDL | <b>39</b> | Good         |
| 27        | 7/21/2020 | 46 | 24 | 8  | 12 | 0.06 | 13 | BDL | <b>46</b> | Good         |
| 28        | 7/24/2020 | 43 | 23 | 8  | 12 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 29        | 7/28/2020 | 45 | 23 | 9  | 12 | 0.05 | 14 | BDL | <b>45</b> | Good         |
| 30        | 7/31/2020 | 47 | 24 | 7  | 12 | 0.06 | 14 | BDL | <b>47</b> | Good         |
| AUGUST    |           |    |    |    |    |      |    |     |           |              |
| 31        | 8/3/2020  | 46 | 24 | 7  | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 32        | 8/7/2020  | 46 | 24 | 6  | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 33        | 8/11/2020 | 44 | 23 | 6  | 12 | 0.05 | 14 | BDL | <b>44</b> | Good         |
| 34        | 8/14/2020 | 45 | 22 | 6  | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 35        | 8/18/2020 | 46 | 22 | 6  | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 36        | 8/21/2020 | 44 | 23 | 6  | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 37        | 8/25/2020 | 46 | 23 | 6  | 11 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 38        | 8/28/2020 | 47 | 24 | 7  | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| SEPTEMBER |           |    |    |    |    |      |    |     |           |              |
| 39        | 9/1/2020  | 47 | 25 | 7  | 12 | 0.05 | 14 | BDL | <b>47</b> | Good         |
| 40        | 9/4/2020  | 46 | 23 | 7  | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 41        | 9/8/2020  | 48 | 24 | 6  | 12 | 0.06 | 14 | BDL | <b>48</b> | Good         |
| 42        | 9/11/2020 | 47 | 22 | 7  | 12 | 0.06 | 14 | BDL | <b>47</b> | Good         |
| 43        | 9/15/2020 | 47 | 23 | 7  | 12 | 0.06 | 14 | BDL | <b>47</b> | Good         |
| 44        | 9/18/2020 | 47 | 23 | 6  | 12 | 0.06 | 13 | BDL | <b>47</b> | Good         |
| 45        | 9/22/2020 | 48 | 23 | 6  | 11 | 0.06 | 14 | BDL | <b>48</b> | Good         |
| 46        | 9/25/2020 | 47 | 24 | 7  | 12 | 0.06 | 14 | BDL | <b>47</b> | Good         |
| 47        | 9/29/2020 | 51 | 25 | 7  | 12 | 0.05 | 14 | BDL | <b>51</b> | Satisfactory |
| OCTOBER   |           |    |    |    |    |      |    |     |           |              |
| 48        | 10/2/2020 | 51 | 32 | 7  | 13 | 0.06 | 14 | BDL | <b>54</b> | Satisfactory |
| 49        | 10/6/2020 | 57 | 33 | 6  | 12 | 0.05 | 13 | BDL | <b>57</b> | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 50       | 10/9/2020  | 52 | 28 | 7  | 13 | 0.06 | 13 | BDL | <b>52</b> | Satisfactory |
| 51       | 10/13/2020 | 48 | 29 | 7  | 12 | 0.05 | 13 | BDL | <b>48</b> | Good         |
| 52       | 10/16/2020 | 48 | 23 | 7  | 12 | 0.06 | 13 | BDL | <b>48</b> | Good         |
| 53       | 10/20/2020 | 55 | 34 | 7  | 12 | 0.06 | 14 | BDL | <b>57</b> | Satisfactory |
| 54       | 10/23/2020 | 56 | 32 | 8  | 13 | 0.06 | 13 | BDL | <b>56</b> | Satisfactory |
| 55       | 10/27/2020 | 58 | 34 | 6  | 13 | 0.06 | 13 | BDL | <b>58</b> | Satisfactory |
| 56       | 10/30/2020 | 59 | 35 | 8  | 13 | 0.06 | 13 | BDL | <b>59</b> | Satisfactory |
| NOVEMBER |            |    |    |    |    |      |    |     |           |              |
| 57       | 11/3/2020  | 75 | 35 | 7  | 13 | 0.07 | 14 | BDL | <b>75</b> | Satisfactory |
| 58       | 11/6/2020  | 79 | 39 | 9  | 14 | 0.07 | 14 | BDL | <b>79</b> | Satisfactory |
| 59       | 11/10/2020 | 81 | 37 | 9  | 14 | 0.07 | 15 | BDL | <b>81</b> | Satisfactory |
| 60       | 11/13/2020 | 61 | 36 | 7  | 12 | 0.06 | 14 | BDL | <b>61</b> | Satisfactory |
| 61       | 11/17/2020 | 64 | 34 | 7  | 12 | 0.06 | 14 | BDL | <b>64</b> | Satisfactory |
| 62       | 11/20/2020 | 59 | 33 | 7  | 13 | 0.06 | 13 | BDL | <b>59</b> | Satisfactory |
| 63       | 11/24/2020 | 75 | 36 | 7  | 12 | 0.07 | 14 | BDL | <b>75</b> | Satisfactory |
| 64       | 11/27/2020 | 77 | 34 | 8  | 12 | 0.07 | 14 | BDL | <b>77</b> | Satisfactory |
| DECEMBER |            |    |    |    |    |      |    |     |           |              |
| 65       | 12/1/2020  | 77 | 35 | 7  | 13 | 0.08 | 14 | BDL | <b>77</b> | Satisfactory |
| 66       | 12/4/2020  | 70 | 34 | 9  | 14 | 0.07 | 14 | BDL | <b>70</b> | Satisfactory |
| 67       | 12/8/2020  | 82 | 43 | 9  | 14 | 0.08 | 15 | BDL | <b>82</b> | Satisfactory |
| 68       | 12/11/2020 | 84 | 40 | 10 | 14 | 0.08 | 15 | BDL | <b>84</b> | Satisfactory |
| 69       | 12/15/2020 | 88 | 43 | 10 | 14 | 0.07 | 14 | BDL | <b>88</b> | Satisfactory |
| 70       | 12/18/2020 | 82 | 41 | 9  | 14 | 0.07 | 14 | BDL | <b>82</b> | Satisfactory |
| 71       | 12/22/2020 | 80 | 44 | 7  | 12 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| 72       | 12/25/2020 | 94 | 46 | 9  | 14 | 0.07 | 15 | BDL | <b>94</b> | Satisfactory |
| 73       | 12/27/2020 | 77 | 34 | 6  | 13 | 0.06 | 13 | BDL | <b>77</b> | Satisfactory |
| JANUARY  |            |    |    |    |    |      |    |     |           |              |
| 74       | 1/1/2021   | 76 | 38 | 7  | 14 | 0.08 | 13 | BDL | <b>76</b> | Satisfactory |
| 75       | 1/5/2021   | 75 | 39 | 9  | 14 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |
| 76       | 1/8/2021   | 74 | 37 | 8  | 14 | 0.07 | 13 | BDL | <b>74</b> | Satisfactory |
| 77       | 1/12/2021  | 75 | 37 | 8  | 13 | 0.07 | 14 | BDL | <b>75</b> | Satisfactory |
| 78       | 1/15/2021  | 76 | 34 | 6  | 13 | 0.07 | 14 | BDL | <b>76</b> | Satisfactory |

|          |           |    |    |   |    |      |    |     |           |              |
|----------|-----------|----|----|---|----|------|----|-----|-----------|--------------|
| 79       | 1/19/2021 | 64 | 33 | 6 | 13 | 0.06 | 13 | BDL | <b>64</b> | Satisfactory |
| 80       | 1/22/2021 | 76 | 35 | 7 | 13 | 0.07 | 14 | BDL | <b>76</b> | Satisfactory |
| 81       | 1/26/2021 | 80 | 40 | 8 | 13 | 0.07 | 14 | BDL | <b>80</b> | Satisfactory |
| 82       | 1/29/2021 | 74 | 33 | 7 | 14 | 0.06 | 13 | BDL | <b>74</b> | Satisfactory |
| FEBRUARY |           |    |    |   |    |      |    |     |           |              |
| 83       | 2/2/2021  | 79 | 39 | 8 | 14 | 0.08 | 14 | BDL | <b>79</b> | Satisfactory |
| 84       | 2/5/2021  | 83 | 40 | 8 | 15 | 0.08 | 14 | BDL | <b>83</b> | Satisfactory |
| 85       | 2/9/2021  | 82 | 41 | 8 | 15 | 0.08 | 14 | BDL | <b>82</b> | Satisfactory |
| 86       | 2/12/2021 | 75 | 35 | 8 | 13 | 0.07 | 14 | BDL | <b>75</b> | Satisfactory |
| 87       | 2/16/2021 | 77 | 38 | 8 | 14 | 0.07 | 14 | BDL | <b>77</b> | Satisfactory |
| 88       | 2/19/2021 | 65 | 32 | 9 | 14 | 0.07 | 14 | BDL | <b>65</b> | Satisfactory |
| 89       | 2/23/2021 | 74 | 35 | 7 | 13 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 90       | 2/26/2021 | 80 | 39 | 8 | 13 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| MARCH    |           |    |    |   |    |      |    |     |           |              |
| 91       | 3/2/2021  | 82 | 40 | 8 | 14 | 0.08 | 14 | BDL | <b>82</b> | Satisfactory |
| 92       | 3/5/2021  | 86 | 41 | 9 | 15 | 0.08 | 15 | BDL | <b>86</b> | Satisfactory |
| 93       | 3/9/2021  | 76 | 39 | 8 | 15 | 0.08 | 14 | BDL | <b>76</b> | Satisfactory |
| 94       | 3/12/2021 | 75 | 35 | 8 | 15 | 0.09 | 14 | BDL | <b>75</b> | Satisfactory |
| 95       | 3/16/2021 | 76 | 36 | 9 | 15 | 0.09 | 15 | BDL | <b>76</b> | Satisfactory |
| 96       | 3/19/2021 | 78 | 38 | 9 | 15 | 0.09 | 15 | BDL | <b>78</b> | Satisfactory |
| 97       | 3/23/2021 | 78 | 36 | 9 | 13 | 0.09 | 15 | BDL | <b>78</b> | Satisfactory |
| 98       | 3/26/2021 | 76 | 38 | 9 | 13 | 0.09 | 15 | BDL | <b>76</b> | Satisfactory |
| 99       | 3/30/2021 | 76 | 40 | 9 | 13 | 0.09 | 15 | BDL | <b>76</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |             |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-------------|--------------|
| Station: Residence of J. Natekar, Usgao Junction               |             |                                                                      |                   |                 |                 |           |                |           | City: Usgao |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI         | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |             |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |             |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |             |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |             |              |
| 1                                                              | 16/04/2020  | 58                                                                   | 30                | 10              | 14              | 0.05      | 10             | BDL       | 58          | Satisfactory |
| 2                                                              | 21/04/2020  | 44                                                                   | 25                | 10              | 14              | 0.05      | 14             | BDL       | 44          | Good         |
| 3                                                              | 24/04/2020  | 47                                                                   | 27                | 11              | 14              | 0.06      | 15             | BDL       | 47          | Good         |
| 4                                                              | 28/04/2020  | 62                                                                   | 30                | 10              | 14              | 0.07      | 14             | BDL       | 62          | Satisfactory |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |             |              |
| 5                                                              | 01/05/2020  | 53                                                                   | 27                | 9               | 13              | 0.05      | 14             | BDL       | 53          | Satisfactory |
| 6                                                              | 05/05/2020  | 84                                                                   | 41                | 10              | 14              | 0.05      | 15             | BDL       | 84          | Satisfactory |
| 7                                                              | 08/05/2020  | 65                                                                   | 35                | 9               | 13              | 0.05      | 15             | BDL       | 65          | Satisfactory |
| 8                                                              | 12/05/2020  | 70                                                                   | 38                | 9               | 13              | 0.05      | 15             | BDL       | 70          | Satisfactory |
| 9                                                              | 15/05/2020  | 67                                                                   | 35                | 10              | 13              | 0.06      | 13             | BDL       | 67          | Satisfactory |
| 10                                                             | 19/05/2020  | 71                                                                   | 37                | 10              | 13              | 0.05      | 14             | BDL       | 71          | Satisfactory |
| 11                                                             | 22/05/2020  | 66                                                                   | 37                | 10              | 13              | 0.06      | 15             | BDL       | 66          | Satisfactory |
| 12                                                             | 26/05/2020  | 71                                                                   | 36                | 10              | 14              | 0.06      | 15             | BDL       | 71          | Satisfactory |
| 13                                                             | 29/05/2020  | 73                                                                   | 38                | 10              | 13              | 0.07      | 14             | BDL       | 73          | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |             |              |
| 14                                                             | 03/06/2020  | 54                                                                   | 27                | 8               | 12              | 0.05      | 13             | BDL       | 54          | Satisfactory |
| 15                                                             | 05/06/2020  | 58                                                                   | 30                | 9               | 13              | 0.05      | 15             | BDL       | 58          | Satisfactory |
| 16                                                             | 09/06/2020  | 56                                                                   | 28                | 8               | 12              | 0.05      | 14             | BDL       | 56          | Satisfactory |
| 17                                                             | 12/06/2020  | 62                                                                   | 33                | 9               | 13              | 0.06      | 15             | BDL       | 62          | Satisfactory |
| 18                                                             | 17/06/2020  | 53                                                                   | 27                | 9               | 12              | 0.05      | 14             | BDL       | 53          | Satisfactory |
| 19                                                             | 19/06/2020  | 48                                                                   | 24                | 8               | 12              | 0.05      | 15             | BDL       | 48          | Good         |
| 20                                                             | 23/06/2020  | 45                                                                   | 25                | 9               | 13              | 0.06      | 14             | BDL       | 45          | Good         |
| 21                                                             | 26/06/2020  | 48                                                                   | 24                | 8               | 12              | 0.06      | 15             | BDL       | 48          | Good         |

|           |            |    |    |   |    |      |    |     |    |              |
|-----------|------------|----|----|---|----|------|----|-----|----|--------------|
| 22        | 30/06/2020 | 49 | 25 | 9 | 11 | 0.05 | 14 | BDL | 49 | Good         |
| JULY      |            |    |    |   |    |      |    |     |    |              |
| 23        | 03/07/2020 | 48 | 24 | 7 | 12 | 0.06 | 14 | BDL | 48 | Good         |
| 24        | 07/07/2020 | 47 | 27 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 25        | 10/07/2020 | 43 | 23 | 6 | 12 | 0.05 | 14 | BDL | 43 | Good         |
| 26        | 14/07/2020 | 45 | 24 | 7 | 12 | 0.06 | 14 | BDL | 45 | Good         |
| 27        | 17/07/2020 | 46 | 24 | 6 | 11 | 0.05 | 14 | BDL | 46 | Good         |
| 28        | 21/07/2020 | 46 | 24 | 6 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| 29        | 24/07/2020 | 45 | 23 | 7 | 12 | 0.06 | 14 | BDL | 45 | Good         |
| 30        | 28/07/2020 | 44 | 24 | 6 | 12 | 0.05 | 13 | BDL | 44 | Good         |
| 31        | 31/07/2020 | 47 | 24 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| AUGUST    |            |    |    |   |    |      |    |     |    |              |
| 32        | 04/08/2020 | 46 | 23 | 7 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| 33        | 07/08/2020 | 48 | 23 | 7 | 12 | 0.05 | 13 | BDL | 48 | Good         |
| 34        | 11/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 35        | 14/08/2020 | 46 | 24 | 7 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| 36        | 18/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 37        | 20/08/2020 | 45 | 23 | 7 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 38        | 25/08/2020 | 45 | 23 | 7 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 39        | 28/08/2020 | 46 | 24 | 6 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| SEPTEMBER |            |    |    |   |    |      |    |     |    |              |
| 40        | 01/09/2020 | 51 | 24 | 7 | 12 | 0.06 | 15 | BDL | 51 | Satisfactory |
| 41        | 04/09/2020 | 51 | 23 | 7 | 12 | 0.05 | 13 | BDL | 51 | Satisfactory |
| 42        | 09/09/2020 | 46 | 23 | 7 | 12 | 0.06 | 14 | BDL | 46 | Good         |
| 43        | 12/09/2020 | 49 | 24 | 7 | 12 | 0.06 | 14 | BDL | 49 | Good         |
| 44        | 15/09/2020 | 48 | 23 | 7 | 12 | 0.06 | 14 | BDL | 48 | Good         |
| 45        | 18/09/2020 | 51 | 24 | 7 | 12 | 0.06 | 14 | BDL | 51 | Satisfactory |
| 46        | 22/09/2020 | 49 | 24 | 6 | 12 | 0.05 | 13 | BDL | 49 | Good         |
| 47        | 25/09/2020 | 47 | 24 | 6 | 12 | 0.06 | 14 | BDL | 47 | Good         |
| 48        | 29/09/2020 | 53 | 24 | 7 | 12 | 0.06 | 14 | BDL | 53 | Satisfactory |
| OCTOBER   |            |    |    |   |    |      |    |     |    |              |
| 49        | 02/10/2020 | 54 | 31 | 7 | 13 | 0.06 | 14 | BDL | 54 | Satisfactory |
| 50        | 06/10/2020 | 57 | 33 | 7 | 13 | 0.06 | 13 | BDL | 57 | Satisfactory |

|          |            |     |    |    |    |      |    |     |            |              |
|----------|------------|-----|----|----|----|------|----|-----|------------|--------------|
| 51       | 09/10/2020 | 52  | 31 | 7  | 13 | 0.05 | 13 | BDL | <b>52</b>  | Satisfactory |
| 52       | 13/10/2020 | 51  | 31 | 8  | 13 | 0.06 | 13 | BDL | <b>51</b>  | Satisfactory |
| 53       | 16/10/2020 | 55  | 32 | 7  | 13 | 0.06 | 13 | BDL | <b>55</b>  | Satisfactory |
| 54       | 20/10/2020 | 52  | 32 | 7  | 13 | 0.06 | 13 | BDL | <b>53</b>  | Satisfactory |
| 55       | 23/10/2020 | 60  | 32 | 7  | 12 | 0.06 | 13 | BDL | <b>60</b>  | Satisfactory |
| 56       | 27/10/2020 | 55  | 32 | 7  | 13 | 0.06 | 13 | BDL | <b>55</b>  | Satisfactory |
| 57       | 30/10/2020 | 59  | 34 | 8  | 13 | 0.05 | 14 | BDL | <b>59</b>  | Satisfactory |
| NOVEMBER |            |     |    |    |    |      |    |     |            |              |
| 58       | 04/11/2020 | 76  | 33 | 8  | 13 | 0.06 | 14 | BDL | <b>76</b>  | Satisfactory |
| 59       | 06/11/2020 | 81  | 35 | 8  | 13 | 0.07 | 14 | BDL | <b>81</b>  | Satisfactory |
| 60       | 10/11/2020 | 80  | 35 | 8  | 13 | 0.07 | 14 | BDL | <b>80</b>  | Satisfactory |
| 61       | 13/11/2020 | 75  | 37 | 8  | 13 | 0.07 | 14 | BDL | <b>75</b>  | Satisfactory |
| 62       | 17/11/2020 | 83  | 37 | 8  | 13 | 0.06 | 14 | BDL | <b>83</b>  | Satisfactory |
| 63       | 20/11/2020 | 73  | 36 | 7  | 12 | 0.06 | 14 | BDL | <b>73</b>  | Satisfactory |
| 64       | 24/11/2020 | 83  | 34 | 7  | 13 | 0.06 | 14 | BDL | <b>83</b>  | Satisfactory |
| 65       | 27/11/2020 | 75  | 37 | 7  | 13 | 0.06 | 13 | BDL | <b>75</b>  | Satisfactory |
| DECEMBER |            |     |    |    |    |      |    |     |            |              |
| 66       | 01/12/2020 | 82  | 42 | 7  | 13 | 0.07 | 14 | BDL | <b>82</b>  | Satisfactory |
| 67       | 05/12/2020 | 87  | 47 | 8  | 14 | 0.08 | 14 | BDL | <b>87</b>  | Satisfactory |
| 68       | 08/12/2020 | 102 | 50 | 10 | 14 | 0.08 | 15 | BDL | <b>101</b> | Moderate     |
| 69       | 11/12/2020 | 104 | 45 | 10 | 15 | 0.07 | 15 | BDL | <b>103</b> | Moderate     |
| 70       | 15/12/2020 | 87  | 43 | 10 | 14 | 0.08 | 15 | BDL | <b>87</b>  | Satisfactory |
| 71       | 18/12/2020 | 86  | 42 | 10 | 15 | 0.07 | 14 | BDL | <b>86</b>  | Satisfactory |
| 72       | 23/12/2020 | 99  | 49 | 9  | 14 | 0.08 | 15 | BDL | <b>99</b>  | Satisfactory |
| 73       | 25/12/2020 | 103 | 50 | 10 | 14 | 0.08 | 15 | BDL | <b>102</b> | Moderate     |
| 74       | 29/12/2020 | 82  | 41 | 8  | 13 | 0.06 | 14 | BDL | <b>82</b>  | Satisfactory |
| JANUARY  |            |     |    |    |    |      |    |     |            |              |
| 75       | 01/01/2021 | 78  | 37 | 7  | 14 | 0.07 | 13 | BDL | <b>78</b>  | Satisfactory |
| 76       | 05/01/2021 | 84  | 38 | 7  | 14 | 0.07 | 13 | BDL | <b>84</b>  | Satisfactory |
| 77       | 08/01/2021 | 74  | 36 | 8  | 13 | 0.06 | 13 | BDL | <b>74</b>  | Satisfactory |
| 78       | 12/01/2021 | 78  | 37 | 7  | 13 | 0.06 | 13 | BDL | <b>78</b>  | Satisfactory |
| 79       | 15/01/2021 | 71  | 37 | 6  | 13 | 0.06 | 13 | BDL | <b>71</b>  | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 80       | 20/01/2021 | 71 | 35 | 7  | 14 | 0.07 | 14 | BDL | <b>71</b> | Satisfactory |
| 81       | 22/01/2021 | 70 | 37 | 8  | 13 | 0.07 | 14 | BDL | <b>70</b> | Satisfactory |
| 82       | 26/01/2021 | 76 | 34 | 7  | 13 | 0.06 | 14 | BDL | <b>76</b> | Satisfactory |
| 83       | 29/01/2021 | 81 | 40 | 7  | 14 | 0.06 | 13 | BDL | <b>81</b> | Satisfactory |
| FEBRUARY |            |    |    |    |    |      |    |     |           |              |
| 84       | 02/02/2021 | 86 | 40 | 9  | 14 | 0.08 | 14 | BDL | <b>86</b> | Satisfactory |
| 85       | 05/02/2021 | 86 | 41 | 8  | 14 | 0.08 | 14 | BDL | <b>86</b> | Satisfactory |
| 86       | 09/02/2021 | 81 | 40 | 8  | 14 | 0.07 | 14 | BDL | <b>81</b> | Satisfactory |
| 87       | 12/02/2021 | 81 | 39 | 8  | 13 | 0.07 | 13 | BDL | <b>81</b> | Satisfactory |
| 88       | 16/02/2021 | 80 | 37 | 8  | 14 | 0.07 | 13 | BDL | <b>80</b> | Satisfactory |
| 89       | 19/02/2021 | 71 | 34 | 8  | 14 | 0.08 | 14 | BDL | <b>71</b> | Satisfactory |
| 90       | 23/02/2021 | 77 | 37 | 8  | 15 | 0.08 | 14 | BDL | <b>77</b> | Satisfactory |
| 91       | 26/02/2021 | 81 | 40 | 10 | 14 | 0.09 | 14 | BDL | <b>81</b> | Satisfactory |
| MARCH    |            |    |    |    |    |      |    |     |           |              |
| 92       | 02/03/2021 | 85 | 40 | 9  | 14 | 0.09 | 14 | BDL | <b>85</b> | Satisfactory |
| 93       | 05/03/2021 | 87 | 41 | 8  | 14 | 0.09 | 15 | BDL | <b>87</b> | Satisfactory |
| 94       | 09/03/2021 | 77 | 38 | 9  | 15 | 0.09 | 15 | BDL | <b>77</b> | Satisfactory |
| 95       | 12/03/2021 | 79 | 36 | 8  | 14 | 0.08 | 14 | BDL | <b>79</b> | Satisfactory |
| 96       | 16/03/2021 | 83 | 40 | 10 | 14 | 0.08 | 14 | BDL | <b>83</b> | Satisfactory |
| 97       | 19/03/2021 | 79 | 37 | 9  | 15 | 0.09 | 15 | BDL | <b>79</b> | Satisfactory |
| 98       | 23/03/2021 | 84 | 41 | 10 | 14 | 0.08 | 15 | BDL | <b>84</b> | Satisfactory |
| 99       | 26/03/2021 | 81 | 40 | 10 | 14 | 0.09 | 15 | BDL | <b>81</b> | Satisfactory |
| 100      | 31/03/2021 | 83 | 41 | 10 | 14 | 0.09 | 15 | BDL | <b>83</b> | Satisfactory |



| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |             |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-------------|--------------|
| Station: Premises of Somnath English High School               |             |                                                                      |                   |                 |                 |           |                |           | City: Codli |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI         | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |             |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |             |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |             |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |             |              |
| 1                                                              | 18/04/2020  | 40                                                                   | 35                | 11              | 14              | 0.06      | 15             | BDL       | 58          | Satisfactory |
| 2                                                              | 22/04/2020  | 50                                                                   | 23                | 11              | 14              | 0.06      | 14             | BDL       | 50          | Satisfactory |
| 3                                                              | 25/04/2020  | 52                                                                   | 22                | 11              | 13              | 0.06      | 13             | BDL       | 52          | Satisfactory |
| 4                                                              | 29/04/2020  | 47                                                                   | 31                | 9               | 12              | 0.06      | 14             | BDL       | 52          | Satisfactory |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |             |              |
| 5                                                              | 02/05/2020  | 51                                                                   | 32                | 8               | 12              | 0.05      | 14             | BDL       | 53          | Satisfactory |
| 6                                                              | 06/05/2020  | 41                                                                   | 28                | 8               | 12              | 0.05      | 14             | BDL       | 47          | Good         |
| 7                                                              | 09/05/2020  | 55                                                                   | 27                | 8               | 12              | 0.07      | 15             | BDL       | 55          | Satisfactory |
| 8                                                              | 13/05/2020  | 51                                                                   | 27                | 9               | 12              | 0.06      | 14             | BDL       | 51          | Satisfactory |
| 9                                                              | 17/05/2020  | 62                                                                   | 33                | 10              | 13              | 0.07      | 14             | BDL       | 62          | Satisfactory |
| 10                                                             | 20/05/2020  | 62                                                                   | 32                | 10              | 13              | 0.05      | 15             | BDL       | 62          | Satisfactory |
| 11                                                             | 23/05/2020  | 65                                                                   | 33                | 10              | 13              | 0.06      | 14..46         | BDL       | 65          | Satisfactory |
| 12                                                             | 27/05/2020  | 68                                                                   | 35                | 10              | 13              | 0.06      | 15             | BDL       | 68          | Satisfactory |
| 13                                                             | 30/05/2020  | 64                                                                   | 33                | 10              | 13              | 0.60      | 15             | BDL       | 64          | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |             |              |
| 14                                                             | 03/06/2020  | 48                                                                   | 26                | 8               | 12              | 0.05      | 14             | BDL       | 48          | Good         |
| 15                                                             | 06/06/2020  | 46                                                                   | 23                | 8               | 12              | 0.05      | 13             | BDL       | 46          | Good         |
| 16                                                             | 10/06/2020  | 49                                                                   | 27                | 8               | 12              | 0.06      | 15             | BDL       | 49          | Good         |
| 17                                                             | 13/06/2020  | 42                                                                   | 24                | 7               | 12              | 0.05      | 13             | BDL       | 42          | Good         |
| 18                                                             | 17/06/2020  | 50                                                                   | 25                | 8               | 12              | 0.05      | 14             | BDL       | 50          | Satisfactory |
| 19                                                             | 20/06/2020  | 41                                                                   | 21                | 7               | 12              | 0.05      | 14             | BDL       | 41          | Good         |
| 20                                                             | 24/06/2020  | 43                                                                   | 20                | 8               | 12              | 0.05      | 15             | BDL       | 43          | Good         |
| 21                                                             | 27/06/2020  | 47                                                                   | 25                | 7               | 11              | 0.05      | 14             | BDL       | 47          | Good         |

| JULY      |            |    |    |   |    |      |    |     |           |              |
|-----------|------------|----|----|---|----|------|----|-----|-----------|--------------|
| 22        | 01/07/2020 | 43 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 23        | 04/07/2020 | 43 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 24        | 08/07/2020 | 38 | 23 | 6 | 12 | 0.06 | 13 | BDL | <b>38</b> | Good         |
| 25        | 11/07/2020 | 44 | 22 | 7 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 26        | 15/07/2020 | 39 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>39</b> | Good         |
| 27        | 18/07/2020 | 43 | 22 | 6 | 11 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 28        | 22/07/2020 | 45 | 20 | 7 | 12 | 0.06 | 14 | BDL | <b>45</b> | Good         |
| 29        | 25/07/2020 | 49 | 25 | 6 | 12 | 0.05 | 14 | BDL | <b>49</b> | Good         |
| 30        | 29/07/2020 | 48 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>48</b> | Good         |
| AUGUST    |            |    |    |   |    |      |    |     |           |              |
| 31        | 01/08/2020 | 47 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 32        | 05/08/2020 | 49 | 24 | 6 | 11 | 0.05 | 13 | BDL | <b>49</b> | Good         |
| 33        | 08/08/2020 | 45 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 34        | 12/08/2020 | 44 | 22 | 7 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 35        | 15/08/2020 | 44 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 36        | 19/08/2020 | 44 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 37        | 21/08/2020 | 43 | 21 | 6 | 11 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 38        | 26/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 39        | 29/08/2020 | 44 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| SEPTEMBER |            |    |    |   |    |      |    |     |           |              |
| 40        | 03/09/2020 | 49 | 25 | 7 | 12 | 0.06 | 14 | BDL | <b>49</b> | Good         |
| 41        | 05/09/2020 | 47 | 24 | 7 | 11 | 0.05 | 14 | BDL | <b>47</b> | Good         |
| 42        | 09/09/2020 | 45 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 43        | 12/09/2020 | 44 | 22 | 7 | 12 | 0.06 | 14 | BDL | <b>44</b> | Good         |
| 44        | 16/09/2020 | 46 | 23 | 6 | 11 | 0.06 | 13 | BDL | <b>46</b> | Good         |
| 45        | 19/09/2020 | 46 | 23 | 6 | 11 | 0.05 | 14 | BDL | <b>46</b> | Good         |
| 46        | 23/09/2020 | 45 | 22 | 6 | 11 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 47        | 26/09/2020 | 47 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 48        | 30/09/2020 | 44 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| OCTOBER   |            |    |    |   |    |      |    |     |           |              |
| 49        | 03/10/2020 | 48 | 26 | 7 | 12 | 0.06 | 13 | BDL | <b>48</b> | Good         |
| 50        | 07/10/2020 | 50 | 30 | 7 | 12 | 0.06 | 13 | BDL | <b>51</b> | Satisfactory |

|          |            |            |           |    |    |      |    |     |            |              |
|----------|------------|------------|-----------|----|----|------|----|-----|------------|--------------|
| 51       | 10/10/2020 | 49         | 28        | 7  | 12 | 0.05 | 13 | BDL | <b>49</b>  | Good         |
| 52       | 14/10/2020 | 48         | 28        | 7  | 13 | 0.06 | 14 | BDL | <b>48</b>  | Good         |
| 53       | 17/10/2020 | 47         | 29        | 6  | 11 | 0.06 | 13 | BDL | <b>49</b>  | Good         |
| 54       | 21/10/2020 | 54         | <b>65</b> | 7  | 12 | 0.05 | 13 | BDL | <b>117</b> | Moderate     |
| 55       | 24/10/2020 | 51         | 28        | 6  | 12 | 0.06 | 13 | BDL | <b>51</b>  | Satisfactory |
| 56       | 28/10/2020 | 52         | 32        | 7  | 13 | 0.05 | 13 | BDL | <b>53</b>  | Satisfactory |
| 57       | 31/10/2020 | 58         | 34        | 7  | 12 | 0.05 | 13 | BDL | <b>58</b>  | Satisfactory |
| NOVEMBER |            |            |           |    |    |      |    |     |            |              |
| 58       | 04/11/2020 | 55         | 33        | 6  | 12 | 0.07 | 14 | BDL | <b>55</b>  | Satisfactory |
| 59       | 07/11/2020 | 54         | 5         | 7  | 12 | 0.06 | 13 | BDL | <b>54</b>  | Satisfactory |
| 60       | 11/11/2020 | 56         | 30        | 7  | 11 | 0.05 | 14 | BDL | <b>56</b>  | Satisfactory |
| 61       | 14/11/2020 | 60         | 35        | 7  | 13 | 0.06 | 14 | BDL | <b>60</b>  | Satisfactory |
| 62       | 18/11/2020 | 62         | 33        | 6  | 12 | 0.07 | 14 | BDL | <b>62</b>  | Satisfactory |
| 63       | 21/11/2020 | 68         | 33        | 7  | 12 | 0.06 | 14 | BDL | <b>68</b>  | Satisfactory |
| 64       | 25/11/2020 | 74         | 34        | 8  | 12 | 0.07 | 14 | BDL | <b>74</b>  | Satisfactory |
| 65       | 28/11/2020 | 70         | 34        | 8  | 13 | 0.07 | 14 | BDL | <b>70</b>  | Satisfactory |
| DECEMBER |            |            |           |    |    |      |    |     |            |              |
| 66       | 02/12/2020 | 84         | 43        | 10 | 13 | 0.08 | 14 | BDL | <b>84</b>  | Satisfactory |
| 67       | 05/12/2020 | 86         | 44        | 8  | 13 | 0.08 | 14 | BDL | <b>86</b>  | Satisfactory |
| 68       | 09/12/2020 | <b>103</b> | 50        | 10 | 15 | 0.07 | 15 | BDL | <b>102</b> | Moderate     |
| 69       | 12/12/2020 | <b>102</b> | 47        | 10 | 14 | 0.08 | 15 | BDL | <b>101</b> | Moderate     |
| 70       | 16/12/2020 | 87         | 44        | 9  | 14 | 0.07 | 14 | BDL | <b>87</b>  | Satisfactory |
| 71       | 19/12/2020 | 86         | 44        | 9  | 14 | 0.08 | 16 | BDL | <b>86</b>  | Satisfactory |
| 72       | 23/12/2020 | 94         | 44        | 9  | 14 | 0.08 | 15 | BDL | <b>94</b>  | Satisfactory |
| 73       | 26/12/2020 | 81         | 40        | 8  | 13 | 0.08 | 15 | BDL | <b>81</b>  | Satisfactory |
| 74       | 30/12/2020 | 74         | 33        | 9  | 13 | 0.08 | 16 | BDL | <b>74</b>  | Satisfactory |
| JANUARY  |            |            |           |    |    |      |    |     |            |              |
| 75       | 02/01/2021 | 81         | 40        | 6  | 13 | 0.08 | 13 | BDL | <b>81</b>  | Satisfactory |
| 76       | 06/01/2021 | 66         | 34        | 7  | 13 | 0.06 | 13 | BDL | <b>66</b>  | Satisfactory |
| 77       | 09/01/2021 | 62         | 30        | 7  | 12 | 0.07 | 14 | BDL | <b>62</b>  | Satisfactory |
| 78       | 13/01/2021 | 73         | 35        | 6  | 13 | 0.07 | 13 | BDL | <b>73</b>  | Satisfactory |
| 79       | 16/01/2021 | 76         | 34        | 6  | 13 | 0.07 | 14 | BDL | <b>76</b>  | Satisfactory |
| 80       | 21/01/2021 | 77         | 39        | 6  | 13 | 0.07 | 13 | BDL | <b>77</b>  | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 81       | 23/01/2021 | 82 | 41 | 7  | 13 | 0.08 | 14 | BDL | <b>82</b> | Satisfactory |
| 82       | 27/01/2021 | 76 | 37 | 6  | 13 | 0.06 | 14 | BDL | <b>76</b> | Satisfactory |
| 83       | 30/01/2021 | 69 | 34 | 7  | 13 | 0.06 | 14 | BDL | <b>69</b> | Satisfactory |
| FEBRUARY |            |    |    |    |    |      |    |     |           |              |
| 84       | 03/02/2021 | 84 | 42 | 9  | 13 | 0.08 | 13 | BDL | <b>84</b> | Satisfactory |
| 85       | 06/02/2021 | 84 | 39 | 9  | 14 | 0.08 | 14 | BDL | <b>84</b> | Satisfactory |
| 86       | 10/02/2021 | 89 | 46 | 7  | 13 | 0.07 | 14 | BDL | <b>89</b> | Satisfactory |
| 87       | 13/02/2021 | 83 | 41 | 7  | 14 | 0.08 | 13 | BDL | <b>83</b> | Satisfactory |
| 88       | 17/02/2021 | 75 | 34 | 9  | 15 | 0.07 | 16 | BDL | <b>75</b> | Satisfactory |
| 89       | 20/02/2021 | 84 | 41 | 9  | 15 | 0.08 | 14 | BDL | <b>84</b> | Satisfactory |
| 90       | 24/02/2021 | 82 | 40 | 10 | 15 | 0.08 | 14 | BDL | <b>82</b> | Satisfactory |
| 91       | 27/02/2021 | 76 | 37 | 9  | 15 | 0.08 | 15 | BDL | <b>76</b> | Satisfactory |
| MARCH    |            |    |    |    |    |      |    |     |           |              |
| 92       | 03/03/2021 | 85 | 42 | 9  | 14 | 0.09 | 14 | BDL | <b>85</b> | Satisfactory |
| 93       | 06/03/2021 | 85 | 41 | 9  | 15 | 0.09 | 14 | BDL | <b>85</b> | Satisfactory |
| 94       | 10/03/2021 | 84 | 42 | 8  | 13 | 0.08 | 13 | BDL | <b>84</b> | Satisfactory |
| 95       | 13/03/2021 | 82 | 44 | 8  | 14 | 0.08 | 14 | BDL | <b>82</b> | Satisfactory |
| 96       | 17/03/2021 | 78 | 39 | 10 | 16 | 0.08 | 14 | BDL | <b>78</b> | Satisfactory |
| 97       | 20/03/2021 | 87 | 42 | 10 | 16 | 0.09 | 14 | BDL | <b>87</b> | Satisfactory |
| 98       | 24/03/2021 | 85 | 39 | 9  | 15 | 0.08 | 15 | BDL | <b>85</b> | Satisfactory |
| 99       | 27/03/2021 | 86 | 43 | 9  | 15 | 0.09 | 14 | BDL | <b>86</b> | Satisfactory |
| 100      | 31/03/2021 | 80 | 42 | 8  | 14 | 0.09 | 14 | BDL | <b>80</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |               |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|---------------|--------------|
| Station: Rooftop of PWD Office, Near Bus Stand                 |             |                                                                      |                   |                 |                 |           |                |           | City: Sanguem |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI           | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |               |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |               |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |               |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 1                                                              | 22/04/2020  | 47                                                                   | 20                | 10              | 13              | 0.06      | 14             | BDL       | 47            | Good         |
| 2                                                              | 25/04/2020  | 44                                                                   | 27                | 10              | 14              | 0.07      | 14             | BDL       | 44            | Good         |
| 3                                                              | 29/04/2020  | 44                                                                   | 22                | 10              | 14              | 0.06      | 13             | BDL       | 44            | Good         |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 4                                                              | 02/05/2020  | 52                                                                   | 32                | 9               | 13              | 0.06      | 14             | BDL       | 53            | Satisfactory |
| 5                                                              | 06/05/2020  | 56                                                                   | 32                | 8               | 12              | 0.06      | 16             | BDL       | 56            | Satisfactory |
| 6                                                              | 09/05/2020  | 62                                                                   | 34                | 8               | 12              | 0.05      | 15             | BDL       | 62            | Satisfactory |
| 7                                                              | 13/05/2020  | 65                                                                   | 34                | 10              | 13              | 0.05      | 14             | BDL       | 65            | Satisfactory |
| 8                                                              | 15/05/2020  | 57                                                                   | 30                | 10              | 13              | 0.07      | 14             | BDL       | 57            | Satisfactory |
| 9                                                              | 20/05/2020  | 60                                                                   | 31                | 10              | 13              | 0.06      | 14             | BDL       | 60            | Satisfactory |
| 10                                                             | 23/05/2020  | 61                                                                   | 31                | 10              | 14              | 0.06      | 14             | BDL       | 61            | Satisfactory |
| 11                                                             | 27/05/2020  | 60                                                                   | 32                | 10              | 14              | 0.07      | 14             | BDL       | 60            | Satisfactory |
| 12                                                             | 30/05/2020  | 64                                                                   | 33                | 10              | 13              | 0.06      | 15             | BDL       | 64            | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 13                                                             | 03/06/2020  | 53                                                                   | 25                | 8               | 12              | 0.05      | 14             | BDL       | 53            | Satisfactory |
| 14                                                             | 06/06/2020  | 53                                                                   | 28                | 9               | 13              | 0.05      | 15             | BDL       | 53            | Satisfactory |
| 15                                                             | 10/06/2020  | 50                                                                   | 26                | 9               | 13              | 0.05      | 14             | BDL       | 50            | Satisfactory |
| 16                                                             | 13/06/2020  | 54                                                                   | 29                | 8               | 12              | 0.06      | 15             | BDL       | 54            | Satisfactory |
| 17                                                             | 17/06/2020  | 49                                                                   | 25                | 9               | 12              | 0.05      | 14             | BDL       | 49            | Good         |
| 18                                                             | 20/06/2020  | 45                                                                   | 24                | 8               | 12              | 0.05      | 14             | BDL       | 45            | Good         |
| 19                                                             | 24/06/2020  | 44                                                                   | 24                | 9               | 13              | 0.05      | 15             | BDL       | 44            | Good         |
| 20                                                             | 27/06/2020  | 45                                                                   | 22                | 8               | 13              | 0.06      | 14             | BDL       | 45            | Good         |
| JULY                                                           |             |                                                                      |                   |                 |                 |           |                |           |               |              |

|           |            |    |    |   |    |      |    |     |           |              |
|-----------|------------|----|----|---|----|------|----|-----|-----------|--------------|
| 21        | 01/07/2020 | 51 | 27 | 7 | 12 | 0.05 | 13 | BDL | <b>51</b> | Satisfactory |
| 22        | 04/07/2020 | 49 | 25 | 8 | 13 | 0.05 | 14 | BDL | <b>49</b> | Good         |
| 23        | 08/07/2020 | 43 | 24 | 7 | 12 | 0.05 | 14 | BDL | <b>43</b> | Good         |
| 24        | 11/07/2020 | 43 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 25        | 15/07/2020 | 44 | 25 | 7 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 26        | 18/07/2020 | 38 | 20 | 6 | 11 | 0.05 | 13 | BDL | <b>38</b> | Good         |
| 27        | 22/07/2020 | 40 | 22 | 7 | 12 | 0.05 | 13 | BDL | <b>40</b> | Good         |
| 28        | 25/07/2020 | 45 | 22 | 6 | 12 | 0.06 | 14 | BDL | <b>45</b> | Good         |
| 29        | 29/07/2020 | 46 | 24 | 6 | 11 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| AUGUST    |            |    |    |   |    |      |    |     |           |              |
| 30        | 01/08/2020 | 47 | 24 | 6 | 12 | 0.05 | 13 | BDL | <b>47</b> | Good         |
| 31        | 05/08/2020 | 44 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 32        | 08/08/2020 | 46 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 33        | 12/08/2020 | 45 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 34        | 15/08/2020 | 44 | 23 | 5 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 35        | 19/08/2020 | 43 | 21 | 6 | 11 | 0.05 | 13 | BDL | <b>43</b> | Good         |
| 36        | 21/08/2020 | 44 | 22 | 5 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 37        | 26/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 38        | 29/08/2020 | 46 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| SEPTEMBER |            |    |    |   |    |      |    |     |           |              |
| 39        | 02/09/2020 | 50 | 24 | 6 | 12 | 0.06 | 14 | BDL | <b>50</b> | Satisfactory |
| 40        | 05/09/2020 | 45 | 22 | 6 | 12 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| 41        | 09/09/2020 | 46 | 24 | 7 | 12 | 0.05 | 14 | BDL | <b>46</b> | Good         |
| 42        | 12/09/2020 | 45 | 23 | 7 | 12 | 0.06 | 14 | BDL | <b>45</b> | Good         |
| 43        | 16/09/2020 | 44 | 23 | 5 | 11 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 44        | 19/09/2020 | 46 | 21 | 6 | 11 | 0.05 | 13 | BDL | <b>46</b> | Good         |
| 45        | 23/09/2020 | 47 | 22 | 6 | 11 | 0.05 | 14 | BDL | <b>47</b> | Good         |
| 46        | 26/09/2020 | 46 | 23 | 6 | 12 | 0.06 | 14 | BDL | <b>46</b> | Good         |
| 47        | 30/09/2020 | 45 | 23 | 6 | 11 | 0.05 | 13 | BDL | <b>45</b> | Good         |
| OCTOBER   |            |    |    |   |    |      |    |     |           |              |
| 48        | 03/10/2020 | 56 | 31 | 7 | 12 | 0.06 | 13 | BDL | <b>56</b> | Satisfactory |
| 49        | 07/10/2020 | 53 | 31 | 7 | 12 | 0.06 | 14 | BDL | <b>53</b> | Satisfactory |
| 50        | 10/10/2020 | 51 | 30 | 7 | 12 | 0.05 | 13 | BDL | <b>51</b> | Satisfactory |

|          |            |    |    |   |    |      |    |     |           |              |
|----------|------------|----|----|---|----|------|----|-----|-----------|--------------|
| 51       | 14/10/2020 | 48 | 28 | 7 | 13 | 0.06 | 13 | BDL | <b>48</b> | Good         |
| 52       | 17/10/2020 | 55 | 31 | 6 | 11 | 0.05 | 13 | BDL | <b>55</b> | Satisfactory |
| 53       | 21/10/2020 | 57 | 32 | 7 | 12 | 0.06 | 14 | BDL | <b>57</b> | Satisfactory |
| 54       | 24/10/2020 | 54 | 31 | 6 | 12 | 0.05 | 13 | BDL | <b>54</b> | Satisfactory |
| 55       | 28/10/2020 | 57 | 33 | 8 | 13 | 0.06 | 13 | BDL | <b>57</b> | Satisfactory |
| 56       | 31/10/2020 | 61 | 32 | 6 | 12 | 0.06 | 13 | BDL | <b>61</b> | Satisfactory |
| NOVEMBER |            |    |    |   |    |      |    |     |           |              |
| 57       | 04/11/2020 | 56 | 36 | 7 | 12 | 0.06 | 13 | BDL | <b>60</b> | Satisfactory |
| 58       | 07/11/2020 | 63 | 33 | 8 | 13 | 0.07 | 14 | BDL | <b>63</b> | Satisfactory |
| 59       | 11/11/2020 | 58 | 31 | 7 | 12 | 0.07 | 14 | BDL | <b>58</b> | Satisfactory |
| 60       | 14/11/2020 | 57 | 31 | 7 | 13 | 0.06 | 13 | BDL | <b>57</b> | Satisfactory |
| 61       | 18/11/2020 | 56 | 34 | 7 | 12 | 0.07 | 13 | BDL | <b>57</b> | Satisfactory |
| 62       | 21/11/2020 | 57 | 31 | 6 | 13 | 0.06 | 14 | BDL | <b>57</b> | Satisfactory |
| 63       | 25/11/2020 | 55 | 33 | 6 | 12 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 64       | 28/11/2020 | 63 | 33 | 7 | 13 | 0.07 | 14 | BDL | <b>63</b> | Satisfactory |
| DECEMBER |            |    |    |   |    |      |    |     |           |              |
| 65       | 02/12/2020 | 83 | 37 | 7 | 13 | 0.07 | 14 | BDL | <b>83</b> | Satisfactory |
| 66       | 05/12/2020 | 81 | 35 | 8 | 13 | 0.06 | 15 | BDL | <b>81</b> | Satisfactory |
| 67       | 08/12/2020 | 73 | 34 | 8 | 13 | 0.08 | 14 | BDL | <b>73</b> | Satisfactory |
| 68       | 12/12/2020 | 77 | 38 | 8 | 13 | 0.07 | 14 | BDL | <b>77</b> | Satisfactory |
| 69       | 16/12/2020 | 75 | 41 | 9 | 14 | 0.06 | 14 | BDL | <b>75</b> | Satisfactory |
| 70       | 19/12/2020 | 80 | 39 | 8 | 13 | 0.08 | 15 | BDL | <b>80</b> | Satisfactory |
| 71       | 23/12/2020 | 69 | 35 | 6 | 12 | 0.07 | 14 | BDL | <b>69</b> | Satisfactory |
| 72       | 26/12/2020 | 72 | 36 | 8 | 13 | 0.08 | 15 | BDL | <b>72</b> | Satisfactory |
| 73       | 30/12/2020 | 79 | 39 | 9 | 13 | 0.07 | 14 | BDL | <b>79</b> | Satisfactory |
| JANUARY  |            |    |    |   |    |      |    |     |           |              |
| 74       | 02/01/2021 | 66 | 34 | 6 | 13 | 0.07 | 13 | BDL | <b>66</b> | Satisfactory |
| 75       | 06/01/2021 | 63 | 32 | 7 | 12 | 0.07 | 13 | BDL | <b>63</b> | Satisfactory |
| 76       | 09/01/2021 | 64 | 32 | 7 | 13 | 0.06 | 13 | BDL | <b>64</b> | Satisfactory |
| 77       | 13/01/2021 | 55 | 28 | 7 | 13 | 0.07 | 13 | BDL | <b>55</b> | Satisfactory |
| 78       | 16/01/2021 | 63 | 32 | 6 | 12 | 0.07 | 13 | BDL | <b>63</b> | Satisfactory |
| 79       | 20/01/2021 | 64 | 32 | 7 | 13 | 0.06 | 14 | BDL | <b>64</b> | Satisfactory |
| 80       | 23/01/2021 | 66 | 33 | 6 | 12 | 0.07 | 14 | BDL | <b>66</b> | Satisfactory |



|          |            |    |    |   |    |      |    |     |           |              |
|----------|------------|----|----|---|----|------|----|-----|-----------|--------------|
| 81       | 27/01/2021 | 68 | 33 | 7 | 13 | 0.07 | 14 | BDL | <b>68</b> | Satisfactory |
| 82       | 30/01/2021 | 63 | 32 | 6 | 13 | 0.06 | 13 | BDL | <b>63</b> | Satisfactory |
| FEBRUARY |            |    |    |   |    |      |    |     |           |              |
| 83       | 03/02/2021 | 70 | 33 | 7 | 14 | 0.07 | 13 | BDL | <b>70</b> | Satisfactory |
| 84       | 06/02/2021 | 67 | 31 | 9 | 14 | 0.08 | 13 | BDL | <b>67</b> | Satisfactory |
| 85       | 10/02/2021 | 73 | 36 | 7 | 13 | 0.08 | 14 | BDL | <b>73</b> | Satisfactory |
| 86       | 13/02/2021 | 62 | 30 | 7 | 13 | 0.07 | 13 | BDL | <b>62</b> | Satisfactory |
| 87       | 17/02/2021 | 66 | 35 | 6 | 12 | 0.07 | 14 | BDL | <b>66</b> | Satisfactory |
| 88       | 20/02/2021 | 65 | 33 | 8 | 13 | 0.08 | 15 | BDL | <b>65</b> | Satisfactory |
| 89       | 24/02/2021 | 72 | 36 | 8 | 13 | 0.08 | 14 | BDL | <b>72</b> | Satisfactory |
| 90       | 27/02/2021 | 73 | 34 | 7 | 15 | 0.08 | 14 | BDL | <b>73</b> | Satisfactory |
| MARCH    |            |    |    |   |    |      |    |     |           |              |
| 91       | 03/03/2021 | 71 | 34 | 8 | 15 | 0.08 | 14 | BDL | <b>71</b> | Satisfactory |
| 92       | 06/03/2021 | 68 | 32 | 9 | 14 | 0.08 | 14 | BDL | <b>68</b> | Satisfactory |
| 93       | 10/03/2021 | 74 | 38 | 8 | 14 | 0.09 | 14 | BDL | <b>74</b> | Satisfactory |
| 94       | 13/03/2021 | 69 | 34 | 7 | 13 | 0.09 | 14 | BDL | <b>69</b> | Satisfactory |
| 95       | 17/03/2021 | 74 | 37 | 7 | 12 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 96       | 20/03/2021 | 65 | 32 | 7 | 13 | 0.07 | 13 | BDL | <b>65</b> | Satisfactory |
| 97       | 24/03/2021 | 66 | 35 | 8 | 14 | 0.08 | 13 | BDL | <b>66</b> | Satisfactory |
| 98       | 27/03/2021 | 68 | 31 | 9 | 14 | 0.08 | 13 | BDL | <b>68</b> | Satisfactory |
| 99       | 31/03/2021 | 67 | 35 | 9 | 14 | 0.08 | 14 | BDL | <b>67</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |               |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|---------------|--------------|
| Station: Residence of D. Rivonkar, Tilamol Junction            |             |                                                                      |                   |                 |                 |           |                |           | City: Tilamol |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI           | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |               |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |               |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |               |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 1                                                              | 22/04/2020  | 82                                                                   | 44                | 10              | 14              | 0.06      | 15             | BDL       | 82            | Satisfactory |
| 2                                                              | 24/04/2020  | 66                                                                   | 25                | 11              | 14              | 0.07      | 15             | BDL       | 66            | Satisfactory |
| 3                                                              | 29/04/2020  | 51                                                                   | 27                | 10              | 13              | 0.05      | 14             | BDL       | 51            | Satisfactory |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 4                                                              | 01/05/2020  | 78                                                                   | 40                | 9               | 13              | 0.05      | 14             | BDL       | 78            | Satisfactory |
| 5                                                              | 06/05/2020  | 81                                                                   | 42                | 9               | 13              | 0.06      | 15             | BDL       | 81            | Satisfactory |
| 6                                                              | 08/05/2020  | 87                                                                   | 45                | 9               | 13              | 0.06      | 15             | BDL       | 87            | Satisfactory |
| 7                                                              | 13/05/2020  | 82                                                                   | 41                | 10              | 13              | 0.06      | 15             | BDL       | 82            | Satisfactory |
| 8                                                              | 15/05/2020  | 80                                                                   | 41                | 10              | 13              | 0.05      | 15             | BDL       | 80            | Satisfactory |
| 9                                                              | 20/05/2020  | 74                                                                   | 38                | 10              | 13              | 0.06      | 13             | BDL       | 74            | Satisfactory |
| 10                                                             | 22/05/2020  | 73                                                                   | 38                | 10              | 14              | 0.06      | 15             | BDL       | 73            | Satisfactory |
| 11                                                             | 26/05/2020  | 79                                                                   | 40                | 10              | 14              | 0.06      | 16             | BDL       | 79            | Satisfactory |
| 12                                                             | 29/05/2020  | 80                                                                   | 40                | 10              | 14              | 0.05      | 15             | BDL       | 80            | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 13                                                             | 03/06/2020  | 78                                                                   | 37                | 10              | 13              | 0.05      | 15             | BDL       | 78            | Satisfactory |
| 14                                                             | 05/06/2026  | 60                                                                   | 30                | 9               | 12              | 0.06      | 14             | BDL       | 60            | Satisfactory |
| 15                                                             | 10/06/2020  | 70                                                                   | 38                | 10              | 13              | 0.07      | 15             | BDL       | 70            | Satisfactory |
| 16                                                             | 12/06/2020  | 65                                                                   | 34                | 10              | 13              | 0.06      | 15             | BDL       | 65            | Satisfactory |
| 17                                                             | 17/06/2020  | 55                                                                   | 29                | 9               | 13              | 0.05      | 14             | BDL       | 55            | Satisfactory |
| 18                                                             | 19/06/2020  | 47                                                                   | 24                | 9               | 13              | 0.06      | 14             | BDL       | 47            | Good         |
| 19                                                             | 24/06/2020  | 49                                                                   | 25                | 8               | 13              | 0.06      | 15             | BDL       | 49            | Good         |
| 20                                                             | 26/06/2020  | 45                                                                   | 21                | 8               | 12              | 0.06      | 15             | BDL       | 45            | Good         |
| 21                                                             | 30/06/2020  | 46                                                                   | 24                | 9               | 12              | 0.05      | 14             | BDL       | 46            | Good         |

| JULY      |            |    |    |   |    |      |    |     |    |              |
|-----------|------------|----|----|---|----|------|----|-----|----|--------------|
| 22        | 03/07/2020 | 53 | 27 | 8 | 13 | 0.05 | 13 | BDL | 53 | Satisfactory |
| 23        | 08/07/2020 | 46 | 26 | 7 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| 24        | 10/07/2020 | 41 | 23 | 6 | 12 | 0.06 | 13 | BDL | 41 | Good         |
| 25        | 15/07/2020 | 43 | 22 | 6 | 12 | 0.04 | 13 | BDL | 43 | Good         |
| 26        | 17/07/2020 | 37 | 21 | 6 | 12 | 0.04 | 13 | BDL | 37 | Good         |
| 27        | 22/07/2020 | 44 | 24 | 7 | 12 | 0.06 | 13 | BDL | 44 | Good         |
| 28        | 24/07/2020 | 44 | 23 | 6 | 12 | 0.05 | 14 | BDL | 44 | Good         |
| 29        | 29/07/2020 | 46 | 22 | 7 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| 30        | 31/07/2020 | 45 | 23 | 6 | 11 | 0.05 | 14 | BDL | 45 | Good         |
| AUGUST    |            |    |    |   |    |      |    |     |    |              |
| 31        | 05/08/2020 | 47 | 27 | 6 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 32        | 08/08/2020 | 45 | 24 | 7 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 33        | 12/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 34        | 15/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 35        | 19/08/2020 | 37 | 22 | 6 | 11 | 0.05 | 13 | BDL | 37 | Good         |
| 36        | 21/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 37        | 26/08/2020 | 45 | 23 | 6 | 12 | 0.05 | 14 | BDL | 45 | Good         |
| 38        | 28/08/2020 | 46 | 22 | 7 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| SEPTEMBER |            |    |    |   |    |      |    |     |    |              |
| 39        | 02/09/2020 | 48 | 24 | 7 | 12 | 0.05 | 14 | BDL | 48 | Good         |
| 40        | 04/09/2020 | 47 | 23 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 41        | 10/09/2020 | 49 | 24 | 6 | 12 | 0.06 | 14 | BDL | 49 | Good         |
| 42        | 12/09/2020 | 47 | 23 | 6 | 12 | 0.06 | 14 | BDL | 47 | Good         |
| 43        | 16/09/2020 | 48 | 23 | 7 | 12 | 0.06 | 14 | BDL | 48 | Good         |
| 44        | 18/09/2020 | 49 | 23 | 6 | 11 | 0.05 | 13 | BDL | 49 | Good         |
| 45        | 24/09/2020 | 47 | 23 | 7 | 12 | 0.06 | 14 | BDL | 47 | Good         |
| 46        | 26/09/2020 | 47 | 23 | 6 | 11 | 0.06 | 14 | BDL | 47 | Good         |
| 47        | 30/09/2020 | 48 | 23 | 6 | 11 | 0.06 | 14 | BDL | 48 | Good         |
| OCTOBER   |            |    |    |   |    |      |    |     |    |              |
| 48        | 03/10/2020 | 54 | 30 | 7 | 13 | 0.06 | 14 | BDL | 54 | Satisfactory |
| 49        | 07/10/2020 | 52 | 30 | 7 | 13 | 0.05 | 13 | BDL | 52 | Satisfactory |
| 50        | 09/10/2020 | 49 | 30 | 7 | 12 | 0.06 | 13 | BDL | 50 | Satisfactory |

|          |            |     |    |    |    |      |    |     |     |              |
|----------|------------|-----|----|----|----|------|----|-----|-----|--------------|
| 51       | 14/10/2020 | 51  | 31 | 6  | 13 | 0.06 | 14 | BDL | 52  | Satisfactory |
| 52       | 16/10/2020 | 48  | 28 | 7  | 12 | 0.05 | 13 | BDL | 48  | Good         |
| 53       | 21/10/2020 | 50  | 30 | 6  | 12 | 0.06 | 13 | BDL | 50  | Satisfactory |
| 54       | 23/10/2020 | 52  | 30 | 8  | 13 | 0.06 | 13 | BDL | 52  | Satisfactory |
| 55       | 28/10/2020 | 59  | 32 | 7  | 11 | 0.06 | 13 | BDL | 59  | Satisfactory |
| 56       | 30/10/2020 | 53  | 31 | 6  | 12 | 0.06 | 13 | BDL | 53  | Satisfactory |
| NOVEMBER |            |     |    |    |    |      |    |     |     |              |
| 57       | 04/11/2020 | 65  | 35 | 7  | 13 | 0.06 | 14 | BDL | 65  | Satisfactory |
| 58       | 06/11/2020 | 67  | 33 | 8  | 13 | 0.06 | 14 | BDL | 67  | Satisfactory |
| 59       | 10/11/2020 | 80  | 38 | 7  | 12 | 0.07 | 15 | BDL | 80  | Satisfactory |
| 60       | 13/11/2020 | 65  | 37 | 7  | 13 | 0.06 | 13 | BDL | 65  | Satisfactory |
| 61       | 17/11/2020 | 63  | 34 | 7  | 13 | 0.06 | 14 | BDL | 63  | Satisfactory |
| 62       | 20/11/2020 | 70  | 37 | 7  | 12 | 0.07 | 14 | BDL | 70  | Satisfactory |
| 63       | 24/11/2020 | 79  | 38 | 7  | 13 | 0.07 | 14 | BDL | 79  | Satisfactory |
| 64       | 27/11/2020 | 78  | 37 | 7  | 12 | 0.06 | 15 | BDL | 78  | Satisfactory |
| DECEMBER |            |     |    |    |    |      |    |     |     |              |
| 65       | 01/12/2020 | 92  | 42 | 9  | 14 | 0.07 | 14 | BDL | 92  | Satisfactory |
| 66       | 04/12/2020 | 106 | 45 | 10 | 14 | 0.07 | 15 | BDL | 104 | Moderate     |
| 67       | 08/12/2020 | 97  | 46 | 8  | 13 | 0.08 | 15 | BDL | 97  | Satisfactory |
| 68       | 11/12/2020 | 101 | 50 | 10 | 15 | 0.07 | 15 | BDL | 101 | Moderate     |
| 69       | 15/12/2020 | 100 | 50 | 10 | 15 | 0.09 | 16 | BDL | 100 | Satisfactory |
| 70       | 18/12/2020 | 97  | 48 | 10 | 14 | 0.09 | 16 | BDL | 97  | Satisfactory |
| 71       | 22/12/2020 | 95  | 46 | 8  | 13 | 0.08 | 15 | BDL | 95  | Satisfactory |
| 72       | 25/12/2020 | 95  | 46 | 8  | 14 | 0.08 | 15 | BDL | 95  | Satisfactory |
| 73       | 29/12/2020 | 86  | 41 | 9  | 14 | 0.07 | 14 | BDL | 86  | Satisfactory |
| JANUARY  |            |     |    |    |    |      |    |     |     |              |
| 74       | 01/01/2021 | 82  | 40 | 7  | 13 | 0.07 | 13 | BDL | 82  | Satisfactory |
| 75       | 05/01/2021 | 75  | 34 | 7  | 13 | 0.07 | 13 | BDL | 75  | Satisfactory |
| 76       | 08/01/2021 | 70  | 35 | 7  | 13 | 0.06 | 13 | BDL | 70  | Satisfactory |
| 77       | 12/01/2021 | 65  | 32 | 6  | 13 | 0.06 | 13 | BDL | 65  | Satisfactory |
| 78       | 15/01/2021 | 72  | 33 | 7  | 13 | 0.06 | 14 | BDL | 72  | Satisfactory |
| 79       | 19/01/2021 | 72  | 36 | 8  | 14 | 0.07 | 14 | BDL | 72  | Satisfactory |
| 80       | 22/01/2021 | 85  | 40 | 7  | 13 | 0.08 | 14 | BDL | 85  | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 81       | 26/01/2021 | 77 | 34 | 7  | 13 | 0.07 | 13 | BDL | <b>77</b> | Satisfactory |
| 82       | 29/01/2021 | 86 | 40 | 6  | 13 | 0.06 | 14 | BDL | <b>86</b> | Satisfactory |
| FEBRUARY |            |    |    |    |    |      |    |     |           |              |
| 83       | 02/02/2021 | 86 | 41 | 7  | 13 | 0.07 | 14 | BDL | <b>86</b> | Satisfactory |
| 84       | 05/02/2021 | 89 | 39 | 8  | 14 | 0.08 | 13 | BDL | <b>89</b> | Satisfactory |
| 85       | 09/02/2021 | 77 | 35 | 8  | 14 | 0.08 | 14 | BDL | <b>77</b> | Satisfactory |
| 86       | 12/02/2021 | 80 | 39 | 6  | 13 | 0.07 | 14 | BDL | <b>80</b> | Satisfactory |
| 87       | 17/02/2021 | 84 | 39 | 9  | 15 | 0.08 | 14 | BDL | <b>84</b> | Satisfactory |
| 88       | 20/02/2021 | 75 | 38 | 9  | 14 | 0.08 | 15 | BDL | <b>75</b> | Satisfactory |
| 89       | 23/02/2021 | 86 | 40 | 9  | 15 | 0.08 | 14 | BDL | <b>86</b> | Satisfactory |
| 90       | 26/02/2021 | 85 | 41 | 9  | 15 | 0.07 | 14 | BDL | <b>85</b> | Satisfactory |
| MARCH    |            |    |    |    |    |      |    |     |           |              |
| 91       | 02/03/2021 | 73 | 37 | 8  | 14 | 0.09 | 15 | BDL | <b>73</b> | Satisfactory |
| 92       | 05/03/2021 | 91 | 40 | 8  | 14 | 0.08 | 14 | BDL | <b>91</b> | Satisfactory |
| 93       | 09/03/2021 | 83 | 40 | 9  | 14 | 0.09 | 14 | BDL | <b>83</b> | Satisfactory |
| 94       | 12/03/2021 | 81 | 40 | 8  | 14 | 0.08 | 14 | BDL | <b>81</b> | Satisfactory |
| 95       | 16/03/2021 | 83 | 39 | 10 | 15 | 0.09 | 15 | BDL | <b>83</b> | Satisfactory |
| 96       | 19/03/2021 | 73 | 37 | 9  | 15 | 0.09 | 15 | BDL | <b>73</b> | Satisfactory |
| 97       | 23/03/2021 | 82 | 42 | 9  | 15 | 0.09 | 15 | BDL | <b>82</b> | Satisfactory |
| 98       | 26/03/2021 | 77 | 37 | 9  | 14 | 0.09 | 15 | BDL | <b>77</b> | Satisfactory |
| 99       | 31/03/2021 | 79 | 34 | 9  | 14 | 0.09 | 15 | BDL | <b>79</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |                |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|----------------|--------------|
| Station: Rooftop of Power Station, Cuncolim Ind Estate         |             |                                                                      |                   |                 |                 |           |                |           | City: Cuncolim |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI            | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |                |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |                |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |                |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |                |              |
| 1                                                              | 23/04/2020  | 57                                                                   | 25                | 10              | 14              | 0.06      | 15             | BDL       | 57             | Satisfactory |
| 2                                                              | 25/04/2020  | 45                                                                   | 26                | 10              | 14              | 0.07      | 15             | BDL       | 45             | Good         |
| 3                                                              | 29/04/2020  | 54                                                                   | 23                | 10              | 13              | 0.69      | 15             | BDL       | 54             | Satisfactory |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |                |              |
| 4                                                              | 02/05/2020  | 74                                                                   | 35                | 10              | 13              | 0.07      | 15             | BDL       | 74             | Satisfactory |
| 5                                                              | 06/05/2020  | 76                                                                   | 39                | 10              | 13              | 0.06      | 15             | BDL       | 76             | Satisfactory |
| 6                                                              | 09/05/2020  | 71                                                                   | 38                | 9               | 13              | 0.06      | 15             | BDL       | 71             | Satisfactory |
| 7                                                              | 13/05/2020  | 75                                                                   | 44                | 10              | 14              | 0.07      | 15             | BDL       | 75             | Satisfactory |
| 8                                                              | 15/05/2020  | 70                                                                   | 37                | 10              | 13              | 0.06      | 15             | BDL       | 70             | Satisfactory |
| 9                                                              | 20/05/2020  | 70                                                                   | 36                | 11              | 13              | 0.06      | 14             | BDL       | 70             | Satisfactory |
| 10                                                             | 23/05/2020  | 75                                                                   | 37                | 11              | 14              | 0.06      | 15             | BDL       | 75             | Satisfactory |
| 11                                                             | 27/05/2020  | 67                                                                   | 35                | 10              | 14              | 0.06      | 15             | BDL       | 67             | Satisfactory |
| 12                                                             | 30/05/2020  | 70                                                                   | 37                | 11              | 14              | 0.06      | 15             | BDL       | 70             | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |                |              |
| 13                                                             | 03/06/2020  | 50                                                                   | 30                | 9               | 13              | 0.07      | 15             | BDL       | 50             | Good         |
| 14                                                             | 06/06/2020  | 53                                                                   | 28                | 9               | 13              | 0.06      | 14             | BDL       | 53             | Satisfactory |
| 15                                                             | 10/06/2020  | 61                                                                   | 29                | 9               | 13              | 0.07      | 14             | BDL       | 61             | Satisfactory |
| 16                                                             | 13/06/2020  | 60                                                                   | 31                | 10              | 13              | 0.06      | 14             | BDL       | 60             | Satisfactory |
| 17                                                             | 17/06/2020  | 53                                                                   | 28                | 9               | 13              | 0.06      | 14             | BDL       | 53             | Satisfactory |
| 18                                                             | 20/06/2020  | 56                                                                   | 29                | 9               | 13              | 0.07      | 15             | BDL       | 56             | Satisfactory |
| 19                                                             | 24/06/2020  | 51                                                                   | 26                | 9               | 13              | 0.07      | 16             | BDL       | 51             | Satisfactory |
| 20                                                             | 27/06/2020  | 52                                                                   | 27                | 8               | 12              | 0.05      | 14             | BDL       | 52             | Satisfactory |

| JULY      |            |    |    |   |    |      |    |     |           |              |
|-----------|------------|----|----|---|----|------|----|-----|-----------|--------------|
| 21        | 01/07/2020 | 55 | 30 | 8 | 12 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 22        | 04/07/2020 | 53 | 28 | 7 | 12 | 0.06 | 14 | BDL | <b>53</b> | Satisfactory |
| 23        | 08/07/2020 | 55 | 29 | 6 | 12 | 0.07 | 14 | BDL | <b>55</b> | Satisfactory |
| 24        | 11/07/2020 | 50 | 24 | 7 | 12 | 0.06 | 14 | BDL | <b>50</b> | Satisfactory |
| 25        | 15/07/2020 | 51 | 24 | 6 | 12 | 0.06 | 13 | BDL | <b>51</b> | Satisfactory |
| 26        | 18/07/2020 | 49 | 24 | 6 | 11 | 0.06 | 13 | BDL | <b>49</b> | Good         |
| 27        | 22/07/2020 | 50 | 26 | 6 | 12 | 0.07 | 14 | BDL | <b>50</b> | Good         |
| 28        | 25/07/2020 | 52 | 23 | 6 | 12 | 0.05 | 13 | BDL | <b>52</b> | Satisfactory |
| 29        | 29/07/2020 | 53 | 25 | 7 | 12 | 0.05 | 14 | BDL | <b>53</b> | Satisfactory |
| AUGUST    |            |    |    |   |    |      |    |     |           |              |
| 30        | 01/08/2020 | 52 | 27 | 7 | 12 | 0.06 | 14 | BDL | <b>52</b> | Satisfactory |
| 31        | 05/08/2020 | 59 | 29 | 7 | 12 | 0.06 | 14 | BDL | <b>59</b> | Satisfactory |
| 32        | 08/08/2020 | 53 | 26 | 7 | 12 | 0.07 | 14 | BDL | <b>53</b> | Satisfactory |
| 33        | 11/08/2020 | 54 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>54</b> | Satisfactory |
| 34        | 15/08/2020 | 55 | 23 | 5 | 11 | 0.05 | 13 | BDL | <b>55</b> | Satisfactory |
| 35        | 19/08/2020 | 53 | 24 | 6 | 11 | 0.05 | 13 | BDL | <b>53</b> | Satisfactory |
| 36        | 22/08/2020 | 51 | 23 | 7 | 12 | 0.05 | 13 | BDL | <b>51</b> | Satisfactory |
| 37        | 26/08/2020 | 53 | 24 | 7 | 12 | 0.05 | 13 | BDL | <b>53</b> | Satisfactory |
| 38        | 29/08/2020 | 55 | 25 | 7 | 12 | 0.06 | 13 | BDL | <b>55</b> | Satisfactory |
| SEPTEMBER |            |    |    |   |    |      |    |     |           |              |
| 39        | 02/09/2020 | 56 | 27 | 7 | 12 | 0.07 | 14 | BDL | <b>56</b> | Satisfactory |
| 40        | 05/09/2020 | 57 | 26 | 7 | 12 | 0.07 | 14 | BDL | <b>57</b> | Satisfactory |
| 41        | 09/09/2020 | 55 | 25 | 7 | 12 | 0.07 | 14 | BDL | <b>55</b> | Satisfactory |
| 42        | 12/09/2020 | 57 | 26 | 7 | 12 | 0.07 | 14 | BDL | <b>57</b> | Satisfactory |
| 43        | 16/09/2020 | 54 | 23 | 7 | 12 | 0.07 | 14 | BDL | <b>54</b> | Satisfactory |
| 44        | 19/09/2020 | 52 | 25 | 6 | 12 | 0.07 | 13 | BDL | <b>52</b> | Satisfactory |
| 45        | 23/09/2020 | 52 | 26 | 7 | 12 | 0.06 | 14 | BDL | <b>52</b> | Satisfactory |
| 46        | 26/09/2020 | 55 | 24 | 7 | 12 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 47        | 30/09/2020 | 60 | 27 | 7 | 12 | 0.06 | 14 | BDL | <b>60</b> | Satisfactory |
| OCTOBER   |            |    |    |   |    |      |    |     |           |              |
| 48        | 03/10/2020 | 60 | 35 | 8 | 13 | 0.07 | 14 | BDL | <b>60</b> | Satisfactory |
| 49        | 07/10/2020 | 62 | 35 | 7 | 12 | 0.06 | 14 | BDL | <b>62</b> | Satisfactory |



|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 50       | 09/10/2020 | 64 | 36 | 7  | 13 | 0.05 | 14 | BDL | <b>64</b> | Satisfactory |
| 51       | 14/10/2020 | 58 | 32 | 8  | 13 | 0.05 | 14 | BDL | <b>58</b> | Satisfactory |
| 52       | 17/10/2020 | 65 | 36 | 7  | 12 | 0.06 | 13 | BDL | <b>65</b> | Satisfactory |
| 53       | 21/10/2020 | 68 | 37 | 7  | 12 | 0.06 | 13 | BDL | <b>68</b> | Satisfactory |
| 54       | 24/10/2020 | 72 | 42 | 8  | 13 | 0.06 | 14 | BDL | <b>72</b> | Satisfactory |
| 55       | 28/10/2020 | 73 | 41 | 8  | 13 | 0.06 | 13 | BDL | <b>73</b> | Satisfactory |
| 56       | 31/10/2020 | 70 | 41 | 7  | 13 | 0.05 | 13 | BDL | <b>70</b> | Satisfactory |
| NOVEMBER |            |    |    |    |    |      |    |     |           |              |
| 57       | 04/11/2020 | 78 | 35 | 8  | 13 | 0.07 | 14 | BDL | <b>78</b> | Satisfactory |
| 58       | 07/11/2020 | 71 | 37 | 7  | 12 | 0.07 | 14 | BDL | <b>71</b> | Satisfactory |
| 59       | 11/11/2020 | 70 | 35 | 7  | 13 | 0.06 | 14 | BDL | <b>70</b> | Satisfactory |
| 60       | 14/11/2020 | 69 | 32 | 8  | 13 | 0.06 | 14 | BDL | <b>69</b> | Satisfactory |
| 61       | 18/11/2020 | 76 | 37 | 8  | 13 | 0.06 | 14 | BDL | <b>76</b> | Satisfactory |
| 62       | 21/11/2020 | 79 | 35 | 7  | 12 | 0.06 | 14 | BDL | <b>79</b> | Satisfactory |
| 63       | 25/11/2020 | 84 | 44 | 9  | 13 | 0.07 | 14 | BDL | <b>84</b> | Satisfactory |
| 64       | 28/11/2020 | 83 | 41 | 9  | 13 | 0.07 | 14 | BDL | <b>83</b> | Satisfactory |
| DECEMBER |            |    |    |    |    |      |    |     |           |              |
| 65       | 02/12/2020 | 83 | 41 | 8  | 14 | 0.07 | 14 | BDL | <b>83</b> | Satisfactory |
| 66       | 05/12/2020 | 86 | 42 | 10 | 13 | 0.08 | 16 | BDL | <b>86</b> | Satisfactory |
| 67       | 09/12/2020 | 84 | 42 | 10 | 14 | 0.09 | 16 | BDL | <b>84</b> | Satisfactory |
| 68       | 12/12/2020 | 84 | 41 | 8  | 14 | 0.08 | 15 | BDL | <b>84</b> | Satisfactory |
| 69       | 16/12/2020 | 83 | 42 | 9  | 14 | 0.07 | 14 | BDL | <b>83</b> | Satisfactory |
| 70       | 19/12/2020 | 88 | 45 | 10 | 14 | 0.08 | 14 | BDL | <b>88</b> | Satisfactory |
| 71       | 23/12/2020 | 92 | 46 | 11 | 14 | 0.08 | 15 | BDL | <b>92</b> | Satisfactory |
| 72       | 26/12/2020 | 86 | 44 | 9  | 14 | 0.07 | 15 | BDL | <b>86</b> | Satisfactory |
| 73       | 30/12/2020 | 96 | 46 | 9  | 14 | 0.08 | 15 | BDL | <b>96</b> | Satisfactory |
| JANUARY  |            |    |    |    |    |      |    |     |           |              |
| 74       | 02/01/2021 | 80 | 40 | 8  | 14 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| 75       | 06/01/2021 | 71 | 37 | 7  | 12 | 0.07 | 13 | BDL | <b>71</b> | Satisfactory |
| 76       | 09/01/2021 | 75 | 35 | 8  | 13 | 0.07 | 14 | BDL | <b>75</b> | Satisfactory |
| 77       | 13/01/2021 | 69 | 32 | 6  | 13 | 0.06 | 14 | BDL | <b>69</b> | Satisfactory |
| 78       | 16/01/2021 | 78 | 39 | 8  | 14 | 0.07 | 13 | BDL | <b>78</b> | Satisfactory |
| 79       | 20/01/2021 | 81 | 40 | 7  | 13 | 0.07 | 13 | BDL | <b>81</b> | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 80       | 23/01/2021 | 81 | 42 | 9  | 14 | 0.08 | 14 | BDL | <b>81</b> | Satisfactory |
| 81       | 27/01/2021 | 78 | 40 | 8  | 14 | 0.07 | 14 | BDL | <b>78</b> | Satisfactory |
| 82       | 29/01/2021 | 77 | 38 | 7  | 14 | 0.06 | 14 | BDL | <b>77</b> | Satisfactory |
| FEBRUARY |            |    |    |    |    |      |    |     |           |              |
| 83       | 03/02/2021 | 85 | 41 | 9  | 14 | 0.08 | 14 | BDL | <b>85</b> | Satisfactory |
| 84       | 06/02/2021 | 81 | 40 | 9  | 14 | 0.08 | 14 | BDL | <b>81</b> | Satisfactory |
| 85       | 10/02/2021 | 78 | 40 | 9  | 15 | 0.08 | 15 | BDL | <b>78</b> | Satisfactory |
| 86       | 13/02/2021 | 89 | 40 | 9  | 14 | 0.08 | 14 | BDL | <b>89</b> | Satisfactory |
| 87       | 17/02/2021 | 86 | 39 | 9  | 15 | 0.08 | 14 | BDL | <b>86</b> | Satisfactory |
| 88       | 20/02/2021 | 82 | 40 | 9  | 15 | 0.07 | 14 | BDL | <b>82</b> | Satisfactory |
| 89       | 24/02/2021 | 85 | 44 | 10 | 15 | 0.08 | 13 | BDL | <b>85</b> | Satisfactory |
| 90       | 27/02/2021 | 84 | 44 | 10 | 15 | 0.08 | 14 | BDL | <b>84</b> | Satisfactory |
| MARCH    |            |    |    |    |    |      |    |     |           |              |
| 91       | 03/03/2021 | 85 | 42 | 9  | 15 | 0.08 | 15 | BDL | <b>85</b> | Satisfactory |
| 92       | 06/03/2021 | 84 | 41 | 9  | 15 | 0.09 | 14 | BDL | <b>84</b> | Satisfactory |
| 93       | 10/03/2021 | 74 | 37 | 10 | 15 | 0.09 | 15 | BDL | <b>74</b> | Satisfactory |
| 94       | 12/03/2021 | 80 | 41 | 10 | 14 | 0.09 | 14 | BDL | <b>80</b> | Satisfactory |
| 95       | 17/03/2021 | 87 | 38 | 10 | 15 | 0.09 | 15 | BDL | <b>87</b> | Satisfactory |
| 96       | 20/03/2021 | 83 | 40 | 11 | 16 | 0.09 | 14 | BDL | <b>83</b> | Satisfactory |
| 97       | 24/03/2021 | 78 | 37 | 10 | 15 | 0.09 | 15 | BDL | <b>78</b> | Satisfactory |
| 98       | 27/03/2021 | 79 | 41 | 11 | 16 | 0.09 | 15 | BDL | <b>79</b> | Satisfactory |
| 99       | 31/03/2021 | 77 | 36 | 10 | 15 | 0.09 | 15 | BDL | <b>77</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |               |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|---------------|--------------|
| Station: Near IDC Office                                       |             |                                                                      |                   |                 |                 |           |                |           | City: Kundaim |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI           | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |               |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |               |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |               |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 1                                                              | 21/04/2020  | 47                                                                   | 25                | 10              | 13              | 0.06      | 15             | BDL       | 47            | Good         |
| 2                                                              | 23/04/2020  | 33                                                                   | 18                | 11              | 14              | 0.05      | 14             | BDL       | 33            | Good         |
| 3                                                              | 27/04/2020  | 48                                                                   | 23                | 11              | 13              | 0.07      | 15             | BDL       | 48            | Good         |
| 4                                                              | 30/04/2020  | 55                                                                   | 37                | 11              | 12              | 0.06      | 14             | BDL       | 61            | Satisfactory |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 5                                                              | 5/4/2020    | 59                                                                   | 27                | 10              | 13              | 0.07      | 14             | BDL       | 59            | Satisfactory |
| 6                                                              | 5/7/2020    | 70                                                                   | 35                | 9               | 13              | 0.06      | 14             | BDL       | 70            | Satisfactory |
| 7                                                              | 5/11/2020   | 72                                                                   | 37                | 10              | 13              | 0.06      | 15             | BDL       | 72            | Satisfactory |
| 8                                                              | 5/14/2020   | 65                                                                   | 34                | 11              | 14              | 0.06      | 15             | BDL       | 65            | Satisfactory |
| 9                                                              | 5/18/2020   | 69                                                                   | 37                | 10              | 13              | 0.05      | 15             | BDL       | 69            | Satisfactory |
| 10                                                             | 5/21/2020   | 63                                                                   | 32                | 10              | 13              | 0.06      | 15             | BDL       | 63            | Satisfactory |
| 11                                                             | 5/25/2020   | 64                                                                   | 32                | 10              | 13              | 0.06      | 15             | BDL       | 64            | Satisfactory |
| 12                                                             | 5/28/2020   | 65                                                                   | 34                | 11              | 14              | 0.06      | 15             | BDL       | 65            | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |               |              |
| 13                                                             | 6/1/2020    | 57                                                                   | 30                | 9               | 13              | 0.06      | 14             | BDL       | 57            | Satisfactory |
| 14                                                             | 6/4/2020    | 62                                                                   | 32                | 9               | 13              | 0.05      | 14             | BDL       | 62            | Satisfactory |
| 15                                                             | 6/8/2020    | 66                                                                   | 33                | 10              | 14              | 0.05      | 14             | BDL       | 66            | Satisfactory |
| 16                                                             | 6/11/2020   | 61                                                                   | 34                | 10              | 13              | 0.06      | 14             | BDL       | 61            | Satisfactory |
| 17                                                             | 6/15/2020   | 56                                                                   | 27                | 9               | 12              | 0.05      | 15             | BDL       | 56            | Satisfactory |
| 18                                                             | 6/18/2020   | 61                                                                   | 32                | 10              | 14              | 0.06      | 14             | BDL       | 61            | Satisfactory |
| 19                                                             | 6/22/2020   | 52                                                                   | 27                | 9               | 13              | 0.05      | 15             | BDL       | 52            | Satisfactory |
| 20                                                             | 6/25/2020   | 59                                                                   | 30                | 10              | 14              | 0.06      | 15             | BDL       | 59            | Satisfactory |
| 21                                                             | 6/29/2020   | 51                                                                   | 26                | 9               | 13              | 0.06      | 16             | BDL       | 51            | Satisfactory |

| JULY      |           |    |    |   |    |      |    |     |    |              |
|-----------|-----------|----|----|---|----|------|----|-----|----|--------------|
| 22        | 7/2/2020  | 55 | 30 | 9 | 13 | 0.06 | 13 | BDL | 55 | Satisfactory |
| 23        | 7/6/2020  | 42 | 27 | 8 | 13 | 0.05 | 14 | BDL | 45 | Good         |
| 24        | 7/9/2020  | 45 | 24 | 8 | 12 | 0.06 | 13 | BDL | 45 | Good         |
| 25        | 7/13/2020 | 43 | 22 | 6 | 12 | 0.05 | 13 | BDL | 43 | Good         |
| 26        | 7/16/2020 | 44 | 25 | 6 | 11 | 0.05 | 14 | BDL | 44 | Good         |
| 27        | 7/20/2020 | 45 | 22 | 6 | 12 | 0.06 | 13 | BDL | 45 | Good         |
| 28        | 7/23/2020 | 48 | 27 | 7 | 12 | 0.05 | 14 | BDL | 48 | Good         |
| 29        | 7/27/2020 | 45 | 23 | 6 | 12 | 0.06 | 14 | BDL | 45 | Good         |
| 30        | 7/30/2020 | 48 | 26 | 7 | 12 | 0.05 | 13 | BDL | 48 | Good         |
| AUGUST    |           |    |    |   |    |      |    |     |    |              |
| 31        | 8/3/2020  | 45 | 30 | 6 | 12 | 0.05 | 13 | BDL | 51 | Satisfactory |
| 32        | 8/6/2020  | 44 | 27 | 8 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 33        | 8/10/2020 | 45 | 24 | 7 | 12 | 0.06 | 13 | BDL | 45 | Good         |
| 34        | 8/13/2020 | 47 | 23 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 35        | 8/17/2020 | 46 | 24 | 6 | 11 | 0.05 | 13 | BDL | 46 | Good         |
| 36        | 8/20/2020 | 46 | 23 | 6 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| 37        | 8/24/2020 | 47 | 22 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 38        | 8/27/2020 | 46 | 23 | 6 | 12 | 0.06 | 13 | BDL | 46 | Good         |
| 39        | 8/31/2020 | 49 | 26 | 7 | 12 | 0.06 | 13 | BDL | 49 | Good         |
| SEPTEMBER |           |    |    |   |    |      |    |     |    |              |
| 40        | 9/3/2020  | 51 | 25 | 7 | 12 | 0.06 | 14 | BDL | 51 | Satisfactory |
| 41        | 9/7/2020  | 45 | 27 | 8 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| 42        | 9/10/2020 | 52 | 24 | 7 | 12 | 0.06 | 13 | BDL | 52 | Satisfactory |
| 43        | 9/14/2020 | 50 | 24 | 7 | 12 | 0.05 | 13 | BDL | 50 | Satisfactory |
| 44        | 9/17/2020 | 47 | 24 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 45        | 9/21/2020 | 47 | 23 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 46        | 9/24/2020 | 50 | 23 | 7 | 12 | 0.06 | 14 | BDL | 50 | Satisfactory |
| 47        | 9/28/2020 | 51 | 23 | 7 | 12 | 0.06 | 14 | BDL | 51 | Satisfactory |
| OCTOBER   |           |    |    |   |    |      |    |     |    |              |
| 48        | 10/1/2020 | 52 | 31 | 8 | 13 | 0.05 | 14 | BDL | 52 | Satisfactory |
| 49        | 10/5/2020 | 53 | 32 | 7 | 12 | 0.06 | 13 | BDL | 54 | Satisfactory |
| 50        | 10/8/2020 | 58 | 30 | 7 | 13 | 0.06 | 13 | BDL | 58 | Satisfactory |

|          |            |    |    |    |    |      |    |     |           |              |
|----------|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 51       | 10/12/2020 | 54 | 32 | 7  | 13 | 0.06 | 13 | BDL | <b>54</b> | Satisfactory |
| 52       | 10/15/2020 | 50 | 30 | 7  | 12 | 0.05 | 13 | BDL | <b>50</b> | Satisfactory |
| 53       | 10/19/2020 | 57 | 32 | 7  | 12 | 0.06 | 14 | BDL | <b>57</b> | Satisfactory |
| 54       | 10/22/2020 | 63 | 34 | 8  | 13 | 0.05 | 13 | BDL | <b>63</b> | Satisfactory |
| 55       | 10/26/2020 | 63 | 37 | 8  | 13 | 0.06 | 14 | BDL | <b>63</b> | Satisfactory |
| 56       | 10/29/2020 | 64 | 36 | 7  | 13 | 0.05 | 13 | BDL | <b>64</b> | Satisfactory |
| NOVEMBER |            |    |    |    |    |      |    |     |           |              |
| 57       | 11/2/2020  | 60 | 31 | 8  | 13 | 0.06 | 14 | BDL | <b>60</b> | Satisfactory |
| 58       | 11/5/2020  | 74 | 35 | 8  | 13 | 0.07 | 14 | BDL | <b>74</b> | Satisfactory |
| 59       | 11/9/2020  | 61 | 35 | 7  | 12 | 0.07 | 14 | BDL | <b>61</b> | Satisfactory |
| 60       | 11/12/2020 | 63 | 30 | 7  | 13 | 0.06 | 13 | BDL | <b>63</b> | Satisfactory |
| 61       | 11/16/2020 | 74 | 36 | 7  | 13 | 0.07 | 15 | BDL | <b>74</b> | Satisfactory |
| 62       | 11/19/2020 | 60 | 34 | 7  | 12 | 0.06 | 13 | BDL | <b>60</b> | Satisfactory |
| 63       | 11/23/2020 | 64 | 35 | 8  | 13 | 0.06 | 14 | BDL | <b>64</b> | Satisfactory |
| 64       | 11/26/2020 | 65 | 35 | 9  | 13 | 0.06 | 14 | BDL | <b>65</b> | Satisfactory |
| 65       | 11/30/2020 | 66 | 34 | 8  | 13 | 0.07 | 14 | BDL | <b>66</b> | Satisfactory |
| DECEMBER |            |    |    |    |    |      |    |     |           |              |
| 66       | 12/3/2020  | 67 | 33 | 8  | 13 | 0.05 | 14 | BDL | <b>67</b> | Satisfactory |
| 67       | 12/7/2020  | 79 | 41 | 9  | 14 | 0.07 | 14 | BDL | <b>79</b> | Satisfactory |
| 68       | 12/10/2020 | 89 | 46 | 10 | 14 | 0.08 | 15 | BDL | <b>89</b> | Satisfactory |
| 69       | 12/14/2020 | 85 | 46 | 8  | 13 | 0.08 | 14 | BDL | <b>85</b> | Satisfactory |
| 70       | 12/17/2020 | 85 | 44 | 8  | 14 | 0.07 | 16 | BDL | <b>85</b> | Satisfactory |
| 71       | 12/21/2020 | 83 | 43 | 9  | 14 | 0.09 | 16 | BDL | <b>83</b> | Satisfactory |
| 72       | 12/24/2020 | 84 | 41 | 9  | 14 | 0.09 | 16 | BDL | <b>84</b> | Satisfactory |
| 73       | 12/28/2020 | 90 | 45 | 10 | 14 | 0.08 | 15 | BDL | <b>90</b> | Satisfactory |
| 74       | 12/31/2020 | 88 | 45 | 9  | 14 | 0.08 | 16 | BDL | <b>88</b> | Satisfactory |
| JANUARY  |            |    |    |    |    |      |    |     |           |              |
| 75       | 1/4/2021   | 65 | 33 | 7  | 14 | 0.07 | 13 | BDL | <b>65</b> | Satisfactory |
| 76       | 1/7/2021   | 64 | 34 | 6  | 13 | 0.07 | 13 | BDL | <b>64</b> | Satisfactory |
| 77       | 1/11/2021  | 62 | 31 | 6  | 13 | 0.06 | 13 | BDL | <b>62</b> | Satisfactory |
| 78       | 1/14/2021  | 75 | 37 | 6  | 13 | 0.07 | 14 | BDL | <b>75</b> | Satisfactory |
| 79       | 1/18/2021  | 67 | 34 | 6  | 13 | 0.06 | 13 | BDL | <b>67</b> | Satisfactory |
| 80       | 1/21/2021  | 65 | 32 | 7  | 13 | 0.07 | 14 | BDL | <b>65</b> | Satisfactory |

|          |           |    |    |    |    |      |    |     |           |              |
|----------|-----------|----|----|----|----|------|----|-----|-----------|--------------|
| 81       | 1/25/2021 | 70 | 35 | 7  | 14 | 0.07 | 14 | BDL | <b>70</b> | Satisfactory |
| 82       | 1/28/2021 | 74 | 34 | 8  | 14 | 0.08 | 14 | BDL | <b>74</b> | Satisfactory |
| FEBRUARY |           |    |    |    |    |      |    |     |           |              |
| 83       | 2/1/2021  | 77 | 38 | 9  | 15 | 0.08 | 14 | BDL | <b>77</b> | Satisfactory |
| 84       | 2/4/2021  | 78 | 37 | 8  | 13 | 0.07 | 14 | BDL | <b>78</b> | Satisfactory |
| 85       | 2/8/2021  | 74 | 37 | 8  | 14 | 0.07 | 13 | BDL | <b>74</b> | Satisfactory |
| 86       | 2/11/2021 | 75 | 37 | 9  | 14 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |
| 87       | 2/15/2021 | 73 | 32 | 7  | 13 | 0.08 | 14 | BDL | <b>73</b> | Satisfactory |
| 88       | 2/18/2021 | 72 | 32 | 9  | 15 | 0.08 | 16 | BDL | <b>72</b> | Satisfactory |
| 89       | 2/22/2021 | 75 | 36 | 9  | 14 | 0.07 | 15 | BDL | <b>75</b> | Satisfactory |
| 90       | 2/25/2021 | 75 | 34 | 9  | 14 | 0.08 | 14 | BDL | <b>75</b> | Satisfactory |
| MARCH    |           |    |    |    |    |      |    |     |           |              |
| 91       | 3/1/2021  | 80 | 39 | 10 | 15 | 0.08 | 14 | BDL | <b>80</b> | Satisfactory |
| 92       | 3/4/2021  | 82 | 37 | 9  | 14 | 0.09 | 15 | BDL | <b>82</b> | Satisfactory |
| 93       | 3/8/2021  | 79 | 37 | 9  | 15 | 0.08 | 14 | BDL | <b>79</b> | Satisfactory |
| 94       | 3/12/2021 | 78 | 38 | 9  | 15 | 0.08 | 15 | BDL | <b>78</b> | Satisfactory |
| 95       | 3/15/2021 | 79 | 34 | 7  | 13 | 0.08 | 14 | BDL | <b>79</b> | Satisfactory |
| 96       | 3/18/2021 | 81 | 37 | 7  | 14 | 0.09 | 14 | BDL | <b>81</b> | Satisfactory |
| 97       | 3/22/2021 | 81 | 40 | 9  | 15 | 0.09 | 14 | BDL | <b>81</b> | Satisfactory |
| 98       | 3/25/2021 | 82 | 41 | 10 | 15 | 0.09 | 14 | BDL | <b>82</b> | Satisfactory |
| 99       | 3/30/2021 | 74 | 33 | 9  | 14 | 0.09 | 15 | BDL | <b>74</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |            |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|------------|--------------|
| Station: Near ESIC Hospital , Tuem Industrial Estate           |             |                                                                      |                   |                 |                 |           |                |           | City: Tuem |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI        | AIR QLTY     |
|                                                                |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |            |              |
|                                                                | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |            |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |            |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |           |                |           |            |              |
| 1                                                              | 4/17/2020   | 37                                                                   | 24                | 8               | 12              | 0.07      | 14             | BDL       | 40         | Good         |
| 2                                                              | 4/21/2020   | 44                                                                   | 23                | 9               | 12              | 0.06      | 14             | BDL       | 44         | Good         |
| 3                                                              | 4/23/2020   | 49                                                                   | 21                | 9               | 13              | 0.06      | 14             | BDL       | 49         | Good         |
| 4                                                              | 4/27/2020   | 47                                                                   | 21                | 8               | 13              | 0.06      | 13             | BDL       | 47         | Good         |
| 5                                                              | 4/30/2020   | 48                                                                   | 22                | 8               | 12              | 0.07      | 14             | BDL       | 48         | Good         |
| MAY                                                            |             |                                                                      |                   |                 |                 |           |                |           |            |              |
| 6                                                              | 5/5/2020    | 64                                                                   | 39                | 9               | 13              | 0.06      | 15             | BDL       | 65         | Satisfactory |
| 7                                                              | 5/8/2020    | 53                                                                   | 33                | 10              | 13              | 0.06      | 13             | BDL       | 55         | Satisfactory |
| 8                                                              | 5/12/2020   | 52                                                                   | 29                | 10              | 13              | 0.06      | 15             | BDL       | 52         | Satisfactory |
| 9                                                              | 5/14/2020   | 42                                                                   | 23                | 8               | 12              | 0.07      | 15             | BDL       | 42         | Good         |
| 10                                                             | 5/18/2020   | 59                                                                   | 30                | 10              | 13              | 0.05      | 15             | BDL       | 59         | Satisfactory |
| 11                                                             | 5/21/2020   | 50                                                                   | 26                | 10              | 13              | 0.06      | 15             | BDL       | 50         | Satisfactory |
| 12                                                             | 5/25/2020   | 56                                                                   | 30                | 10              | 13              | 0.05      | 15             | BDL       | 56         | Satisfactory |
| 13                                                             | 5/28/2020   | 52                                                                   | 27                | 10              | 13              | 0.06      | 16             | BDL       | 52         | Satisfactory |
| JUNE                                                           |             |                                                                      |                   |                 |                 |           |                |           |            |              |
| 14                                                             | 6/1/2020    | 48                                                                   | 25                | 7               | 12              | 0.05      | 13             | BDL       | 48         | Good         |
| 15                                                             | 6/4/2020    | 44                                                                   | 24                | 8               | 12              | 0.06      | 15             | BDL       | 44         | Good         |
| 16                                                             | 6/8/2020    | 41                                                                   | 22                | 7               | 11              | 0.05      | 14             | BDL       | 41         | Good         |
| 17                                                             | 5/11/2020   | 50                                                                   | 25                | 8               | 12              | 0.06      | 14             | BDL       | 50         | Satisfactory |
| 18                                                             | 6/15/2020   | 49                                                                   | 26                | 8               | 11              | 0.05      | 14             | BDL       | 49         | Good         |
| 19                                                             | 6/19/2020   | 51                                                                   | 27                | 9               | 13              | 0.06      | 15             | BDL       | 51         | Satisfactory |
| 20                                                             | 6/22/2020   | 45                                                                   | 23                | 7               | 11              | 0.05      | 14             | BDL       | 45         | Good         |
| 21                                                             | 6/25/2020   | 43                                                                   | 21                | 8               | 12              | 0.05      | 14             | BDL       | 43         | Good         |
| 22                                                             | 6/29/2020   | 45                                                                   | 24                | 7               | 11              | 0.05      | 15             | BDL       | 45         | Good         |



| JULY      |           |    |    |   |    |      |    |     |    |              |
|-----------|-----------|----|----|---|----|------|----|-----|----|--------------|
| 23        | 7/2/2020  | 47 | 23 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 24        | 7/7/2020  | 44 | 24 | 7 | 12 | 0.06 | 14 | BDL | 44 | Good         |
| 25        | 7/9/2020  | 41 | 22 | 6 | 12 | 0.05 | 13 | BDL | 41 | Good         |
| 26        | 7/13/2020 | 40 | 23 | 6 | 11 | 0.05 | 13 | BDL | 40 | Good         |
| 27        | 7/16/2020 | 47 | 23 | 6 | 11 | 0.06 | 13 | BDL | 47 | Good         |
| 28        | 7/21/2020 | 38 | 22 | 6 | 12 | 0.05 | 14 | BDL | 38 | Good         |
| 29        | 7/23/2020 | 45 | 23 | 7 | 12 | 0.05 | 14 | BDL | 45 | Good         |
| 30        | 7/27/2020 | 45 | 24 | 7 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 31        | 7/30/2020 | 46 | 24 | 7 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| AUGUST    |           |    |    |   |    |      |    |     |    |              |
| 32        | 8/3/2020  | 44 | 22 | 6 | 12 | 0.04 | 13 | BDL | 44 | Good         |
| 33        | 8/6/2020  | 44 | 23 | 7 | 12 | 0.05 | 14 | BDL | 44 | Good         |
| 34        | 8/10/2020 | 43 | 22 | 6 | 12 | 0.05 | 13 | BDL | 43 | Good         |
| 35        | 8/13/2020 | 45 | 22 | 6 | 11 | 0.05 | 13 | BDL | 45 | Good         |
| 36        | 8/17/2020 | 47 | 24 | 6 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 37        | 8/20/2020 | 45 | 22 | 6 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 38        | 8/25/2020 | 46 | 23 | 6 | 11 | 0.05 | 13 | BDL | 46 | Good         |
| 39        | 8/27/2020 | 45 | 24 | 6 | 12 | 0.05 | 13 | BDL | 45 | Good         |
| 40        | 8/31/2020 | 46 | 24 | 7 | 12 | 0.05 | 13 | BDL | 46 | Good         |
| SEPTEMBER |           |    |    |   |    |      |    |     |    |              |
| 41        | 9/3/2020  | 51 | 25 | 7 | 12 | 0.06 | 14 | BDL | 51 | Satisfactory |
| 42        | 9/7/2020  | 47 | 24 | 7 | 12 | 0.05 | 13 | BDL | 47 | Good         |
| 43        | 9/10/2020 | 47 | 22 | 6 | 12 | 0.06 | 14 | BDL | 47 | Good         |
| 44        | 9/15/2020 | 48 | 23 | 6 | 11 | 0.05 | 13 | BDL | 48 | Good         |
| 45        | 9/17/2020 | 47 | 24 | 6 | 12 | 0.06 | 14 | BDL | 47 | Good         |
| 46        | 9/21/2020 | 47 | 23 | 6 | 12 | 0.06 | 14 | BDL | 47 | Good         |
| 47        | 9/24/2020 | 51 | 23 | 7 | 11 | 0.06 | 14 | BDL | 51 | Satisfactory |
| 48        | 9/28/2020 | 48 | 24 | 6 | 12 | 0.06 | 14 | BDL | 48 | Good         |
| OCTOBER   |           |    |    |   |    |      |    |     |    |              |
| 49        | 10/1/2020 | 52 | 32 | 7 | 13 | 0.06 | 13 | BDL | 53 | Satisfactory |
| 50        | 10/5/2020 | 54 | 30 | 7 | 13 | 0.05 | 13 | BDL | 54 | Satisfactory |
| 51        | 10/8/2020 | 52 | 31 | 8 | 13 | 0.06 | 13 | BDL | 52 | Satisfactory |

|          |            |    |    |   |    |      |    |     |           |              |
|----------|------------|----|----|---|----|------|----|-----|-----------|--------------|
| 52       | 10/12/2020 | 48 | 29 | 7 | 12 | 0.05 | 13 | BDL | <b>48</b> | Good         |
| 53       | 10/15/2020 | 56 | 32 | 7 | 13 | 0.06 | 13 | BDL | <b>56</b> | Satisfactory |
| 54       | 10/19/2020 | 60 | 34 | 6 | 11 | 0.06 | 14 | BDL | <b>60</b> | Satisfactory |
| 55       | 10/23/2020 | 55 | 32 | 8 | 13 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 56       | 10/26/2020 | 57 | 33 | 7 | 12 | 0.06 | 14 | BDL | <b>57</b> | Satisfactory |
| 57       | 10/29/2020 | 58 | 32 | 7 | 13 | 0.05 | 14 | BDL | <b>58</b> | Satisfactory |
| NOVEMBER |            |    |    |   |    |      |    |     |           |              |
| 58       | 11/2/2020  | 55 | 32 | 7 | 13 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 59       | 11/5/2020  | 59 | 32 | 8 | 13 | 0.06 | 14 | BDL | <b>59</b> | Satisfactory |
| 60       | 11/9/2020  | 56 | 32 | 8 | 13 | 0.06 | 13 | BDL | <b>56</b> | Satisfactory |
| 61       | 11/12/2020 | 55 | 31 | 7 | 12 | 0.06 | 14 | BDL | <b>55</b> | Satisfactory |
| 62       | 11/16/2020 | 57 | 34 | 7 | 13 | 0.06 | 13 | BDL | <b>57</b> | Satisfactory |
| 63       | 11/19/2020 | 54 | 30 | 6 | 12 | 0.05 | 13 | BDL | <b>54</b> | Satisfactory |
| 64       | 11/23/2020 | 60 | 32 | 7 | 13 | 0.06 | 14 | BDL | <b>60</b> | Satisfactory |
| 65       | 11/26/2020 | 60 | 33 | 7 | 13 | 0.06 | 13 | BDL | <b>60</b> | Satisfactory |
| 66       | 11/30/2020 | 58 | 32 | 7 | 12 | 0.05 | 14 | BDL | <b>58</b> | Satisfactory |
| DECEMBER |            |    |    |   |    |      |    |     |           |              |
| 67       | 12/3/2020  | 62 | 31 | 7 | 13 | 0.06 | 14 | BDL | <b>62</b> | Satisfactory |
| 68       | 12/7/2020  | 69 | 36 | 7 | 13 | 0.07 | 14 | BDL | <b>69</b> | Satisfactory |
| 69       | 12/10/2020 | 73 | 36 | 9 | 13 | 0.07 | 14 | BDL | <b>73</b> | Satisfactory |
| 70       | 12/15/2020 | 72 | 36 | 7 | 13 | 0.07 | 14 | BDL | <b>72</b> | Satisfactory |
| 71       | 12/17/2020 | 70 | 35 | 7 | 13 | 0.06 | 14 | BDL | <b>70</b> | Satisfactory |
| 72       | 12/21/2020 | 80 | 40 | 8 | 14 | 0.08 | 15 | BDL | <b>80</b> | Satisfactory |
| 73       | 12/24/2020 | 74 | 37 | 7 | 13 | 0.06 | 14 | BDL | <b>74</b> | Satisfactory |
| 74       | 12/28/2020 | 68 | 35 | 7 | 12 | 0.07 | 14 | BDL | <b>68</b> | Satisfactory |
| 75       | 12/31/2020 | 70 | 33 | 7 | 12 | 0.07 | 15 | BDL | <b>70</b> | Satisfactory |
| JANUARY  |            |    |    |   |    |      |    |     |           |              |
| 76       | 1/4/2021   | 63 | 31 | 7 | 13 | 0.07 | 13 | BDL | <b>63</b> | Satisfactory |
| 77       | 1/7/2021   | 61 | 31 | 7 | 13 | 0.08 | 13 | BDL | <b>61</b> | Satisfactory |
| 78       | 1/11/2021  | 57 | 28 | 7 | 13 | 0.06 | 13 | BDL | <b>57</b> | Satisfactory |
| 79       | 1/14/2021  | 65 | 32 | 7 | 13 | 0.06 | 13 | BDL | <b>65</b> | Satisfactory |
| 80       | 1/18/2021  | 64 | 34 | 7 | 13 | 0.07 | 13 | BDL | <b>64</b> | Satisfactory |
| 81       | 1/21/2021  | 57 | 31 | 6 | 13 | 0.07 | 14 | BDL | <b>57</b> | Satisfactory |

|          |           |    |    |    |    |      |    |     |           |              |
|----------|-----------|----|----|----|----|------|----|-----|-----------|--------------|
| 82       | 1/25/2021 | 61 | 32 | 6  | 13 | 0.06 | 13 | BDL | <b>61</b> | Satisfactory |
| 83       | 1/28/2021 | 60 | 33 | 7  | 13 | 0.07 | 13 | BDL | <b>60</b> | Satisfactory |
| FEBRUARY |           |    |    |    |    |      |    |     |           |              |
| 84       | 2/2/2021  | 67 | 33 | 7  | 13 | 0.08 | 14 | BDL | <b>67</b> | Satisfactory |
| 85       | 2/4/2021  | 65 | 34 | 8  | 15 | 0.09 | 14 | BDL | <b>65</b> | Satisfactory |
| 86       | 2/8/2021  | 68 | 34 | 7  | 14 | 0.09 | 16 | BDL | <b>68</b> | Satisfactory |
| 87       | 2/11/2021 | 75 | 34 | 8  | 14 | 0.08 | 15 | BDL | <b>75</b> | Satisfactory |
| 88       | 2/15/2021 | 72 | 33 | 7  | 13 | 0.08 | 14 | BDL | <b>72</b> | Satisfactory |
| 89       | 2/18/2021 | 73 | 34 | 7  | 13 | 0.07 | 13 | BDL | <b>73</b> | Satisfactory |
| 90       | 2/23/2021 | 71 | 32 | 7  | 13 | 0.08 | 14 | BDL | <b>71</b> | Satisfactory |
| 91       | 2/25/2021 | 70 | 32 | 7  | 14 | 0.08 | 14 | BDL | <b>70</b> | Satisfactory |
| MARCH    |           |    |    |    |    |      |    |     |           |              |
| 92       | 3/1/2021  | 66 | 32 | 7  | 13 | 0.08 | 14 | BDL | <b>66</b> | Satisfactory |
| 93       | 3/4/2021  | 71 | 34 | 8  | 15 | 0.09 | 15 | BDL | <b>71</b> | Satisfactory |
| 94       | 3/8/2021  | 73 | 38 | 8  | 14 | 0.09 | 14 | BDL | <b>73</b> | Satisfactory |
| 95       | 3/11/2021 | 69 | 35 | 9  | 15 | 0.09 | 14 | BDL | <b>69</b> | Satisfactory |
| 96       | 3/16/2021 | 65 | 35 | 9  | 15 | 0.09 | 14 | BDL | <b>65</b> | Satisfactory |
| 97       | 3/18/2021 | 71 | 36 | 9  | 15 | 0.09 | 14 | BDL | <b>71</b> | Satisfactory |
| 98       | 3/22/2021 | 78 | 39 | 9  | 15 | 0.09 | 14 | BDL | <b>78</b> | Satisfactory |
| 99       | 3/25/2021 | 78 | 37 | 9  | 15 | 0.08 | 14 | BDL | <b>78</b> | Satisfactory |
| 100      | 3/30/2021 | 77 | 40 | 10 | 15 | 0.09 | 14 | BDL | <b>77</b> | Satisfactory |

| ANNUAL AAQM DATA OF NAMP STATION FROM APRIL 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |     |              |
|----------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----|--------------|
| Station: Fire Station, MPT                                     |             |                                                                      |                   | City: Marmugoa  |                 |     |              |
| Sr. No                                                         |             | Time Weighted Average (TWA)                                          |                   |                 |                 | AQI | AIR QLTY     |
|                                                                | Param-eters | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       |     |              |
|                                                                |             | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |     |              |
|                                                                | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> |     |              |
| APRIL                                                          |             |                                                                      |                   |                 |                 |     |              |
| 1                                                              | 4/1/2020    | 43                                                                   | 10                | 2               | 5               | 43  | Good         |
| 2                                                              | 4/3/2020    | 42                                                                   | 20                | 2               | 5               | 42  | Good         |
| 3                                                              | 4/6/2020    | 26                                                                   | 21                | 3               | 5               | 35  | Good         |
| 4                                                              | 4/8/2020    | 65                                                                   | 49                | 3               | 5               | 82  | Satisfactory |
| 5                                                              | 4/15/2020   | 39                                                                   | 56                | 2               | 5               | 93  | Satisfactory |
| 6                                                              | 4/17/2020   | 34                                                                   | 25                | 2               | 5               | 42  | Good         |
| 7                                                              | 4/22/2020   | 56                                                                   | 39                | 2               | 5               | 65  | Satisfactory |
| 8                                                              | 4/24/2020   | 23                                                                   | 41                | 2               | 5               | 68  | Satisfactory |
| 9                                                              | 4/28/2020   | 66                                                                   | 31                | 2               | 5               | 66  | Satisfactory |
| 10                                                             | 4/30/2020   | 27                                                                   | 19                | 2               | 14              | 32  | Good         |
| MAY                                                            |             |                                                                      |                   |                 |                 |     |              |
| 11                                                             | 5/6/2020    | 50                                                                   | 24                | 2               | 5               | 50  | Good         |
| 12                                                             | 5/8/2020    | 39                                                                   | 8                 | 2               | 5               | 39  | Good         |
| 13                                                             | 5/13/2020   | 37                                                                   | 26                | 2               | 5               | 43  | Good         |
| 14                                                             | 5/15/2020   | 47                                                                   | 10                | 2               | 5               | 47  | Good         |
| 15                                                             | 5/20/2020   | 39                                                                   | 7                 | 2               | 10              | 39  | Good         |
| 16                                                             | 5/22/2020   | 46                                                                   | 7                 | 2               | 5               | 46  | Good         |
| 17                                                             | 5/27/2020   | 30                                                                   | 5                 | 2               | 5               | 30  | Good         |
| 18                                                             | 5/29/2020   | 27                                                                   | 20                | 2               | 5               | 33  | Good         |
| SEPTEMBER                                                      |             |                                                                      |                   |                 |                 |     |              |
| 19                                                             | 9/9/2020    | 24                                                                   | *                 | 2               | 9               | 24  | Good         |
| 20                                                             | 9/16/2020   | 48                                                                   | *                 | 2               | 5               | 48  | Good         |
| 21                                                             | 9/23/2020   | 30                                                                   | *                 | 2               | 5               | 30  | Good         |

|          |            |     |    |   |     |            |              |
|----------|------------|-----|----|---|-----|------------|--------------|
| 22       | 9/29/2020  | 44  | *  | 2 | 5   | <b>44</b>  | Good         |
| OCTOBER  |            |     |    |   |     |            |              |
| 23       | 10/1/2020  | 43  | *  | 2 | 5   | <b>43</b>  | Good         |
| 24       | 10/7/2020  | 59  | 61 | 2 | 5   | <b>103</b> | Moderate     |
| 25       | 10/9/2020  | 47  | 43 | 2 | 5   | <b>72</b>  | Satisfactory |
| 26       | 10/14/2020 | 48  | *  | 2 | 5   | <b>48</b>  | Good         |
| 27       | 10/16/2020 | 23  | 8  | 2 | 5   | <b>23</b>  | Good         |
| 28       | 10/21/2020 | 24  | 18 | 2 | 5   | <b>30</b>  | Good         |
| 29       | 10/23/2020 | 13  | 10 | 2 | 5   | <b>17</b>  | Good         |
| 30       | 10/28/2020 | 40  | 53 | 2 | 5   | <b>88</b>  | Satisfactory |
| 31       | 10/30/2020 | 35  | 48 | 2 | 5   | <b>80</b>  | Satisfactory |
| NOVEMBER |            |     |    |   |     |            |              |
| 32       | 11/4/2020  | 48  | 46 | 2 | 4.5 | <b>77</b>  | Satisfactory |
| 33       | 11/6/2020  | 71  | 41 | 2 | 4.5 | <b>71</b>  | Satisfactory |
| 34       | 11/11/2020 | 113 | 35 | 2 | 4.5 | <b>109</b> | Moderate     |
| 35       | 11/13/2020 | 83  | 46 | 2 | 4.5 | <b>83</b>  | Satisfactory |
| 36       | 11/18/2020 | 34  | 16 | 2 | 4.5 | <b>34</b>  | Good         |
| 37       | 11/20/2020 | 39  | 13 | 2 | 4.5 | <b>39</b>  | Good         |
| 38       | 11/25/2020 | 77  | *  | 2 | 11  | <b>77</b>  | Satisfactory |
| 39       | 11/27/2020 | 95  | 16 | 2 | 9   | <b>95</b>  | Satisfactory |
| DECEMBER |            |     |    |   |     |            |              |
| 40       | 12/1/2020  | 70  | *  | 2 | 11  | <b>70</b>  | Satisfactory |
| 41       | 12/4/2020  | 61  | *  | 2 | 13  | <b>61</b>  | Satisfactory |
| 42       | 12/9/2020  | 60  | *  | 2 | 9   | <b>60</b>  | Satisfactory |
| 43       | 12/11/2020 | 26  | *  | 2 | 9   | <b>26</b>  | Good         |
| 44       | 12/16/2020 | 56  | *  | 2 | 12  | <b>56</b>  | Satisfactory |
| 45       | 12/18/2020 | 68  | *  | 2 | 11  | <b>68</b>  | Satisfactory |
| 46       | 12/22/2020 | 76  | *  | 2 | 11  | <b>76</b>  | Satisfactory |
| 47       | 12/24/2020 | 65  | *  | 2 | 10  | <b>65</b>  | Satisfactory |
| 48       | 12/30/2020 | 102 | *  | 2 | 10  | <b>101</b> | Moderate     |
| JANUARY  |            |     |    |   |     |            |              |
| 49       | 1/1/2021   | 100 | *  | 2 | 12  | <b>100</b> | Satisfactory |
| 50       | 1/6/2021   | 41  | *  | 2 | 12  | <b>41</b>  | Good         |

|          |           |     |    |   |    |            |              |
|----------|-----------|-----|----|---|----|------------|--------------|
| 51       | 1/8/2021  | 41  | *  | 2 | 11 | <b>41</b>  | Good         |
| 52       | 1/13/2021 | 66  | *  | 2 | 13 | <b>66</b>  | Satisfactory |
| 53       | 1/15/2021 | 72  | *  | 2 | 15 | <b>72</b>  | Satisfactory |
| 54       | 1/20/2021 | 69  | *  | 2 | 11 | <b>69</b>  | Satisfactory |
| 55       | 1/22/2021 | 82  | *  | 2 | 12 | <b>82</b>  | Satisfactory |
| 56       | 1/27/2021 | 76  | *  | 2 | 11 | <b>76</b>  | Satisfactory |
| 57       | 1/29/2021 | 92  | *  | 2 | 12 | <b>92</b>  | Satisfactory |
| FEBRUARY |           |     |    |   |    |            |              |
| 58       | 2/3/2021  | 77  | *  | 2 | 5  | <b>77</b>  | Satisfactory |
| 59       | 2/5/2021  | 87  | *  | 2 | 14 | <b>87</b>  | Satisfactory |
| 60       | 2/10/2021 | 63  | 16 | 2 | 15 | <b>63</b>  | Satisfactory |
| 61       | 2/12/2021 | 98  | 23 | 2 | 22 | <b>98</b>  | Satisfactory |
| 62       | 2/17/2021 | 86  | 37 | 2 | 24 | <b>86</b>  | Satisfactory |
| 63       | 2/19/2021 | 110 | 44 | 2 | 25 | <b>107</b> | Moderate     |
| 64       | 2/24/2021 | 50  | 29 | 2 | 22 | <b>50</b>  | Good         |
| 65       | 2/26/2021 | 66  | 8  | 2 | 20 | <b>66</b>  | Satisfactory |
| MARCH    |           |     |    |   |    |            |              |
| 66       | 3/3/2021  | 68  | 43 | 2 | 20 | <b>72</b>  | Satisfactory |
| 67       | 3/5/2021  | 66  | 7  | 2 | 13 | <b>66</b>  | Satisfactory |
| 68       | 3/10/2021 | 56  | 10 | 2 | 24 | <b>56</b>  | Satisfactory |
| 69       | 3/12/2021 | 57  | 7  | 2 | 24 | <b>57</b>  | Satisfactory |
| 70       | 3/17/2021 | 62  | 12 | 2 | 25 | <b>62</b>  | Satisfactory |
| 71       | 3/19/2021 | 107 | 13 | 2 | 22 | <b>105</b> | Moderate     |
| 72       | 3/24/2021 | 69  | 8  | 2 | 7  | <b>69</b>  | Satisfactory |
| 73       | 3/26/2021 | 69  | 20 | 2 | 21 | <b>69</b>  | Satisfactory |
| 74       | 3/30/2021 | 49  | 29 | 2 | 22 | <b>49</b>  | Good         |

\* No Monitoring

| ANNUAL AVERAGES OF AAQM DATA FOR NAMP STATIONS<br>FROM APRIL 2020 to MARCH 2021 |                                    |              |                |                 |               |               |
|---------------------------------------------------------------------------------|------------------------------------|--------------|----------------|-----------------|---------------|---------------|
| Sr. No.                                                                         | Area type                          | NAMP Station | PM10 µg/<br>m3 | PM2.5 µg/<br>m3 | SO2 µg/<br>m3 | NOX µg/<br>m3 |
| 1                                                                               | Residential/<br>Commercial<br>Area | Panaji       | 64             | 25              | 2             | 11            |
| 2                                                                               |                                    | Mapusa       | 45             | 26              | 2             | 11            |
| 3                                                                               |                                    | Baina        | 49             | 33              | 2             | 10            |
| 4                                                                               |                                    | Vasco        | 59             | 34              | 2             | 10            |
| 5                                                                               |                                    | Ponda        | 60             | 31              | 8             | 13            |
| 6                                                                               |                                    | Margao       | 59             | 30              | 8             | 13            |
| 7                                                                               | Mining Area                        | Assanora     | 57             | 29              | 7             | 13            |
| 8                                                                               |                                    | Amona        | 58             | 30              | 8             | 13            |
| 9                                                                               |                                    | Bicholim     | 61             | 31              | 8             | 13            |
| 10                                                                              |                                    | Honda        | 63             | 32              | 8             | 13            |
| 11                                                                              |                                    | Usgao        | 65             | 33              | 8             | 13            |
| 12                                                                              |                                    | Codli        | 61             | 31              | 8             | 13            |
| 13                                                                              |                                    | Sanguem      | 57             | 30              | 7             | 13            |
| 14                                                                              |                                    | Tilamol      | 66             | 33              | 8             | 13            |
| 15                                                                              | Industrial<br>Area                 | Cuncolim     | 68             | 34              | 8             | 13            |
| 16                                                                              |                                    | Kundaim      | 62             | 32              | 8             | 13            |
| 17                                                                              |                                    | Tuem         | 56             | 29              | 7             | 13            |
| 18                                                                              |                                    | MPT          | 57             | 25              | 2             | 10            |
| Annual Std                                                                      |                                    |              | 60.00          | 40.00           | 50.00         | 40.00         |



ANNEXURE - VIII

| RIVER CHAPORA NEAR ALORNA FORT, PERNEM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |          |                                                                                           |
|--------------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|-------------------------------------------------------------------------------------------|
| Sr. No                                           | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21   | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                                                | Temperature°C                                | 28     | 31     | 30     | 28     | 26     | 26     | 28     | 28     | 28     | 28     | 28     | 28       | 4 mg/l or more<br>6-9                                                                     |
| 2                                                | Dissolved Oxygen(mg/l)                       | 7.4    | 6.1    | 6.5    | 7.2    | 7.5    | 6.9    | 7.6    | 7.2    | 8.0    | 7.0    | 6.1    | 6.5      |                                                                                           |
| 3                                                | pH                                           | 6.93   | 6.99   | 7.33   | 6.53   | 6.85   | 6.50   | 6.86   | 6.68   | 6.70   | 7.06   | 6.71   | 6.54     |                                                                                           |
| 4                                                | Conductivity(µs/cm)                          | 7078.0 | 185.59 | 1651.0 | 66.2   | 16.34  | 50.03  | 24.20  | 76.86  | 77.02  | 90.20  | 9520.0 | 12430.00 | 3 mg/l or less                                                                            |
| 5                                                | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL      |                                                                                           |
| 6                                                | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.35   | BDL    | 0.51   | 0.18   | 0.19   | 0.13   | 0.14   | 0.16   | 0.1    | 0.1    | BDL    | 0.24     |                                                                                           |
| 7                                                | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.086  | BDL    | 0.03   | 0.007  | 0.01   | 0.02   | 0.005  | BDL    | BDL    | 0.015  | 0.03   | 0.03     | 5000 or less MPN/100 ml                                                                   |
| 8                                                | Total Coliform(MPN/100ml)                    | 1700   | 2300   | 3300   | 2700   | 3200   | 2600   | 2700   | 2200   | 2100   | 1700   | 790    | 490      |                                                                                           |
| 9                                                | Fecal Coliform(MPN/100ml)                    | 1300   | 1300   | 1300   | 2200   | 2100   | 1700   | 2200   | 1700   | 1400   | 330    | 230    | 230      |                                                                                           |
| 10                                               | Fecal Streptococci(MPN/100ml)                | -      | -      | -      | 71     | 131    | 111    | 111    | 171    | 141    | 141    | 131    | 221      |                                                                                           |
| 11                                               | Turbidity(NTU)                               | 1.66   | 2.58   | 4.65   | 5.1    | 5.66   | 30.0   | 27.8   | 4.15   | 4.20   | 3.72   | 2.69   | 3.39     |                                                                                           |
| 12                                               | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL      |                                                                                           |
| 13                                               | Total Alkalinity(mg/l)                       | 48.0   | 48.0   | 46.0   | 40.0   | 34.0   | 24.0   | 30.0   | 32.0   | 32.0   | 34.0   | 56.0   | 50.0     |                                                                                           |
| 14                                               | Chlorides(mg/l)                              | 3131.0 | 2094.2 | 978.0  | 6.0    | 4.0    | 5.0    | 5.0    | 6.0    | 121.0  | 635.7  | 2925.0 | 2899.1   |                                                                                           |
| 15                                               | COD(mg/l)                                    | 6.0    | -      | 4.0    | 4.0    | 8.0    | 4.0    | 4.0    | 6.0    | 4.0    | 14.0   | -      | -        |                                                                                           |
| 16                                               | Total Kjeldahl Nitrogen(mg/l)                | 4.03   | -      | -      | -      | -      | -      | 7.84   | -      | -      | -      | 56.0   | 11.2     |                                                                                           |
| 17                                               | Ammonia (mg/l)                               | BDL    | 0.21   | 0.19   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.07   | BDL    | BDL      |                                                                                           |
| 18                                               | Total Hardness(mg/l)                         | 590.0  | 164.0  | 178.0  | 36.0   | 30.0   | 18.0   | 30.0   | 34.0   | 58.0   | 250.0  | 850.0  | 1200.0   |                                                                                           |
| 19                                               | Calcium(mg/l)                                | 45.0   | 32.0   | 14.0   | 6.0    | 3.0    | 5.0    | 4.0    | 6.0    | 7.0    | 20.8   | 68.0   | 320.6    |                                                                                           |
| 20                                               | Magnesium(mg/l)                              | 116.0  | 32.1   | 35.0   | 5.0    | 5.0    | BDL    | 5.0    | 4.0    | 10.0   | 48.1   | 165.0  | 97.2     |                                                                                           |
| 21                                               | Sulphate(mg/l)                               | 95.0   | 44.3   | 8.6    | 2.0    | BDL    | 8.0    | BDL    | 2.0    | 15.0   | 190.2  | 132.0  | 124.6    |                                                                                           |
| 22                                               | Sodium(mg/l)                                 | 8.6    | -      | -      | -      | -      | -      | 5.8    | -      | -      | -      | -      | -        |                                                                                           |
| 23                                               | Total Dissolved Solids(mg/l)                 | 4256.0 | 111.0  | 984.0  | 38.0   | 10.0   | 31.0   | 36.0   | 48.0   | 46.0   | 61.0   | 54.0   | 5276.0   |                                                                                           |
| 24                                               | Total Fixed Solids(mg/l)                     | 1258.0 | 63.0   | 246.0  | 21.0   | BDL    | 18.0   | 11.0   | 22.0   | 19.0   | 30.0   | 19.0   | 2775.0   |                                                                                           |
| 25                                               | Total Suspended Solids(mg/l)                 | 28.0   | 26.0   | 35.0   | 46.0   | 37.0   | 26.0   | 17.0   | 18.0   | 28.0   | 21.0   | 31.0   | 20.0     |                                                                                           |
| 26                                               | Phosphate(mg/l)                              | 0.06   | BDL    | 0.04   | BDL    | 0.18   | 0.06   | 0.04   | 0.05   | 0.02   | BDL    | 0.05   | 0.02     |                                                                                           |
| 27                                               | Boron(mg/l)                                  | 0.74   | -      | -      | -      | -      | -      | 0.82   | -      | -      | -      | -      | -        |                                                                                           |
| 28                                               | Potassium(mg/l)                              | 4.4    | -      | -      | -      | -      | -      | 0.89   | -      | -      | -      | -      | -        |                                                                                           |
| 29                                               | Flouride(mg/l)                               | BDL    | 1.42   | 0.51   | 0.10   | BDL    | 0.25   | BDL    | BDL    | BDL    | BDL    | 56     | 0.41     |                                                                                           |
| 30                                               | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 31                                               | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.013  | -      | -      | -      | -      | -        |                                                                                           |
| 32                                               | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.692  | -      | -      | -      | -      | -        |                                                                                           |
| 33                                               | Lead(mg/l)                                   | 0.057  | -      | -      | -      | -      | -      | 0.052  | -      | -      | -      | -      | -        |                                                                                           |
| 34                                               | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | 0.004  | -      | -      | -      | -      | -        |                                                                                           |
| 35                                               | Nickel(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 36                                               | Zinc(mg/l)                                   | 0.082  | -      | -      | -      | -      | -      | 0.040  | -      | -      | -      | -      | -        |                                                                                           |
| 37                                               | Iron Total(mg/l)                             | 0.475  | -      | -      | -      | -      | -      | 0.243  | -      | -      | -      | -      | -        |                                                                                           |
| 38                                               | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 39                                               | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 40                                               | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 41                                               | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 42                                               | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 43                                               | Anillofos (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 44                                               | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 45                                               | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 46                                               | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 47                                               | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 48                                               | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 49                                               | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 50                                               | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |
| 51                                               | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -        |                                                                                           |

| RIVER KALNA AT CHANDEL, PERNEM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        | Limit for class C river as per CPCB classification based on designated best use of rivers |
|------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                                   | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21                                                                                    |
| 1                                        | Temperature°C                                | 28     | 31     | 29     | 28     | 26     | 28     | 28     | 29     | 28     | 28     | 28     | 28                                                                                        |
| 2                                        | Dissolved Oxygen(mg/l)                       | 7.7    | 6.4    | 6.6    | 8      | 7.4    | 7.4    | 7.6    | 6.9    | 7.8    | 6.9    | 7.2    | 6.7                                                                                       |
| 3                                        | pH                                           | 7.07   | 6.74   | 7.25   | 6.71   | 6.85   | 6.8    | 6.6    | 6.58   | 6.50   | 7.21   | 6.94   | 6.79                                                                                      |
| 4                                        | Conductivity(µs/cm)                          | 101.35 | 96.85  | 82.20  | 68.14  | 15.31  | 55.50  | 57.99  | 69.01  | 68.02  | 87.85  | 108.41 | 92.28                                                                                     |
| 5                                        | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL                                                                                       |
| 6                                        | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.28   | BDL    | 0.61   | 0.21   | 0.15   | 0.1    | 0.07   | 0.007  | BDL    | 0.1    | BDL    | 0.18                                                                                      |
| 7                                        | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.085  | 0.005  | BDL    | BDL    | BDL    | 0.007  | 0.007  | BDL    | BDL    | BDL    | 0.03   | BDL                                                                                       |
| 8                                        | Total Coliform(MPN/100ml)                    | 1300   | 1300   | 2300   | 3300   | 2300   | 2200   | 3300   | 2300   | 2200   | 3500   | 1700   | 790                                                                                       |
| 9                                        | Fecal Coliform(MPN/100ml)                    | 780    | 780    | 1300   | 1700   | 1300   | 1100   | 2300   | 1300   | 1300   | 230    | 790    | 490                                                                                       |
| 10                                       | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 351    | 541    | >1601  | 351    | 95     | 50     | 921    | 95     | 211                                                                                       |
| 11                                       | Turbidity(NTU)                               | 1.08   | 2.96   | 4.11   | 1.82   | 6.25   | 46.3   | 54.4   | 4.52   | 4.46   | 3.57   | 2.55   | 2.89                                                                                      |
| 12                                       | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL                                                                                       |
| 13                                       | Total Alkalinity(mg/l)                       | 44.0   | 40.0   | 42.0   | 40.0   | 22.0   | 28.0   | 30.0   | 34.0   | 26.0   | 34.0   | 46.0   | 42.0                                                                                      |
| 14                                       | Chlorides(mg/l)                              | 10.0   | 9.36   | 7.0    | 6.0    | 6.0    | 6.0    | 6.0    | 5.0    | 8.0    | 7.88   | 9.0    | 6.0                                                                                       |
| 15                                       | COD(mg/l)                                    | 4.0    | 8.0    | 4.0    | 4.0    | 6.0    | 4.0    | 4.0    | 4.0    | 4.0    | 8.0    | 4.0    | 8.0                                                                                       |
| 16                                       | Total Kjeldahl Nitrogen(mg/l)                | 3.3    | -      | -      | -      | -      | -      | 6.72   | -      | -      | -      | 88.0   | 7.0                                                                                       |
| 17                                       | Ammonia (mg/l)                               | BDL    | 0.05   | 0.05   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL                                                                                       |
| 18                                       | Total Hardness(mg/l)                         | 40.0   | 22.0   | 36.0   | 36.0   | 20.0   | 26.0   | 28.0   | 28.0   | 24.0   | 18.0   | 54.0   | 28.0                                                                                      |
| 19                                       | Calcium(mg/l)                                | 5.0    | 12.0   | 7.0    | 4.0    | 2.0    | 3.0    | 3.0    | 3.0    | 3.0    | 4.0    | 8.0    | 7.2                                                                                       |
| 20                                       | Magnesium(mg/l)                              | 7.0    | 2.4    | 4.0    | 6.0    | 3.0    | 4.0    | 5.0    | 5.0    | 4.0    | BDL    | 8.0    | 2.43                                                                                      |
| 21                                       | Sulphate(mg/l)                               | 2.0    | 7.08   | 3.54   | 5.0    | 2.0    | 5.00   | 2.00   | 2.00   | BDL    | 3.75   | 2.0    | 2.74                                                                                      |
| 22                                       | Sodium(mg/l)                                 | 8.4    | -      | -      | -      | -      | -      | 9.9    | -      | -      | -      | -      | -                                                                                         |
| 23                                       | Total Dissolved Solids(mg/l)                 | 60.0   | 60.0   | 49.0   | 40.0   | BDL    | 34.0   | 35.0   | 40.0   | 40.0   | 56.0   | 52.0   | 52.0                                                                                      |
| 24                                       | Total Fixed Solids(mg/l)                     | 49.0   | 38.0   | 18.0   | 19.0   | BDL    | 16.0   | 13.0   | 18.0   | 17.0   | 27.0   | 21.0   | 33.0                                                                                      |
| 25                                       | Total Suspended Solids(mg/l)                 | 22.0   | 14.0   | 32.0   | 26.0   | 49.0   | 29.0   | 26.0   | 16.0   | 23.0   | 12.0   | 26.0   | 10.0                                                                                      |
| 26                                       | Phosphate(mg/l)                              | 0.04   | 0.07   | 0.04   | 0.19   | 0.95   | 0.04   | 0.04   | 0.03   | BDL    | BDL    | 0.03   | 0.05                                                                                      |
| 27                                       | Boron(mg/l)                                  | 0.85   | -      | -      | -      | -      | -      | 0.62   | -      | -      | -      | -      | -                                                                                         |
| 28                                       | Potassium(mg/l)                              | 3.6    | -      | -      | -      | -      | -      | 0.92   | -      | -      | -      | -      | -                                                                                         |
| 29                                       | Flouride(mg/l)                               | 0.72   | 1.08   | 0.08   | 0.15   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL                                                                                       |
| 30                                       | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 31                                       | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 32                                       | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.081  | -      | -      | -      | -      | -                                                                                         |
| 33                                       | Lead(mg/l)                                   | 0.156  | -      | -      | -      | -      | -      | 0.071  | -      | -      | -      | -      | -                                                                                         |
| 34                                       | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 35                                       | Nickel(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.372  | -      | -      | -      | -      | -                                                                                         |
| 36                                       | Zinc(mg/l)                                   | 0.084  | -      | -      | -      | -      | -      | 0.029  | -      | -      | -      | -      | -                                                                                         |
| 37                                       | Iron Total(mg/l)                             | 0.547  | -      | -      | -      | -      | -      | 0.118  | -      | -      | -      | -      | -                                                                                         |
| 38                                       | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 39                                       | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 40                                       | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 41                                       | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 42                                       | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 43                                       | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 44                                       | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 45                                       | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 46                                       | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 47                                       | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 48                                       | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 49                                       | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 50                                       | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |
| 51                                       | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -                                                                                         |

| RIVER MAPUSA ON CULVERT ON HIGHWAY MAPUSA-PANAJI 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                         |
|------------------------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------------------------------------------------------------------------------|
| Sr. No                                                     | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                                          | Temperature°C                                | 29     | 32     | 30     | 29     | 27     | 29     | 28     | 31     | 29     | 29     | 29     | 29     | 4 mg/l or more<br>6.5 - 8.5                                                             |
| 2                                                          | Dissolved Oxygen(mg/l)                       | 5.6    | 6.8    | 6.1    | 4.3    | 5.7    | 4.2    | 2.7    | 3.0    | 2.0    | 3.5    | 1.6    | 4.5    |                                                                                         |
| 3                                                          | pH                                           | 7.34   | 7.10   | 7.11   | 6.79   | 6.70   | 6.74   | 6.43   | 6.23   | 6.20   | 7.24   | 6.64   | 6.49   |                                                                                         |
| 4                                                          | Conductivity(µs/cm)                          | 404.11 | 96.85  | 135.80 | 163.73 | 30.01  | 115.26 | 167.34 | 192.91 | 190.01 | 124.89 | 369.30 | 690.56 | 3 mg/l or less                                                                          |
| 5                                                          | BOD(mg/l)                                    | BDL    | BDL    | 2.4    | BDL    | 2.2    | 2.0    | 4.0    | 5.0    | 3.6    | BDL    | 3.6    | 2.9    |                                                                                         |
| 6                                                          | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.32   | BDL    | 0.65   | 0.73   | 0.45   | 0.34   | 0.31   | 0.14   | 0.22   | 0.1    | BDL    | 0.15   |                                                                                         |
| 7                                                          | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.046  | BDL    | BDL    | BDL    | BDL    | 0.01   | 0.008  | 0.012  | BDL    | BDL    | 0.02   | BDL    |                                                                                         |
| 8                                                          | Total Coliform(MPN/100ml)                    | 7900   | 7000   | 9400   | 7900   | 7000   | 7000   | 7000   | 7000   | 7000   | 3500   | 2300   | 330    | 100 or less MPN/100 ml                                                                  |
| 9                                                          | Fecal Coliform(MPN/100ml)                    | 3300   | 3300   | 4900   | 4900   | 4600   | 3300   | 4900   | 4900   | 4600   | 230    | 1300   | 130    |                                                                                         |
| 10                                                         | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 541    | 541    | 921    | >1601  | 541    | 1601   | 351    | 171    | 541    |                                                                                         |
| 11                                                         | Turbidity(NTU)                               | 2.85   | 2.91   | 9.52   | 11.91  | 9.94   | 25.2   | 14.84  | 6.55   | 6.50   | 8.90   | 18.11  | 10.76  | 30 NTU                                                                                  |
| 12                                                         | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                         |
| 13                                                         | Total Alkalinity(mg/l)                       | 48.0   | 40.0   | 50.0   | 44.0   | 38.0   | 26.0   | 32.0   | 58.0   | 48.0   | 32.0   | 58.0   | 66.0   |                                                                                         |
| 14                                                         | Chlorides(mg/l)                              | 342.0  | 739.1  | 391.0  | 21.0   | 12.0   | 17.0   | 16.0   | 25.0   | 36.0   | 591.3  | 68.0   | 135.0  |                                                                                         |
| 15                                                         | COD(mg/l)                                    | 8.0    | 9.0    | 6.0    | 8.0    | 10.0   | 6.0    | 12.0   | 14.0   | 10.0   | 10.0   | 10.0   | 10.0   |                                                                                         |
| 16                                                         | Total Kjeldahl Nitrogen(mg/l)                | 3.58   | -      | -      | -      | -      | -      | 6.72   | -      | -      | -      | 88.0   | 26.6   |                                                                                         |
| 17                                                         | Ammonia (mg/l)                               | BDL    | 0.06   | BDL    | 0.05   | 0.08   | 0.05   | 0.08   | 0.10   | 0.14   | BDL    | BDL    | 0.06   |                                                                                         |
| 18                                                         | Total Hardness(mg/l)                         | 62.0   | 30.0   | 50.0   | 42.0   | 40.0   | 30.0   | 50.0   | 54.0   | 42.0   | 20.0   | 56.0   | 88.0   |                                                                                         |
| 19                                                         | Calcium(mg/l)                                | 6.0    | 16.0   | 8.0    | 9.0    | 4.0    | 6.0    | 10.0   | 12.0   | 10.0   | 6.4    | 15.0   | 20.0   |                                                                                         |
| 20                                                         | Magnesium(mg/l)                              | 11.0   | 3.4    | 7.0    | 5.0    | 7.0    | 3.0    | 6.0    | 6.0    | 4.0    | BDL    | 4.0    | 9.2    |                                                                                         |
| 21                                                         | Sulphate(mg/l)                               | 52.0   | 78.7   | 11.52  | 11.00  | 3.00   | 7.00   | 5.00   | 3.00   | 11.00  | 69.70  | 6.0    | 12.85  |                                                                                         |
| 22                                                         | Sodium(mg/l)                                 | 8.6    | -      | -      | -      | -      | -      | 17.2   | -      | -      | -      | -      | -      |                                                                                         |
| 23                                                         | Total Dissolved Solids(mg/l)                 | 243.0  | 96.0   | 80.0   | 100.0  | 18.0   | 70.0   | 106.0  | 120.0  | 114.0  | 77.0   | 75.0   | 571.0  |                                                                                         |
| 24                                                         | Total Fixed Solids(mg/l)                     | 109.0  | 54.0   | 36.0   | 59.0   | BDL    | 31.0   | 42.0   | 58.0   | 48.0   | 51.0   | 36.0   | 375.0  |                                                                                         |
| 25                                                         | Total Suspended Solids(mg/l)                 | 33.0   | 21.0   | 53.0   | 51.0   | 52.0   | 38.0   | 14.0   | 29.0   | 42.0   | 33.0   | 43.0   | 15.0   |                                                                                         |
| 26                                                         | Phosphate(mg/l)                              | 0.07   | 0.05   | 0.05   | 0.27   | 0.14   | 0.09   | 0.05   | 0.08   | 0.12   | 0.02   | 0.06   | 0.05   |                                                                                         |
| 27                                                         | Boron(mg/l)                                  | 0.82   | -      | -      | -      | -      | -      | 0.68   | -      | -      | -      | -      | -      |                                                                                         |
| 28                                                         | Potassium(mg/l)                              | 4.0    | -      | -      | -      | -      | -      | 1.9    | -      | -      | -      | -      | -      |                                                                                         |
| 29                                                         | Flouride(mg/l)                               | 0.68   | 0.5    | 0.79   | 0.29   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.34   |                                                                                         |
| 30                                                         | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 31                                                         | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.004  | -      | -      | -      | -      | -      |                                                                                         |
| 32                                                         | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.233  | -      | -      | -      | -      | -      |                                                                                         |
| 33                                                         | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | 0.042  | -      | -      | -      | -      | -      |                                                                                         |
| 34                                                         | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 35                                                         | Nickel(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 36                                                         | Zinc(mg/l)                                   | 0.085  | -      | -      | -      | -      | -      | 0.004  | -      | -      | -      | -      | -      |                                                                                         |
| 37                                                         | Iron Total(mg/l)                             | BDL    | -      | -      | -      | -      | -      | 0.092  | -      | -      | -      | -      | -      |                                                                                         |
| 38                                                         | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 39                                                         | DDT-α p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 40                                                         | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 41                                                         | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 42                                                         | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 43                                                         | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 44                                                         | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 45                                                         | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 46                                                         | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 47                                                         | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 48                                                         | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 49                                                         | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 50                                                         | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |
| 51                                                         | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                         |

| RIVER ASSANORA AT ASSANORA 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|--------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                               | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                                    | Temperature°C                                | 29     | 29     | 29     | 28     | 27     | 29     | 27     | 29     | 30     | 28     | 30     | 32     |                                                                                           |
| 2                                    | Dissolved Oxygen(mg/l)                       | 6.9    | 5.7    | 6.8    | 6.5    | 6.9    | 6.5    | 6.9    | 7.0    | 6.8    | 7.1    | 7.4    | 6.5    | 4 mg/l or more                                                                            |
| 3                                    | pH                                           | 6.76   | 6.42   | 6.98   | 6.34   | 6.81   | 5.69   | 6.19   | 6.28   | 6.90   | 6.79   | 6.63   | 6.5    | 6-9                                                                                       |
| 4                                    | Conductivity(µs/cm)                          | 67.01  | 72.94  | 65.59  | 62.34  | 56.57  | 59.8   | 50.48  | 56.62  | 70.43  | 68.09  | 80.04  | 69.68  |                                                                                           |
| 5                                    | BOD(mg/l)                                    | BDL    | 2.2    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 2.1    | BDL    | 3 mg/l or less                                                                            |
| 6                                    | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | 0.1    | BDL    | BDL    | BDL    | 0.11   | BDL    | 0.13   | BDL    | BDL    | BDL    | 0.15   |                                                                                           |
| 7                                    | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 8                                    | Total Coliform(MPN/100ml)                    | 1300   | 1700   | 1100   | 490    | 460    | 340    | 1300   | 2400   | 1700   | 23     | 45     | 2200   | 5000 or less MPN/100 ml                                                                   |
| 9                                    | Fecal Coliform(MPN/100ml)                    | 780    | 780    | 490    | 330    | 330    | 270    | 490    | 790    | 1300   | 13     | 20     | 1300   |                                                                                           |
| 10                                   | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 39     | 14     | 10.3   | 23     | 121    | >1601  | 12     | <1.8   | 431    |                                                                                           |
| 11                                   | Turbidity(NTU)                               | 5.67   | 3.57   | 2.88   | 3.74   | 3.68   | 5.92   | 5.63   | 3.75   | 4.3    | 3.37   | 3.54   | 3.43   |                                                                                           |
| 12                                   | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                                   | Total Alkalinity(mg/l)                       | 38.0   | 22.0   | 34.0   | 24.0   | 24.0   | 22.0   | 26.0   | 24.0   | 32.0   | 24.0   | 30.0   | 26.0   |                                                                                           |
| 14                                   | Chlorides(mg/l)                              | 4.40   | 7.80   | 7.0    | 7.0    | 10.8   | 7.0    | 6.0    | 6.50   | 24.30  | 6.90   | 8.0    | 4.00   |                                                                                           |
| 15                                   | COD(mg/l)                                    | 6.0    | 6.0    | 6.0    | 6.0    | 6.0    | 4.0    | 4.0    | 4.0    | 6.0    | 4.0    | 6.0    | 6.0    |                                                                                           |
| 16                                   | Total Kjeldahl Nitrogen(mg/l)                | 3.13   | -      | -      | -      | -      | -      | 6.72   | -      | -      | -      | 21.0   | BDL    |                                                                                           |
| 17                                   | Ammonia (mg/l)                               | 0.16   | 0.23   | 0.09   | 0.05   | 0.05   | BDL    | 0.05   | 0.06   | BDL    | 0.06   | BDL    | BDL    |                                                                                           |
| 18                                   | Total Hardness(mg/l)                         | 28.0   | 16.0   | 22.0   | 18.0   | 14.0   | 22.0   | 18.0   | 20.0   | 10.0   | 18.0   | 60.0   | 20.0   |                                                                                           |
| 19                                   | Calcium(mg/l)                                | 6.4    | BDL    | 4.01   | 4.01   | 3.21   | 4.81   | 3.21   | 3.21   | BDL    | 2.40   | 7.0    | 5.60   |                                                                                           |
| 20                                   | Magnesium(mg/l)                              | 2.92   | 3.4    | 2.9    | BDL    | BDL    | 2.4    | 2.4    | 2.9    | BDL    | 2.9    | 10.0   | BDL    |                                                                                           |
| 21                                   | Sulphate(mg/l)                               | 3.08   | 3.4    | 3.39   | 4.0    | 3.79   | BDL    | 5.83   | BDL    | BDL    | 3.3    | 3.0    | BDL    |                                                                                           |
| 22                                   | Sodium(mg/l)                                 | 21     | -      | -      | -      | -      | -      | 6.6    | -      | -      | -      | -      | -      |                                                                                           |
| 23                                   | Total Dissolved Solids(mg/l)                 | 39.0   | 46.0   | 41.0   | 37.0   | 34.0   | 36.0   | 30.0   | 31.0   | 42.0   | 45.0   | 41.0   | 35.0   |                                                                                           |
| 24                                   | Total Fixed Solid(mg/l)                      | 22.0   | 32.0   | 26.0   | 33.0   | 29.0   | 31.0   | 25.0   | 24.0   | 37.0   | 27.0   | 21.0   | 24.0   |                                                                                           |
| 25                                   | Total Suspended Solids(mg/l)                 | 16.0   | 8.0    | 8.0    | 5.0    | 10.0   | 12.0   | 15.0   | 20.0   | 17.0   | 10.0   | 33.0   | 14.0   |                                                                                           |
| 26                                   | Phosphate(mg/l)                              | BDL    | BDL    | BDL    | 0.03   | 0.05   | 0.04   | 0.03   | 0.03   | 0.03   | BDL    | 0.03   | 0.03   |                                                                                           |
| 27                                   | Boron(mg/l)                                  | 0.58   | -      | -      | -      | -      | -      | 0.42   | -      | -      | -      | -      | -      |                                                                                           |
| 28                                   | Potassium(mg/l)                              | 0.56   | -      | -      | -      | -      | -      | 0.81   | -      | -      | -      | -      | -      |                                                                                           |
| 29                                   | Flouride(mg/l)                               | 1.42   | BDL    | BDL    | BDL    | 0.97   | 0.50   | 0.78   | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 30                                   | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                                   | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32                                   | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.015  | -      | -      | -      | -      | -      |                                                                                           |
| 33                                   | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34                                   | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                                   | Nickel(mg/l)                                 | 0.248  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                                   | Zinc(mg/l)                                   | 0.148  | -      | -      | -      | -      | -      | 0.010  | -      | -      | -      | -      | -      |                                                                                           |
| 37                                   | Iron Total(mg/l)                             | 0.475  | -      | -      | -      | -      | -      | 0.051  | -      | -      | -      | -      | -      |                                                                                           |
| 38                                   | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                                   | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                                   | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                                   | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                                   | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                                   | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                                   | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                                   | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                                   | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                                   | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                                   | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                                   | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                                   | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                                   | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| Sr. No | Parameters                                   | RIVER VALVANTIAT SANQUELIM 2020-2021 |        |        |        |        |        |        |        |        |        |        |        | Limit for class C river as per CPCB classification based on designated best use of rivers |
|--------|----------------------------------------------|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
|        |                                              | Apr-20                               | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 |                                                                                           |
| 1      | Temperature°C                                | 30                                   | 29     | 29     | 28     | 27     | 29     | 27     | 29     | 30     | 29     | 30     | 33     |                                                                                           |
| 2      | Dissolved Oxygen(mg/l)                       | 7.1                                  | 6.4    | 6.4    | 7.6    | 7.7    | 7.5    | 7.8    | 6.9    | 7.1    | 8.0    | 8.0    | 7.7    | 4 mg/l or more                                                                            |
| 3      | pH                                           | 6.71                                 | 6.89   | 6.84   | 6.14   | 6.63   | 5.86   | 6.15   | 6.46   | 6.54   | 6.84   | 6.78   | 6.65   | 6-9                                                                                       |
| 4      | Conductivity(µs/cm)                          | 69.07                                | 94.87  | 72.76  | 56.87  | 49.32  | 48.4   | 44.96  | 67.81  | 79.57  | 85.28  | 77.37  | 83.07  |                                                                                           |
| 5      | BOD(mg/l)                                    | BDL                                  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 3 mg/l or less                                                                            |
| 6      | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.11                                 | 0.1    | 0.16   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.2    | BDL    | 0.13   |                                                                                           |
| 7      | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.012                                | BDL    | 0.03   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 8      | Total Coliform(MPN/100ml)                    | 2300                                 | 2200   | 3300   | 3300   | 2700   | 2600   | 3200   | 2700   | 2200   | 330    | 5400   | 1100   | 5000 or less MPN/100 ml                                                                   |
| 9      | Fecal Coliform(MPN/100ml)                    | 1300                                 | 1300   | 1700   | 1300   | 1700   | 1300   | 1700   | 2200   | 1700   | 230    | 2400   | 490    |                                                                                           |
| 10     | Fecal Streptococci (MPN/100ml)               | -                                    | -      | -      | 351    | 351    | 921    | 210    | 131    | 22     | 121    | 24     | 64     |                                                                                           |
| 11     | Turbidity(NTU)                               | 2.10                                 | 2.69   | 2.43   | 2.55   | 5.17   | 14.19  | 6.66   | 2.92   | 2.43   | 1.43   | 2.70   | 3.00   |                                                                                           |
| 12     | Phenolphthalein Alkalinity(mg/l)             | BDL                                  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13     | Total Alkalinity(mg/l)                       | 30.0                                 | 26.0   | 30.0   | 24.0   | 20.0   | 20.0   | 28.0   | 26.0   | 12.0   | 22.0   | 26.0   | 26.0   |                                                                                           |
| 14     | Chlorides(mg/l)                              | 4.89                                 | 12.7   | 7.5    | 6.0    | 9.9    | 5.5    | 4.5    | 4.0    | 4.5    | 8.8    | 7.0    | 6.0    |                                                                                           |
| 15     | COD(mg/l)                                    | 6.0                                  | 4.0    | 6.0    | 6.0    | 6.0    | 4.0    | 4.0    | 4.0    | 6.0    | 6.0    | 6.0    | 4.0    |                                                                                           |
| 16     | Total Kjeldahl Nitrogen(mg/l)                | 3.81                                 | -      | -      | -      | -      | -      | 7.84   | -      | -      | -      | 38.0   | 26.6   |                                                                                           |
| 17     | Ammonia (mg/l)                               | 0.18                                 | 0.16   | 0.15   | 0.05   | 0.06   | 0.05   | 0.08   | 0.08   | BDL    | 0.16   | BDL    | BDL    |                                                                                           |
| 18     | Total Hardness(mg/l)                         | 28.0                                 | 26.0   | 16.0   | 12.0   | 18.0   | 10.0   | 18.0   | 20.0   | 18.0   | 24.0   | 62.0   | 20.0   |                                                                                           |
| 19     | Calcium(mg/l)                                | 6.4                                  | 4.8    | 4.81   | BDL    | 2.40   | 2.4    | 3.21   | 3.21   | 2.40   | 4.80   | 7.0    | 6.40   |                                                                                           |
| 20     | Magnesium(mg/l)                              | 2.92                                 | 3.4    | BDL    | BDL    | 2.9    | BDL    | 2.4    | 2.9    | 2.90   | 2.90   | 11.0   | BDL    |                                                                                           |
| 21     | Sulphate(mg/l)                               | 2.13                                 | 3.1    | 4.39   | 3.2    | BDL    | BDL    | 2.51   | BDL    | 2.49   | 5.7    | 2.0    | BDL    |                                                                                           |
| 22     | Sodium(mg/l)                                 | 25                                   | -      | -      | -      | -      | -      | 5.9    | -      | -      | -      | -      | -      |                                                                                           |
| 23     | Total Dissolved Solids(mg/l)                 | 42.0                                 | 60.0   | 43.0   | 34.0   | 32.0   | 29.0   | 27.0   | 38.0   | 47.0   | 57.0   | 53.0   | 51.0   |                                                                                           |
| 24     | Total Fixed Solids(mg/l)                     | 20.0                                 | 36.0   | 39.0   | 31.0   | 27.0   | 26.0   | 22.0   | 31.0   | 42.0   | 35.0   | 20.0   | 34.0   |                                                                                           |
| 25     | Total Suspended Solids(mg/l)                 | 12.0                                 | 11.0   | 6.0    | 5.0    | 6.0    | 7.0    | 11.0   | 12.0   | 14.0   | 28.0   | 16.0   | 9.0    |                                                                                           |
| 26     | Phosphate(mg/l)                              | BDL                                  | BDL    | 0.03   | BDL    | 0.04   | 0.05   | 0.03   | 0.03   | 0.04   | BDL    | 0.04   | 0.02   |                                                                                           |
| 27     | Boron(mg/l)                                  | 0.76                                 | -      | -      | -      | -      | -      | 0.62   | -      | -      | -      | -      | -      |                                                                                           |
| 28     | Potassium(mg/l)                              | 0.5                                  | -      | -      | -      | -      | -      | 0.63   | -      | -      | -      | -      | -      |                                                                                           |
| 29     | Flouride(mg/l)                               | BDL                                  | BDL    | BDL    | BDL    | 0.69   | 0.2    | 0.35   | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 30     | Arsenic(mg/l)                                | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31     | Cadmium(mg/l)                                | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32     | Copper(mg/l)                                 | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 33     | Lead(mg/l)                                   | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34     | Chromium(mg/l)                               | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35     | Nickel(mg/l)                                 | 0.22                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36     | Zinc(mg/l)                                   | 0.063                                | -      | -      | -      | -      | -      | 0.018  | -      | -      | -      | -      | -      |                                                                                           |
| 37     | IronTotal(mg/l)                              | 0.532                                | -      | -      | -      | -      | -      | 0.117  | -      | -      | -      | -      | -      |                                                                                           |
| 38     | Carbaryl (mg/L)                              | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39     | DDT- $\alpha$ -p' (mg/L)                     | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40     | DDT- $\beta$ -p' (mg/L)                      | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41     | alpha Endosulfan(mg/L)                       | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42     | beta Endosulfan(mg/L)                        | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43     | Anilofos (mg/L)                              | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44     | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45     | Aldrin/Dieldrin (mg/L)                       | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46     | Alpha HCH (mg/L)                             | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47     | Beta HCH (mg/L)                              | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48     | Chlorpyrifos (mg/L)                          | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49     | Gamma-HCH (Lindane) (mg/L)                   | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50     | Malathion (mg/L)                             | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51     | Methyl parathion(mg/L)                       | BDL                                  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| RIVER MADEIRA AT DABOSE, VALPOI 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|-------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                                    | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                                         | Temperature°C                                | 30°C   | 30     | 29     | 28     | 28     | 29     | 28     | 28     | 30     | 29     | 30     | 33     | 4 mg/l or more<br>6-9                                                                     |
| 2                                         | Dissolved Oxygen(mg/l)                       | 7.3    | 6.4    | 5.1    | 7.4    | 7.1    | 6.5    | 8.0    | 7.9    | 7.5    | 7.4    | 7.3    | 7.2    |                                                                                           |
| 3                                         | pH                                           | 7.34   | 7.8    | 6.81   | 6.56   | 7.07   | 5.46   | 6.62   | 6.63   | 6.98   | 6.74   | 6.58   | 6.67   |                                                                                           |
| 4                                         | Conductivity(µs/cm)                          | 130.51 | 148.52 | 145.20 | 69.65  | 64.15  | 70.81  | 61.70  | 73.81  | 97.17  | 181.81 | 109.16 | 144.69 | 3 mg/l or less                                                                            |
| 5                                         | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | 2.0    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 6                                         | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | 0.1    | BDL    | BDL    | BDL    | 0.1    | 0.10   | BDL    | BDL    | BDL    | 0.26   | BDL    |                                                                                           |
| 7                                         | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | 0.031  | BDL    | BDL    | BDL    | BDL    | 0.005  | 0.005  | BDL    | BDL    | BDL    | BDL    | 5000 or less MPN/100 ml                                                                   |
| 8                                         | Total Coliform(MPN/100ml)                    | 1300   | 1300   | 2200   | 2700   | 1400   | 1300   | 2100   | 2200   | 1300   | 2200   | 490    | 330    |                                                                                           |
| 9                                         | Fecal Coliform(MPN/100ml)                    | 780    | 780    | 1300   | 1700   | 1100   | 1100   | 1400   | 1400   | 790    | 1700   | 230    | 130    |                                                                                           |
| 10                                        | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 171    | >1601  | 49     | 540    | 351    | 80     | 431    | 64     | 921    | 3.18                                                                                      |
| 11                                        | Turbidity(NTU)                               | 5.18   | 2.9    | 4.69   | 2.93   | 5.56   | 45.5   | 5.54   | 2.36   | 1.58   | 1.06   | 6.58   | 3.18   |                                                                                           |
| 12                                        | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                                        | Total Alkalinity(mg/l)                       | 40.0   | 62.0   | 68.0   | 28.0   | 26.0   | 24.0   | 40.0   | 38.0   | 44.0   | 40.0   | 46.0   | 60.0   | 7.0                                                                                       |
| 14                                        | Chlorides(mg/l)                              | 6.85   | 5.4    | 7.5    | 6.5    | 12.6   | 5.5    | 6.5    | 6.0    | 12.6   | 6.9    | 3.0    | 3.0    |                                                                                           |
| 15                                        | COD(mg/l)                                    | 4.0    | 6.0    | 4.0    | 4.0    | 4.0    | 6.0    | 6.0    | 8.0    | 8.0    | 4.0    | 8.0    | 6.0    |                                                                                           |
| 16                                        | Total Kjeldahl Nitrogen(mg/l)                | 4.14   | -      | -      | -      | -      | -      | 8.96   | -      | -      | -      | 70.1   | BDL    | BDL                                                                                       |
| 17                                        | Ammonia (mg/l)                               | 0.13   | 0.22   | 0.11   | 0.09   | 0.10   | 0.06   | 0.09   | 0.08   | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 18                                        | Total Hardness(mg/l)                         | 22.0   | 54.0   | 52.0   | 20.0   | 16.0   | 16.0   | 26.0   | 24.0   | 24.0   | 22.0   | 10.0   | 38.0   |                                                                                           |
| 19                                        | Calcium(mg/l)                                | 8.0    | 12.0   | 9.62   | 4.81   | 4.01   | 4.01   | 4.81   | 4.81   | 4.01   | 2.40   | 2.4    | 10.4   | 2.9                                                                                       |
| 20                                        | Magnesium(mg/l)                              | BDL    | 5.8    | 6.8    | BDL    | BDL    | BDL    | 3.4    | 2.9    | 3.4    | 3.9    | BDL    | BDL    |                                                                                           |
| 21                                        | Sulphate(mg/l)                               | 5.58   | 2.4    | 3.16   | 3.0    | BDL    | BDL    | 3.74   | BDL    | BDL    | 3.5    | BDL    | BDL    |                                                                                           |
| 22                                        | Sodium(mg/l)                                 | 32     | -      | -      | -      | -      | -      | 7.4    | -      | -      | -      | -      | -      | 78.0                                                                                      |
| 23                                        | Total Dissolved Solids(mg/l)                 | 75.0   | 96.0   | 85.0   | 42.0   | 39.0   | 42.0   | 37.0   | 41.0   | 58.0   | 118.0  | 64.0   | 64.0   |                                                                                           |
| 24                                        | Total Fixed Solids(mg/l)                     | 58.0   | 65.0   | 80.0   | 38.0   | 35.0   | 38.0   | 26.0   | 35.0   | 52.0   | 71.0   | 55.0   | 48.0   |                                                                                           |
| 25                                        | Total Suspended Solids(mg/l)                 | 21.0   | 13.0   | 8.0    | 6.0    | 4.0    | 6.0    | 7.0    | 8.0    | 10.0   | 23.0   | 10.0   | 14.0   | 0.15                                                                                      |
| 26                                        | Phosphate(mg/l)                              | 0.084  | 0.07   | 0.02   | 0.02   | 0.05   | 0.05   | 0.02   | 0.02   | 0.02   | BDL    | 0.07   | 0.07   |                                                                                           |
| 27                                        | Boron(mg/l)                                  | 0.58   | -      | -      | -      | -      | -      | 0.70   | -      | -      | -      | -      | -      |                                                                                           |
| 28                                        | Potassium(mg/l)                              | 0.7    | -      | -      | -      | -      | -      | 0.73   | -      | -      | -      | -      | -      | BDL                                                                                       |
| 29                                        | Flouride(mg/l)                               | BDL    | BDL    | BDL    | BDL    | 0.97   | 0.6    | 1.43   | 0.41   | BDL    | BDL    | 1.32   | BDL    |                                                                                           |
| 30                                        | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                                        | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.011  | -      | -      | -      | -      | -      | 1.798                                                                                     |
| 32                                        | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 1.798  | -      | -      | -      | -      | -      |                                                                                           |
| 33                                        | Lead(mg/l)                                   | 0.084  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34                                        | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      | BDL                                                                                       |
| 35                                        | Nickel(mg/l)                                 | 0.296  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                                        | Zinc(mg/l)                                   | 0.098  | -      | -      | -      | -      | -      | 0.079  | -      | -      | -      | -      | -      |                                                                                           |
| 37                                        | Iron Total(mg/l)                             | 0.619  | -      | -      | -      | -      | -      | 0.172  | -      | -      | -      | -      | -      | BDL                                                                                       |
| 38                                        | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                                        | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                                        | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      | BDL                                                                                       |
| 41                                        | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                                        | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                                        | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      | BDL                                                                                       |
| 44                                        | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                                        | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                                        | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      | BDL                                                                                       |
| 47                                        | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                                        | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                                        | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      | BDL                                                                                       |
| 50                                        | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                                        | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| Sr. No | Parameters                                   | RIVER KHANDEPAR, OPA, PONDA 2020-2021 |        |        |        |        |        |        |        |        |        |        |        | Limit for class C river as per CPCB classification based on designated best use of rivers |
|--------|----------------------------------------------|---------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
|        |                                              | Apr-20                                | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 |                                                                                           |
| 1      | Temperature°C                                | 29                                    | 29     | 30     | 28     | 27     | 29     | 27     | 30     | 31     | 30     | 29     | 28     |                                                                                           |
| 2      | Dissolved Oxygen(mg/l)                       | 6.7                                   | 6.7    | 6.5    | 7.3    | 7.6    | 7.0    | 7.1    | 6.8    | 7.0    | 6.7    | 7.0    | 6.4    | 4 mg/l or more                                                                            |
| 3      | pH                                           | 7.76                                  | 7.43   | 6.88   | 6.31   | 6.63   | 6.5    | 6.78   | 6.7    | 6.66   | 6.66   | 7.39   | 7.50   | 6-9                                                                                       |
| 4      | Conductivity(µs/cm)                          | 163.0                                 | 123.90 | 103.65 | 12.73  | 43.37  | 46.83  | 55.85  | 66.08  | 68.02  | 68.02  | 96.06  | 102.55 |                                                                                           |
| 5      | BOD(mg/l)                                    | BDL                                   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 3 mg/l or less                                                                            |
| 6      | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL                                   | BDL    | 0.123  | 0.37   | BDL    | 0.10   | BDL    | BDL    | 0.11   | BDL    | BDL    | BDL    |                                                                                           |
| 7      | Nitrite Nitrogen as NO <sub>2</sub> -N(mg/l) | BDL                                   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.01   | 0.02   | BDL    | BDL    | BDL    |                                                                                           |
| 8      | Total Coliform(MPN/100ml)                    | 270                                   | 220    | 330    | 790    | 700    | 630    | 790    | 1300   | 1300   | 790    | 1700   | 920    | 5000 or less MPN/100 ml                                                                   |
| 9      | Fecal Coliform(MPN/100ml)                    | 170                                   | 170    | 110    | 330    | 230    | 210    | 490    | 790    | 790    | 490    | 330    | 680    |                                                                                           |
| 10     | Fecal Streptococci (MPN/100ml)               | -                                     | -      | -      | 541    | 32     | 241    | 211    | 171    | 351    | 141    | 32     | 121    |                                                                                           |
| 11     | Turbidity(NTU)                               | 4.0                                   | 2.65   | 2.58   | 18.09  | 18.45  | 4.26   | 4.94   | 3.34   | 3.34   | 3.41   | 1.73   | 3.44   |                                                                                           |
| 12     | Phenolphthalein Alkalinity(mg/l)             | BDL                                   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13     | Total Alkalinity(mg/l)                       | 54.0                                  | 42.0   | 40.0   | 24.0   | 20.0   | 12.0   | 22.0   | 26.0   | 30.0   | 44.0   | 50.0   | 44.0   |                                                                                           |
| 14     | Chlorides(mg/l)                              | 13.3                                  | 11.0   | 5.83   | 3.91   | 5.87   | 7.34   | 3.91   | 4.00   | 9.00   | 9.00   | 8.81   | 8.00   |                                                                                           |
| 15     | COD(mg/l)                                    | 8.0                                   | 6.0    | 4.0    | 4.0    | 4.0    | 6.0    | 6.16   | BDL    | 10.0   | 4.0    | 6.0    | 6.0    |                                                                                           |
| 16     | Total Kjeldahl Nitrogen(mg/l)                | 4.2                                   | -      | -      | -      | -      | -      | 6.16   | BDL    | 8.12   | 3.0    | 6.57   | 3.87   |                                                                                           |
| 17     | Ammonia (mg/l)                               | 0.06                                  | BDL    | 0.215  | BDL    | BDL    | BDL    | BDL    | 0.15   | 0.08   | BDL    | BDL    | BDL    |                                                                                           |
| 18     | Total Hardness(mg/l)                         | 42.0                                  | 28.0   | 30.0   | 20.0   | 28.0   | 24.0   | 20.0   | 12.0   | 22.0   | 36.0   | 8.0    | 28.0   |                                                                                           |
| 19     | Calcium(mg/l)                                | 26.0                                  | 8.02   | 20.0   | 10.0   | 10.0   | 12.0   | 7.21   | 3.00   | 5.6    | 9.0    | BDL    | BDL    |                                                                                           |
| 20     | Magnesium(mg/l)                              | 3.9                                   | BDL    | 2.4    | 2.43   | 4.37   | 2.92   | BDL    | BDL    | 2.0    | 3.0    | BDL    | 5.8    |                                                                                           |
| 21     | Sulphate(mg/l)                               | 12.36                                 | BDL    | 4.67   | 2.33   | 4.86   | 6.36   | BDL    | BDL    | 8.12   | 3.0    | 6.57   | 3.87   |                                                                                           |
| 22     | Sodium(mg/l)                                 | 7.4                                   | -      | -      | -      | -      | -      | 8.7    | -      | -      | -      | -      | -      |                                                                                           |
| 23     | Total Dissolved Solids(mg/l)                 | 106.0                                 | 73.0   | 62.4   | 10.6   | 30.0   | 33.0   | 33.0   | 42.0   | 41.0   | 41.0   | 54.0   | 61.0   |                                                                                           |
| 24     | Total Fixed Solids(mg/l)                     | 72.0                                  | 61.0   | 31.0   | 7.0    | 20.0   | 20.0   | 15.0   | 25.0   | 29.0   | 20.0   | 26.0   | 52.0   |                                                                                           |
| 25     | Total Suspended Solids(mg/l)                 | 13.0                                  | 7.0    | 15.0   | 6.0    | 24.0   | 9.0    | 5.0    | 4.0    | 7.0    | 16.0   | 26.0   | 8.0    |                                                                                           |
| 26     | Phosphate(mg/l)                              | 0.06                                  | BDL    | 0.128  | 0.034  | 0.03   | 0.04   | BDL    | 0.04   | 0.02   | 0.03   | 0.049  | 0.04   |                                                                                           |
| 27     | Boron(mg/l)                                  | 0.71                                  | -      | -      | -      | -      | -      | 0.46   | -      | -      | -      | -      | -      |                                                                                           |
| 28     | Potassium(mg/l)                              | 1.2                                   | -      | -      | -      | -      | -      | 1.0    | -      | -      | -      | -      | -      |                                                                                           |
| 29     | Flouride(mg/l)                               | BDL                                   | BDL    | 0.114  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.24   | BDL    |                                                                                           |
| 30     | Arsenic(mg/l)                                | BDL                                   | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      |                                                                                           |
| 31     | Cadmium(mg/l)                                | BDL                                   | -      | -      | -      | -      | -      | 0.015  | -      | -      | -      | -      | -      |                                                                                           |
| 32     | Copper(mg/l)                                 | BDL                                   | -      | -      | -      | -      | -      | 1.100  | -      | -      | -      | -      | -      |                                                                                           |
| 33     | Lead(mg/l)                                   | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34     | Chromium(mg/l)                               | BDL                                   | -      | -      | -      | -      | -      | 0.091  | -      | -      | -      | -      | -      |                                                                                           |
| 35     | Nickel(mg/l)                                 | 0.288                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36     | Zinc(mg/l)                                   | 0.057                                 | -      | -      | -      | -      | -      | 0.046  | -      | -      | -      | -      | -      |                                                                                           |
| 37     | Iron Total(mg/l)                             | 0.206                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 38     | Carbaryl (mg/L)                              | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39     | DDT-o,p' (mg/L)                              | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40     | DDT-p,p' (mg/L)                              | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41     | alpha Endosulfan(mg/L)                       | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42     | beta Endosulfan(mg/L)                        | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43     | Amlotof (mg/L)                               | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44     | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45     | Aldrin/Dieldrin (mg/L)                       | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46     | Alpha HCH (mg/L)                             | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47     | Beta HCH (mg/L)                              | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48     | Chlorpyrifos (mg/L)                          | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49     | Gamma-HCH (Lindane) (mg/L)                   | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50     | Malathion (mg/L)                             | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51     | Methyl parathion(mg/L)                       | BDL                                   | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |



| RIVER KHANDEPAR AT CODLI 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                             | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                                  | Temperature°C                                | 31     | 29     | 30     | 28     | 27     | 29     | 27     | 29     | 31     | 30     | 29     | 28     |                                                                                           |
| 2                                  | Dissolved Oxygen(mg/l)                       | 7.0    | 6.5    | 7.0    | 7.0    | 7.5    | 7.5    | 7.1    | 8.0    | 7.5    | 7.5    | 7.5    | 7.0    | 4 mg/l or more                                                                            |
| 3                                  | pH                                           | 6.89   | 7.78   | 7.25   | 6.1    | 6.78   | 6.42   | 6.89   | 6.7    | 6.72   | 6.85   | 7.35   | 7.43   | 6-9                                                                                       |
| 4                                  | Conductivity(µs/cm)                          | 106.0  | 129.58 | 103.4  | 12.51  | 62.64  | 44.15  | 45.95  | 59.63  | 59.63  | 59.78  | 118.3  | 93.45  |                                                                                           |
| 5                                  | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 2.5    | BDL    | BDL    | BDL    | 3 mg/l or less                                                                            |
| 6                                  | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    | BDL    | 0.226  | BDL    | BDL    | BDL    | BDL    | 0.2    | BDL    | BDL    | BDL    |                                                                                           |
| 7                                  | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 8                                  | Total Coliform(MPN/100ml)                    | 220    | 230    | 220    | 260    | 220    | 210    | 700    | 790    | 1400   | 1300   | 3500   | 1100   | 5000 or less MPN/100 ml                                                                   |
| 9                                  | Fecal Coliform(MPN/100ml)                    | 130    | 130    | 130    | 170    | 110    | 110    | 460    | 490    | 1100   | 490    | 230    | 780    |                                                                                           |
| 10                                 | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 351    | 64     | 171    | 71     | 121    | 241    | 95     | 141    | 541    |                                                                                           |
| 11                                 | Turbidity(NTU)                               | 2.32   | 2.83   | BDL    | 12.09  | 28.1   | 4.14   | 7.97   | 2.03   | 1.92   | 1.92   | 1.84   | 4.20   |                                                                                           |
| 12                                 | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                                 | Total Alkalinity(mg/l)                       | 48.0   | 40.0   | 44.0   | 26.0   | 20.0   | 10.0   | 28.0   | 24.0   | 30.0   | 42.0   | 40.0   | 36.0   |                                                                                           |
| 14                                 | Chlorides(mg/l)                              | 5.91   | 10.5   | 8.26   | 3.42   | 10.76  | 3.42   | 4.40   | 3.00   | 4.5    | 7.0    | 13.32  | 7.00   |                                                                                           |
| 15                                 | COD(mg/l)                                    | 7.0    | 4.0    | 6.0    | 4.0    | 4.0    | -      | 6.0    | BDL    | 12.00  | 4.00   | 8.0    | 4.00   |                                                                                           |
| 16                                 | Total Kjeldahl Nitrogen(mg/l)                | 5.32   | -      | -      | -      | -      | -      | 7.28   | -      | -      | -      | 26.0   | 14.00  |                                                                                           |
| 17                                 | Ammonia (mg/l)                               | 0.08   | 0.07   | 0.109  | BDL    | BDL    | BDL    | BDL    | BDL    | 0.05   | BDL    | 0.05   | BDL    |                                                                                           |
| 18                                 | Total Hardness(mg/l)                         | 36.0   | 34.0   | 70.0   | 20.0   | 18.0   | 18.0   | 18.0   | 22.0   | 62.0   | 38.0   | 28.0   | 24.0   |                                                                                           |
| 19                                 | Calcium(mg/l)                                | 18.0   | 8.82   | 30.00  | 10.00  | 6.0    | 8.00   | 6.41   | 6.00   | 16.00  | 9.00   | 4.0    | BDL    |                                                                                           |
| 20                                 | Magnesium(mg/l)                              | 4.4    | 2.9    | 9.7    | 2.43   | 2.92   | 2.43   | BDL    | BDL    | 5.3    | 4.0    | 5.83   | 4.9    |                                                                                           |
| 21                                 | Sulphate(mg/l)                               | 1.65   | BDL    | 3.89   | 4.04   | 4.77   | 5.86   | BDL    | BDL    | 6.09   | 3.0    | 5.91   | 2.54   |                                                                                           |
| 22                                 | Sodium(mg/l)                                 | 23     | -      | -      | -      | -      | -      | 10.3   | -      | -      | -      | -      | -      |                                                                                           |
| 23                                 | Total Dissolved Solids(mg/l)                 | 68.0   | 76.0   | 61.8   | 10.5   | 39.0   | 29.0   | 26.0   | 39.0   | 39.0   | 36.0   | 69.0   | 56.0   |                                                                                           |
| 24                                 | Total Fixed Solids(mg/l)                     | 49.0   | 69.0   | 29.0   | 5.0    | 26.0   | 16.0   | 13.0   | 23.0   | 25.0   | 17.0   | 34.0   | 47.0   |                                                                                           |
| 25                                 | Total Suspended Solids(mg/l)                 | 9.0    | 11.0   | 13.0   | 6.0    | 25.0   | 7.0    | 5.0    | 8.0    | 5.0    | 12.0   | 10.0   | 11.0   |                                                                                           |
| 26                                 | Phosphate(mg/l)                              | 0.49   | BDL    | 0.176  | 0.023  | 0.04   | 0.03   | BDL    | BDL    | BDL    | 0.03   | BDL    | 0.04   |                                                                                           |
| 27                                 | Boron(mg/l)                                  | 1.15   | -      | -      | -      | -      | -      | 0.60   | -      | -      | -      | -      | -      |                                                                                           |
| 28                                 | Potassium(mg/l)                              | 0.6    | -      | -      | -      | -      | -      | 0.78   | -      | -      | -      | -      | -      |                                                                                           |
| 29                                 | Flouride(mg/l)                               | BDL    | BDL    | 0.071  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.32   | BDL    |                                                                                           |
| 30                                 | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                                 | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32                                 | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.023  | -      | -      | -      | -      | -      |                                                                                           |
| 33                                 | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34                                 | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | 0.037  | -      | -      | -      | -      | -      |                                                                                           |
| 35                                 | Nickel(mg/l)                                 | 0.304  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                                 | Zinc(mg/l)                                   | 0.071  | -      | -      | -      | -      | -      | 0.015  | -      | -      | -      | -      | -      |                                                                                           |
| 37                                 | IronTotal(mg/l)                              | 0.454  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 38                                 | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                                 | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                                 | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                                 | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                                 | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                                 | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                                 | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                                 | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                                 | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                                 | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                                 | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                                 | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                                 | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                                 | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| RIVER KUSHAWATI NEAR BUND AT KEYONA, RIVONA, SANGHEM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|----------------------------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                                                         | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                                                              | Temperature°C                                | 30     | 31     | 27     | 28     | 27     | 28     | 30     | 28     | 30     | 30     | 29     | 32     | 4 mg/l or more<br>6-9                                                                     |
| 2                                                              | Dissolved Oxygen(mg/l)                       | 6.8    | 6.6    | 7.1    | 8      | 8.0    | 8.0    | 7.6    | 7.3    | 7.8    | 6.6    | 7.5    | 6.5    |                                                                                           |
| 3                                                              | pH                                           | 7.65   | 7.11   | 7.40   | 6.30   | 6.63   | 6.64   | 6.30   | 6.11   | 6.20   | 7.27   | 7.42   | 6.92   |                                                                                           |
| 4                                                              | Conductivity(µs/cm)                          | 197.35 | 209.46 | 171.46 | 15.75  | 46.90  | 59.16  | 80.91  | 72.53  | 75.41  | 181.84 | 180.69 | 150.84 | 3 mg/l or less                                                                            |
| 5                                                              | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 6                                                              | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.24   | BDL    | 0.1    | BDL    | 0.11   | 0.1    | BDL    | 0.15   | 0.23   | BDL    | BDL    | 0.29   |                                                                                           |
| 7                                                              | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | 0.01   | 0.007  | BDL    | BDL    | 0.008  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 5000 or less MPN/100 ml                                                                   |
| 8                                                              | Total Coliform(MPN/100ml)                    | 1400   | 1100   | 2200   | 2700   | 2400   | 2200   | 2200   | 3300   | 2300   | 3300   | 2400   | 2200   |                                                                                           |
| 9                                                              | Fecal Coliform(MPN/100ml)                    | 1100   | 780    | 1300   | 1700   | 1400   | 1100   | 1300   | 2300   | 1300   | 1300   | 1300   | 1700   |                                                                                           |
| 10                                                             | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 351    | 541    | 42     | 541    | 351    | 171    | 221    | 33     | 221    |                                                                                           |
| 11                                                             | Turbidity(NTU)                               | 8.7    | 1.81   | 1.29   | 18.89  | 10.70  | 5.07   | 4.79   | 1.88   | 1.79   | 2.46   | 2.34   | 2.34   |                                                                                           |
| 12                                                             | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                                                             | Total Alkalinity(mg/l)                       | 90.0   | 88.0   | 86.0   | 26.0   | 24.0   | 26.0   | 24.0   | 36.0   | 48.0   | 52.0   | 58.0   | 62.0   |                                                                                           |
| 14                                                             | Chlorides(mg/l)                              | 11.0   | 8.4    | 7.0    | 5.0    | 5.0    | 7.0    | 7.0    | 5.0    | 8.0    | 7.0    | 7.0    | 5.0    |                                                                                           |
| 15                                                             | COD(mg/l)                                    | 4.0    | 6.0    | 4.0    | 6.0    | 4.0    | 6.0    | 6.0    | 6.0    | 4.0    | 4.0    | 4.0    | 6.0    |                                                                                           |
| 16                                                             | Total Kjeldahl Nitrogen(mg/l)                | 4.03   | -      | -      | -      | -      | -      | 7.28   | -      | -      | -      | 54.0   | 42.0   |                                                                                           |
| 17                                                             | Ammonia (mg/l)                               | BDL    | 0.62   | BDL    | BDL    | BDL    | 0.08   | 0.10   | BDL    | 0.06   | BDL    | BDL    | BDL    |                                                                                           |
| 18                                                             | Total Hardness(mg/l)                         | 84.0   | 90.0   | 94.0   | 24.0   | 26.0   | 24.0   | 36.0   | 38.0   | 24.0   | 40.0   | 36.0   | 54.0   |                                                                                           |
| 19                                                             | Calcium(mg/l)                                | 17.0   | 52.0   | 19.0   | 4.0    | 4.0    | 5.0    | 5.0    | 4.0    | 7.0    | 8.02   | 14.0   | 12.00  |                                                                                           |
| 20                                                             | Magnesium(mg/l)                              | 10.0   | 9.2    | 11.0   | 3.0    | 4.0    | 3.0    | 6.0    | 7.0    | BDL    | 4.9    | BDL    | 5.8    |                                                                                           |
| 21                                                             | Sulphate(mg/l)                               | 5.0    | 7.90   | BDL    | 6.00   | BDL    | BDL    | BDL    | BDL    | BDL    | 3.11   | 2.0    | BDL    |                                                                                           |
| 22                                                             | Sodium(mg/l)                                 | 15.5   | -      | -      | -      | -      | -      | 4.3    | -      | -      | -      | -      | -      |                                                                                           |
| 23                                                             | Total Dissolved Solids(mg/l)                 | 115.0  | 126.0  | 106.0  | 10.0   | 28.0   | 36.0   | 50.0   | 46.0   | 43.0   | 111.0  | 109.0  | 104.0  |                                                                                           |
| 24                                                             | Total Fixed Solids(mg/l)                     | 41.0   | 57.0   | 65.0   | 5.0    | 12.0   | 16.0   | 22.0   | 16.0   | 19.0   | 106.0  | 46.0   | 82.0   |                                                                                           |
| 25                                                             | Total Suspended Solids(mg/l)                 | 31.0   | 15.0   | 26.0   | 34.0   | 30.0   | 14.0   | 13.0   | 13.0   | 12.0   | 10.0   | 19.0   | 7.0    |                                                                                           |
| 26                                                             | Phosphate(mg/l)                              | 0.08   | BDL    | BDL    | 0.82   | 0.23   | BDL    | 0.02   | 0.04   | 0.03   | 0.02   | 0.04   | 0.02   |                                                                                           |
| 27                                                             | Boron(mg/l)                                  | 0.72   | -      | -      | -      | -      | -      | 0.62   | -      | -      | -      | -      | -      |                                                                                           |
| 28                                                             | Potassium(mg/l)                              | 0.21   | -      | -      | -      | -      | -      | 0.45   | -      | -      | -      | -      | -      |                                                                                           |
| 29                                                             | Flouride(mg/l)                               | 0.68   | BDL    | 0.15   | 0.20   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 30                                                             | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                                                             | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32                                                             | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 33                                                             | Lead(mg/l)                                   | 0.119  | -      | -      | -      | -      | -      | 0.050  | -      | -      | -      | -      | -      |                                                                                           |
| 34                                                             | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                                                             | Nickel(mg/l)                                 | 0.269  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                                                             | Zinc(mg/l)                                   | 0.094  | -      | -      | -      | -      | -      | 0.010  | -      | -      | -      | -      | -      |                                                                                           |
| 37                                                             | Iron Total(mg/l)                             | 0.298  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 38                                                             | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                                                             | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                                                             | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                                                             | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                                                             | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                                                             | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                                                             | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                                                             | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                                                             | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                                                             | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                                                             | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                                                             | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                                                             | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                                                             | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| RIVER TALPONA AT CANACONA 2020-2021 |        |        |        |        |        |        |        |        |        |        |        |                         |  | Parameters | Sr. No | Limit for class C river as per CPCB classification based on designated best use of rivers |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------|--|------------|--------|-------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|
| Apr-20                              | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 30                                  | 30     | 28     | 28     | 28     | 28     | 28     | 27     | 28     | 28     | 31     | 33     |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 6.6                                 | 6.8    | 7.0    | 7.1    | 7.4    | 7.3    | 7.4    | 6.7    | 7.4    | 7.0    | 7.0    | 6.8    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 6.84                                | 7.46   | 6.59   | 6.41   | 6.35   | 6.59   | 6.59   | 6.47   | 8.11   | 6.45   | 6.34   | 6.7    | 4 mg/l or more          |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 93.90                               | 92.34  | 75.75  | 58.67  | 56.97  | 47.12  | 46.83  | 50.91  | 122.56 | 67.25  | 68.19  | 66.38  | 6-9                     |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 3 mg/l or less          |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 790                                 | 780    | 2700   | 4600   | 2200   | 2100   | 2200   | 1400   | 490    | 7.8    | 110    | 330    | 5000 or less MPN/100 ml |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 330                                 | 450    | 1100   | 2300   | 1700   | 1200   | 1700   | 790    | 330    | 4.5    | 45     | 230    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| -                                   | -      | -      | 171    | 47     | >1601  | 40     | 281    | 541    | 59     | 40     | 85     |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 1.61                                | 1.24   | 2.7    | 5.26   | 69.2   | 26.3   | 1.84   | 3.15   | 2.72   | 3.75   | 7.66   | 7.71   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 38.0                                | 30.0   | 22.0   | 32.0   | 20.0   | 22.0   | 30.0   | 28.0   | 34.0   | 36.0   | 46.0   | 26.0   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 13.5                                | 10.5   | 9.5    | 5.0    | 17.61  | 5.87   | 6.0    | 5.5    | 8.99   | 6.36   | 5.0    | 7.44   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 8.0                                 | 4.0    | 4.0    | 4.0    | 8.0    | 6.0    | 6.0    | 6.0    | 8.0    | 6.0    | 8.0    | 8.0    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 3.58                                | -      | -      | -      | -      | -      | 8.4    | -      | -      | -      | 14.0   | 28.0   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.09   | 0.08   | BDL    | 0.05   | BDL    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 30.0                                | 22.0   | 16.0   | 14.0   | 18.0   | 18.0   | 16.0   | 12.0   | 10.0   | 22.0   | 10.0   | 16.0   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 2.4                                 | 4.0    | BDL    | 2.4    | 10.0   | 2.0    | 2.4    | 3.2    | 3.2    | 10.0   | BDL    | 4.8    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 5.8                                 | 2.9    | 3.4    | BDL    | 1.94   | 3.0    | 2.43   | BDL    | BDL    | 2.92   | BDL    | BDL    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | BDL    | 4.8    | BDL    | 3.39   | 4.0    | BDL    | BDL    | 3.23   | 3.49   | 2.0    | 8.15   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 7.5                                 | -      | -      | -      | 34.18  | 28.0   | 7.8    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 57.0                                | 56.0   | 47.0   | 35.0   | 18.0   | 14.0   | 17.0   | 20.0   | 37.0   | 19.0   | 41.0   | 41.0   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 33.0                                | 30.0   | 29.0   | 19.0   | 18.0   | 7.0    | 8.0    | 8.0    | 21.0   | 9.0    | 29.0   | 19.0   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 6.0                                 | 3.0    | 3.0    | 3.0    | 16.0   | 0.02   | BDL    | BDL    | BDL    | BDL    | 13.0   | 24.0   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 0.32                                | 0.14   | 0.04   | 0.02   | 0.035  | -      | BDL    | BDL    | BDL    | BDL    | 0.02   | 0.06   |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 0.64                                | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 0.22                                | -      | -      | -      | -      | -      | 0.61   | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | 0.009  | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | 0.018  | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 0.068                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 0.173                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 0.07                                | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| 0.697                               | -      | -      | -      | -      | -      | 0.165  | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |
| BDL                                 | -      | -      | -      | -      | -      |        |        |        |        |        |        |                         |  |            |        |                                                                                           |  |  |  |  |  |  |  |  |  |  |  |

| RIVER SALAT PAZORCONI, CUNCOLIM 2020-2021 |                                              |        |        |        |        |        |        |         |        |        |        |        |        |                                                                                         |
|-------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|-----------------------------------------------------------------------------------------|
| Sr. No                                    | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                         | Temperature°C                                | 30     | 30     | 30     | 28     | 27     | 27     | 27      | 29     | 29     | 29     | 29     | 30     |                                                                                         |
| 2                                         | Dissolved Oxygen(mg/l)                       | 6.0    | 6.2    | 5.6    | 5.9    | 5.8    | 6.1    | 6.2     | 6.2    | 7.0    | 6.1    | 4.4    | 5.8    | 4 mg/l or more                                                                          |
| 3                                         | pH                                           | 7.33   | 7.4    | 6.68   | 6.58   | 6.53   | 6.35   | 6.56    | 6.59   | 7.42   | 6.55   | 7.05   | 6.75   | 6.5 - 8.5                                                                               |
| 4                                         | Conductivity(µs/cm)                          | 84.77  | 197.18 | 117.67 | 80.2   | 80.43  | 40.47  | 71.48   | 91.19  | 82.60  | 120.66 | 102.78 | 69.31  |                                                                                         |
| 5                                         | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | 2.5    | BDL    | BDL    | BDL    | 3.3    | 3 mg/l or less                                                                          |
| 6                                         | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.27   | 0.1    | BDL    | BDL    | BDL    | BDL    | 0.140   | 0.64   | BDL    | BDL    | 0.27   | 0.16   |                                                                                         |
| 7                                         | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | 0.18   | BDL    | 0.021  | BDL    | 0.006  | 0.006   | 0.005  | BDL    | 0.006  | BDL    | 0.017  |                                                                                         |
| 8                                         | Total Coliform(MPN/100ml)                    | 2300   | 2200   | 1700   | 2100   | 1700   | 2300   | 2100    | 3300   | 1200   | 490    | 1300   | 4900   |                                                                                         |
| 9                                         | Fecal Coliform(MPN/100ml)                    | 1300   | 1100   | 780    | 1300   | 1100   | 1300   | 1700    | 1300   | 940    | 330    | 780    | 2300   | 100 or less MPN/100 ml                                                                  |
| 10                                        | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 71     | 21     | 541    | 281     | 131    | 111    | -      | 71     | 351    |                                                                                         |
| 11                                        | Turbidity(NTU)                               | 11.70  | 7.9    | 4.4    | 5.16   | 9.05   | 22.5   | 10.25   | 6.20   | 6.95   | 6.56   | 5.58   | 4.48   | 30 NTU                                                                                  |
| 12                                        | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                         |
| 13                                        | Total Alkalinity(mg/l)                       | 24.0   | 100.0  | 34.0   | 28.0   | 20.0   | 24.0   | 40.0    | 26.0   | 30.0   | 44.0   | 24.0   | 28.0   |                                                                                         |
| 14                                        | Chlorides(mg/l)                              | 11.50  | 37.00  | 52.72  | 10.80  | 8.5    | 5.00   | 733.82  | 15.0   | 19.57  | 17.00  | 13.40  | 5.00   |                                                                                         |
| 15                                        | COD(mg/l)                                    | 4.0    | 4.0    | 8.0    | 10.0   | 12.0   | 8.0    | 12.0    | 8.0    | 8.0    | 10.0   | 8.0    | 8.0    |                                                                                         |
| 16                                        | Total Kjeldahl Nitrogen(mg/l)                | 4.2    | -      | -      | -      | -      | -      | 5.6     | -      | -      | -      | 42.0   | 2.2    |                                                                                         |
| 17                                        | Ammonia (mg/l)                               | BDL    | 0.069  | 0.06   | 0.10   | BDL    | BDL    | BDL     | 0.08   | BDL    | BDL    | 0.89   | BDL    |                                                                                         |
| 18                                        | Total Hardness(mg/l)                         | 20     | 30.0   | 38.0   | 40.0   | 20.0   | 28.0   | 50.0    | 12.0   | 22.0   | 24.0   | 26.0   | 16.0   |                                                                                         |
| 19                                        | Calcium(mg/l)                                | 4.81   | 3.2    | 10     | 6.4    | 2.40   | 6.0    | 16.0    | 4.0    | 4.0    | 5.0    | 4.8    | 4.8    |                                                                                         |
| 20                                        | Magnesium(mg/l)                              | BDL    | 5.3    | 6.8    | 5.8    | 3.4    | 3.0    | 8.26    | BDL    | 4.18   | 3.0    | 3.4    | BDL    |                                                                                         |
| 21                                        | Sulphate(mg/l)                               | 2.68   | 7.0    | 19.0   | 16.4   | 9.70   | 10.0   | 2306.33 | 2.62   | 3.26   | 3.00   | 6.28   | 2.80   |                                                                                         |
| 22                                        | Sodium(mg/l)                                 | 45     | -      | -      | -      | -      | -      | 9.7     | -      | -      | -      | -      | -      |                                                                                         |
| 23                                        | Total Dissolved Solids(mg/l)                 | 65.0   | 138.0  | 74.0   | 51.0   | 49.0   | 25.0   | 44.0    | 51.0   | 51.0   | 72.0   | 66.0   | 41.0   |                                                                                         |
| 24                                        | Total Fixed Solids(mg/l)                     | 45.0   | 50.0   | 31.0   | 23.0   | 44.0   | 10.0   | 15.0    | 32.0   | 20.0   | 35.0   | 37.0   | 21.0   |                                                                                         |
| 25                                        | Total Suspended Solids(mg/l)                 | 8.0    | 12.0   | 24.0   | 12.0   | 11.0   | 25.0   | 13.0    | 20.0   | 23.0   | 20.0   | 13.0   | 11.0   |                                                                                         |
| 26                                        | Phosphate(mg/l)                              | 0.055  | 0.04   | 0.40   | 0.08   | 0.03   | 0.22   | 0.111   | 0.02   | 0.042  | 0.048  | 0.43   | BDL    |                                                                                         |
| 27                                        | Boron(mg/l)                                  | 0.52   | -      | -      | -      | -      | -      | 0.52    | -      | -      | -      | -      | -      |                                                                                         |
| 28                                        | Potassium(mg/l)                              | 1.6    | -      | -      | -      | -      | -      | 1.6     | -      | -      | -      | -      | -      |                                                                                         |
| 29                                        | Flouride(mg/l)                               | 0.68   | 0.58   | 0.31   | 1.1    | 0.63   | BDL    | 0.30    | 0.23   | BDL    | BDL    | BDL    | BDL    |                                                                                         |
| 30                                        | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 31                                        | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.015   | -      | -      | -      | -      | -      |                                                                                         |
| 32                                        | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 1.291   | -      | -      | -      | -      | -      |                                                                                         |
| 33                                        | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 34                                        | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 35                                        | Nickel(mg/l)                                 | 0.276  | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 36                                        | Zinc(mg/l)                                   | 0.056  | -      | -      | -      | -      | -      | 0.065   | -      | -      | -      | -      | -      |                                                                                         |
| 37                                        | Iron Total(mg/l)                             | 0.333  | -      | -      | -      | -      | -      | 0.172   | -      | -      | -      | -      | -      |                                                                                         |
| 38                                        | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 39                                        | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 40                                        | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 41                                        | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 42                                        | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 43                                        | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 44                                        | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 45                                        | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 46                                        | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 47                                        | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 48                                        | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 49                                        | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 50                                        | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |
| 51                                        | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                                         |

| RIVERSAL AT MOBOR 2020-2021 |                                              |         |          |         |         |         |         |         |         |          |          |         |         | Limit for SW II river as per CPCB classification based on designated best use of rivers |  |
|-----------------------------|----------------------------------------------|---------|----------|---------|---------|---------|---------|---------|---------|----------|----------|---------|---------|-----------------------------------------------------------------------------------------|--|
| Sr. No                      |                                              | Apr-20  | May-20   | Jun-20  | Jul-20  | Aug-20  | Sep-20  | Oct-20  | Nov-20  | Dec-20   | Jan-21   | Feb-21  | Mar-21  |                                                                                         |  |
| 1                           | Temperature°C                                | 29      | 29       | 29      | 29      | 28      | 30      | 28      | 29      | 30       | 30       | 30      | 31      |                                                                                         |  |
| 2                           | Dissolved Oxygen(mg/l)                       | 5.6     | 5.0      | 6.0     | 6.5     | 6.4     | 5.6     | 6.0     | 4.3     | 5.5      | 4.8      | 7.1     | 5.7     | 4 mg/l or more                                                                          |  |
| 3                           | pH                                           | 7.91    | 7.72     | 7.82    | 7.8     | 6.89    | 7.34    | 7.21    | 7.70    | 7.19     | 7.56     | 7.65    | 7.60    | 6.5 - 8.5                                                                               |  |
| 4                           | Conductivity(µs/cm)                          | 62220.0 | 65600.0  | 54670.0 | 38900.0 | 35900.0 | 23320.0 | 24400.0 | 55130.0 | 54930.0  | 50710.0  | 45880.0 | 24000.0 |                                                                                         |  |
| 5                           | BOD(mg/l)                                    | BDL     | BDL      | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL      | BDL      | BDL     | BDL     | 2.2                                                                                     |  |
| 6                           | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.462   | 0.123    | 0.20    | 0.15    | 1.49    | 0.85    | 0.56    | 0.42    | 0.455    | 0.17     | BDL     | BDL     | 0.25                                                                                    |  |
| 7                           | Nitrite Nitrogen as NO <sub>2</sub> -N(mg/l) | BDL     | 0.022    | 0.008   | 0.02    | 0.011   | BDL     | 0.005   | 0.005   | BDL      | 0.21     | 0.015   | 0.018   |                                                                                         |  |
| 8                           | Total Coliform(MPN/100ml)                    | 2300    | 2300     | 2700    | 3400    | 2200    | 2200    | 2700    | 3400    | 3300     | 2600     | 1300    | 1700    |                                                                                         |  |
| 9                           | Fecal Coliform(MPN/100ml)                    | 1300    | 1300     | 1700    | 2700    | 1300    | 1100    | 1700    | 2200    | 2200     | 2200     | 780     | 1100    | 100 or less MPN/100 ml                                                                  |  |
| 10                          | Fecal Streptococci (MPN/100ml)               | -       | -        | -       | 351     | 241     | >1601   | 921     | 281     | 80       | 351      | 111     | 431     |                                                                                         |  |
| 11                          | Turbidity(NTU)                               | 2.33    | 16.73    | 13.78   | 38.1    | 25.81   | 5.33    | 3.07    | 2.72    | 2.91     | 4.79     | 4.53    | 2.59    | 30 NTU                                                                                  |  |
| 12                          | Phenolphthalein Alkalinity(mg/l)             | 24.0    | 8.0      | 4.0     | 4.0     | BDL     | BDL     | 4.0     | 6.0     | 48.0     | 2.0      | 2.0     | 8.0     |                                                                                         |  |
| 13                          | Total Alkalinity(mg/l)                       | 230.0   | 110.0    | 144.0   | 144.0   | 30.0    | 82.0    | 104.0   | 98.0    | 180.0    | 98.0     | 120.0   | 106.0   |                                                                                         |  |
| 14                          | Chlorides(mg/l)                              | 19690.7 | 19426.60 | 19743.0 | 13245.0 | 10797.0 | 15295.0 | 14496.0 | 15120.0 | 17856.17 | 17345.00 | 16377.9 | 16535.0 |                                                                                         |  |
| 15                          | COD(mg/l)                                    | -       | -        | -       | -       | -       | -       | -       | -       | -        | -        | -       | -       |                                                                                         |  |
| 16                          | Total Kjeldahl Nitrogen(mg/l)                | 8.74    | -        | -       | -       | -       | -       | 14.56   | -       | -        | -        | 28.0    | 14.01   |                                                                                         |  |
| 17                          | Ammonia (mg/l)                               | 0.05    | 0.079    | 0.14    | 0.11    | 0.16    | 0.08    | 0.11    | 0.12    | 0.07     | BDL      | 0.17    | BDL     |                                                                                         |  |
| 18                          | Total Hardness(mg/l)                         | 7000.0  | 7500.0   | 5600.0  | 3880.0  | 3020.0  | 3400.0  | 3860.0  | 4000.0  | 17000.0  | 4200.0   | 3400.0  | 6500.0  |                                                                                         |  |
| 19                          | Calcium(mg/l)                                | 380.8   | 1500.0   | 962.0   | 240.5   | 200.40  | 320.6   | 40.1    | 32.1    | 4000.0   | 400.8    | 561.1   | 561.0   |                                                                                         |  |
| 20                          | Magnesium(mg/l)                              | 1470.1  | 1458.0   | 777.6   | 797.0   | 612.4   | 631.8   | 913.7   | 953.0   | 3159.0   | 777.6    | 486.0   | 972.0   |                                                                                         |  |
| 21                          | Sulphate(mg/l)                               | 3975.4  | 6239.31  | 1438.80 | 741.00  | 29.06   | 99.60   | 975.30  | 1390.00 | 1248.45  | 2247.2   | 2431.8  | 1616.0  |                                                                                         |  |
| 22                          | Sodium(mg/l)                                 | 7620    | -        | -       | -       | -       | -       | 8300    | -       | -        | -        | -       | -       |                                                                                         |  |
| 23                          | Total Dissolved Solids(mg/l)                 | 40443.0 | 38687.0  | 32264.0 | 22949.0 | 21200.0 | 13750.0 | 14418.0 | 30300.0 | 32972.0  | 31440.0  | 28903.0 | 14879.0 |                                                                                         |  |
| 24                          | Total Fixed Solids(mg/l)                     | 28310.0 | 27307.0  | 31251.0 | 21717.0 | 19219.0 | 12550.0 | 13399.0 | 29298.0 | 17954.0  | 21379.0  | 17521.0 | 7821.0  |                                                                                         |  |
| 25                          | Total Suspended Solids(mg/l)                 | 43.0    | 80.0     | 215.0   | 178.0   | 146.0   | 140.0   | 150.0   | 157.0   | 61.0     | 39.0     | 36.0    | 18.0    |                                                                                         |  |
| 26                          | Phosphate(mg/l)                              | 0.137   | 0.06     | 0.27    | 0.30    | 0.20    | 0.05    | 0.05    | 0.08    | 0.114    | 0.10     | 0.07    | 0.05    |                                                                                         |  |
| 27                          | Boron(mg/l)                                  | 0.8     | -        | -       | -       | -       | -       | 0.84    | -       | -        | -        | -       | -       |                                                                                         |  |
| 28                          | Potassium(mg/l)                              | 240     | -        | -       | -       | -       | -       | 212     | -       | -        | -        | -       | -       |                                                                                         |  |
| 29                          | Flouride(mg/l)                               | 1.2     | 0.233    | 0.51    | 0.30    | 1.0     | 1.16    | 1.24    | 0.92    | 1.0      | 1.4      | BDL     | BDL     |                                                                                         |  |
| 30                          | Arsenic(mg/l)                                | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 31                          | Cadmium(mg/l)                                | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 32                          | Copper(mg/l)                                 | BDL     | -        | -       | -       | -       | -       | 0.904   | -       | -        | -        | -       | -       |                                                                                         |  |
| 33                          | Lead(mg/l)                                   | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 34                          | Chromium(mg/l)                               | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 35                          | Nickel(mg/l)                                 | 0.132   | -        | -       | -       | -       | -       | 0.257   | -       | -        | -        | -       | -       |                                                                                         |  |
| 36                          | Zinc(mg/l)                                   | 0.18    | -        | -       | -       | -       | -       | 0.127   | -       | -        | -        | -       | -       |                                                                                         |  |
| 37                          | IronTotal(mg/l)                              | 0.115   | -        | -       | -       | -       | -       | 0.067   | -       | -        | -        | -       | -       |                                                                                         |  |
| 38                          | Carbaryl (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 39                          | DDT-o,p' (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 40                          | DDT-p,p' (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 41                          | alpha Endosulfan(mg/L)                       | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 42                          | beta Endosulfan(mg/L)                        | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 43                          | Anilofos (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 44                          | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 45                          | Aldrin/Dieldrin (mg/L)                       | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 46                          | Alpha HCH (mg/L)                             | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 47                          | Beta HCH (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 48                          | Chlorpyrifos (mg/L)                          | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 49                          | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 50                          | Malathion (mg/L)                             | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |
| 51                          | Methyl parathion(mg/L)                       | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -        | -        | -       | -       |                                                                                         |  |

| HARWALE WATERFALL 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|-----------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                      | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                           | Temperature°C                                |        |        |        | 27     | 28     | 28     | 27     | 29     | 29     | 30     | 29     | 33     |                                                                                           |
| 2                           | Dissolved Oxygen(mg/l)                       |        |        |        | 7.5    | 7.6    | 7.6    | 7.7    | 8.0    | 7.4    | 7.8    | 7.3    | 7.5    | 4 mg/l or more                                                                            |
| 3                           | pH                                           |        |        |        | 6.78   | 6.79   | 6.25   | 6.42   | 6.65   | 7.19   | 6.89   | 6.74   | 6.88   | 6-9                                                                                       |
| 4                           | Conductivity(µs/cm)                          |        |        |        | 77.73  | 55.11  | 66.21  | 56.75  | 80.3   | 132.89 | 143.28 | 124.04 | 144.04 |                                                                                           |
| 5                           | BOD(mg/l)                                    |        |        |        | 2.3    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 3 mg/l or less                                                                            |
| 6                           | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) |        |        |        | 0.44   | 0.31   | 0.30   | 0.16   | 0.17   | BDL    | 0.1    | BDL    | 0.24   |                                                                                           |
| 7                           | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  |        |        |        | 0.007  | 0.005  | BDL    | 0.007  | 0.006  | BDL    | BDL    | 0.051  | BDL    |                                                                                           |
| 8                           | Total Coliform(MPN/100ml)                    |        |        |        | 4900   | 4600   | 4600   | 4900   | 4600   | 3500   | 5400   | 5400   | 140    | 5000 or less MPN/100 ml                                                                   |
| 9                           | Fecal Coliform(MPN/100ml)                    |        |        |        | 2200   | 2300   | 2100   | 3300   | 3300   | 1700   | 2400   | 2400   | 49     |                                                                                           |
| 10                          | Fecal Streptococci (MPN/100ml)               |        |        |        | 351    | 241    | 121    | 80     | 171    | >1601  | 171    | 71     | 40     |                                                                                           |
| 11                          | Turbidity(NTU)                               |        |        |        | 3.45   | 16.20  | 10.12  | 5.70   | 4.14   | 3.86   | 1.15   | 6.74   | 3.09   |                                                                                           |
| 12                          | Phenolphthalein Alkalinity(mg/l)             |        |        |        | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                          | Total Alkalinity(mg/l)                       |        |        |        | 20.0   | 20.0   | 22.0   | 30.0   | 28.0   | 18.0   | 36.0   | 46.0   | 52.0   |                                                                                           |
| 14                          | Chlorides(mg/l)                              |        |        |        | 9.0    | 11.7   | 7.0    | 6.5    | 6.5    | 20.7   | 9.8    | 6.0    | 10.5   |                                                                                           |
| 15                          | COD(mg/l)                                    |        |        |        | 10.0   | 6.0    | 8.0    | 8.0    | 6.0    | 10.0   | 6.0    | 6.0    | 8.0    |                                                                                           |
| 16                          | Total Kjeldahl Nitrogen(mg/l)                |        |        |        | -      | -      | -      | 1.68   | -      | -      | -      | 70.1   | BDL    |                                                                                           |
| 17                          | Ammonia (mg/l)                               |        |        |        | 0.14   | 0.13   | BDL    | 0.06   | 0.07   | 0.18   | BDL    | BDL    | BDL    |                                                                                           |
| 18                          | Total Hardness(mg/l)                         |        |        |        | 12.0   | 12.0   | 14.0   | 16.0   | 18.0   | 22.0   | 28.0   | 10.0   | 42.0   |                                                                                           |
| 19                          | Calcium(mg/l)                                |        |        |        | 3.21   | 3.21   | 3.21   | 2.40   | 2.40   | 4.01   | 6.4    | BDL    | 12.0   |                                                                                           |
| 20                          | Magnesium(mg/l)                              |        |        |        | BDL    | BDL    | BDL    | 2.4    | 2.9    | 2.9    | 2.9    | BDL    | BDL    |                                                                                           |
| 21                          | Sulphate(mg/l)                               |        |        |        | 6.2    | 5.50   | 2.62   | 3.39   | 2.97   | 4.90   | 4.4    | BDL    | 2.66   |                                                                                           |
| 22                          | Sodium(mg/l)                                 |        |        |        | -      | -      | -      | 5.5    | -      | -      | -      | -      | -      |                                                                                           |
| 23                          | Total Dissolved Solids(mg/l)                 |        |        |        | 46.0   | 32.0   | 40.0   | 32.0   | 45.0   | 79.0   | 88.0   | 79.0   | 84.0   |                                                                                           |
| 24                          | Total Fixed Solids(mg/l)                     |        |        |        | 40.0   | 29.0   | 37.0   | 25.0   | 39.0   | 74.0   | 52.0   | 59.0   | 36.0   |                                                                                           |
| 25                          | Total Suspended Solids(mg/l)                 |        |        |        | 53.0   | 41.0   | 38.0   | 40.0   | 36.0   | 33.0   | 30.0   | 10.0   | 10.0   |                                                                                           |
| 26                          | Phosphate(mg/l)                              |        |        |        | 0.11   | 0.12   | 0.02   | 0.09   | BDL    | 0.11   | BDL    | 0.04   | 0.18   |                                                                                           |
| 27                          | Boron(mg/l)                                  |        |        |        | -      | -      | -      | 0.52   | -      | -      | -      | -      | -      |                                                                                           |
| 28                          | Potassium(mg/l)                              |        |        |        | -      | -      | -      | 0.64   | -      | -      | -      | -      | -      |                                                                                           |
| 29                          | Flouride(mg/l)                               |        |        |        | BDL    | 0.97   | BDL    | BDL    | 0.8    | BDL    | BDL    | 1.37   | BDL    |                                                                                           |
| 30                          | Arsenic(mg/l)                                |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                          | Cadmium(mg/l)                                |        |        |        | -      | -      | -      | 0.011  | -      | -      | -      | -      | -      |                                                                                           |
| 32                          | Copper(mg/l)                                 |        |        |        | -      | -      | -      | 1.963  | -      | -      | -      | -      | -      |                                                                                           |
| 33                          | Lead(mg/l)                                   |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34                          | Chromium(mg/l)                               |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                          | Nickel(mg/l)                                 |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                          | Zinc(mg/l)                                   |        |        |        | -      | -      | -      | 0.109  | -      | -      | -      | -      | -      |                                                                                           |
| 37                          | IronTotal(mg/l)                              |        |        |        | -      | -      | -      | 0.187  | -      | -      | -      | -      | -      |                                                                                           |
| 38                          | Carbaryl (mg/L)                              |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                          | DDT-o,p' (mg/L)                              |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                          | DDT-p,p' (mg/L)                              |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                          | alpha Endosulfan(mg/L)                       |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                          | beta Endosulfan(mg/L)                        |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                          | Anilofos (mg/L)                              |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                          | 2,4-Dichlorophenoxyacetic acid(mg/L)         |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                          | Aldrin/Dieldrin (mg/L)                       |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                          | Alpha HCH (mg/L)                             |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                          | Beta HCH (mg/L)                              |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                          | Chlorpyrifos (mg/L)                          |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                          | Gamma-HCH (Lindane) (mg/L)                   |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                          | Malathion (mg/L)                             |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                          | Methyl parathion(mg/L)                       |        |        |        | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| RIVER BICHOLIM, BARAZAN NAGAR, BICHOLIM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|---------------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                                            | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                                                 | Temperature°C                                | 28     | 31     | 30     | 28     | 28     | 30     | 29     | 29     | 28     | 29     | 31     | 32     | 4 mg/l or more<br>6-9                                                                     |
| 2                                                 | Dissolved Oxygen(mg/l)                       | 7.1    | 5.8    | 5.9    | 7.0    | 7.2    | 6.2    | 7.0    | 6.9    | 9.3    | 9.3    | 7.3    | 7.3    |                                                                                           |
| 3                                                 | pH                                           | 6.89   | 6.73   | 6.31   | 6.07   | 6.07   | 5.90   | 5.93   | 6.88   | 6.96   | 7.04   | 6.70   | 6.75   |                                                                                           |
| 4                                                 | Conductivity(µs/cm)                          | 156.55 | 938.74 | 190.9  | 78.82  | 78.82  | 85.36  | 72.63  | 95.18  | 134.0  | 41.54  | 138.24 | 204.00 | 3 mg/l or less                                                                            |
| 5                                                 | BOD(mg/l)                                    | BDL    | 2.0    | BDL    | BDL    | BDL    | BDL    | BDL    | 2.0    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 6                                                 | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.3    | 0.4    | 0.68   | 0.22   | 0.31   | 0.46   | 0.3    | 0.35   | 0.42   | BDL    | 0.30   | 0.22   |                                                                                           |
| 7                                                 | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | 0.007  | 0.008  | 0.006  | BDL    | BDL    | BDL    | 0.005  | 0.028  | 0.005  | 0.006  | 5000 or less MPN/100 ml                                                                   |
| 8                                                 | Total Coliform(MPN/100ml)                    | 4900   | 4600   | 7000   | 7900   | 5800   | 4600   | 7000   | 7900   | 9400   | 9400   | 14000  | 7900   |                                                                                           |
| 9                                                 | Fecal Coliform(MPN/100ml)                    | 3300   | 3300   | 3300   | 4900   | 4300   | 3100   | 3300   | 4900   | 4900   | 4900   | 4900   | 4900   |                                                                                           |
| 10                                                | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 211    | 241    | 1601   | 151    | 431    | 431    | 281    | 64     | 95     |                                                                                           |
| 11                                                | Turbidity(NTU)                               | 1.78   | BDL    | 4.01   | 10.24  | 10.24  | 6.17   | 5.66   | 5.47   | 4.30   | 4.38   | 4.27   | 4.09   |                                                                                           |
| 12                                                | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                                                | Total Alkalinity(mg/l)                       | 50.0   | 62.0   | 46.0   | 22.0   | 16.0   | 32.0   | 36.0   | 40.0   | 48.0   | 52.0   | 58.0   | 66.0   |                                                                                           |
| 14                                                | Chlorides(mg/l)                              | 12.5   | 750.0  | 26.5   | 18.0   | 6.0    | 7.0    | 8.5    | 9.5    | 10.99  | 14.7   | 12.4   | 18.36  |                                                                                           |
| 15                                                | COD(mg/l)                                    | 14.0   | 10.0   | 8.0    | 8.0    | 6.0    | 6.0    | 6.0    | 6.0    | 6.0    | 6.0    | 6.0    | 8.0    |                                                                                           |
| 16                                                | Total Kieldahl Nitrogen(mg/l)                | 4.03   | -      | -      | -      | -      | -      | 7.84   | -      | -      | -      | 42.0   | BDL    |                                                                                           |
| 17                                                | Ammonia (mg/l)                               | BDL    | 0.14   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.08   | BDL    | 0.07   |                                                                                           |
| 18                                                | Total Hardness(mg/l)                         | 52.0   | 116.0  | 44.0   | 14.0   | 14.0   | 20.0   | 26.0   | 20.0   | 28.0   | 42.0   | 18.0   | 62.0   |                                                                                           |
| 19                                                | Calcium(mg/l)                                | 9.6    | 15.2   | 9.6    | 4.0    | BDL    | 6.0    | 4.01   | 6.4    | 8.8    | 11.2   | 5.6    | 15.0   |                                                                                           |
| 20                                                | Magnesium(mg/l)                              | 6.8    | 18.9   | 4.9    | BDL    | 2.0    | BDL    | 3.89   | BDL    | BDL    | 3.4    | BDL    | 5.8    |                                                                                           |
| 21                                                | Sulphate(mg/l)                               | 3.2    | 224.5  | 4.0    | 3.94   | 6.0    | 2.0    | BDL    | BDL    | BDL    | BDL    | 6.43   | 6.31   |                                                                                           |
| 22                                                | Sodium(mg/l)                                 | 12.2   | -      | -      | -      | -      | -      | 18.3   | -      | -      | -      | -      | -      |                                                                                           |
| 23                                                | Total Dissolved Solids(mg/l)                 | 93.0   | 560.0  | 112.0  | 47.0   | 55.0   | 56.0   | 43.0   | 56.0   | 82.0   | 26.0   | 87.0   | 128.0  |                                                                                           |
| 24                                                | Total Fixed Solids(mg/l)                     | 55.0   | 329.0  | 62.0   | 23.0   | 33.0   | 33.0   | 22.0   | 27.0   | 41.0   | 17.0   | 52.0   | 73.0   |                                                                                           |
| 25                                                | Total Suspended Solids(mg/l)                 | 10.0   | 8.0    | 7.0    | 14.0   | 19.0   | 6.0    | 10.0   | 9.0    | 5.0    | 18.0   | 12.0   | 9.0    |                                                                                           |
| 26                                                | Phosphate(mg/l)                              | 0.08   | 0.19   | 0.13   | 0.04   | 0.02   | BDL    | BDL    | 0.17   | 0.02   | 0.09   | 0.12   | 0.02   |                                                                                           |
| 27                                                | Boron(mg/l)                                  | 0.6    | -      | -      | -      | -      | -      | 0.42   | -      | -      | -      | -      | -      |                                                                                           |
| 28                                                | Potassium(mg/l)                              | 1.8    | -      | -      | -      | -      | -      | 1.1    | -      | -      | -      | -      | -      |                                                                                           |
| 29                                                | Flouride(mg/l)                               | 1.4    | BDL    | 0.8    | BDL    | BDL    | 0.3    | 0.35   | 0.35   | BDL    | BDL    | 2.36   | 0.78   |                                                                                           |
| 30                                                | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                                                | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32                                                | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.045  | -      | -      | -      | -      | -      |                                                                                           |
| 33                                                | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34                                                | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                                                | Nickel(mg/l)                                 | 0.268  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                                                | Zinc(mg/l)                                   | 0.073  | -      | -      | -      | -      | -      | 0.017  | -      | -      | -      | -      | -      |                                                                                           |
| 37                                                | IronTotal(mg/l)                              | BDL    | -      | -      | -      | -      | -      | 0.114  | -      | -      | -      | -      | -      |                                                                                           |
| 38                                                | Carbaryl (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                                                | DDT-α,p' (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                                                | DDT-β,p' (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                                                | alpha Endosulfan(mg/L)                       | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                                                | beta Endosulfan(mg/L)                        | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                                                | Anilofos (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                                                | 2,4-Dichlorophenoxyacetic acid(mg/L)         | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                                                | Aldrin/Dieldrin (mg/L)                       | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                                                | Alpha HCH (mg/L)                             | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                                                | Beta HCH (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                                                | Chlorpyrifos (mg/L)                          | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                                                | Gamma-HCH (Lindane) (mg/L)                   | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                                                | Malathion (mg/L)                             | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                                                | Methyl parathion(mg/L)                       | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |



| MAYEM LAKE AT MAYEM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|-------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                        | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                             | Temperature°C                                | 28     | 32     | 30     | 28     | 28     | 30     | 29     | 29     | 28     | 28     | 31     | 32     |                                                                                           |
| 2                             | Dissolved Oxygen mg/l                        | 6.9    | 6.1    | 7.4    | 6.7    | 7.7    | 6.2    | 7.2    | 5.6    | 7.5    | 7.7    | 5.9    | 7.7    | 4 mg/l or more                                                                            |
| 3                             | pH                                           | 6.92   | 6.50   | 6.44   | 6.55   | 6.0    | 6.08   | 5.60   | 6.24   | 6.19   | 6.85   | 6.75   | 6.57   | 6-9                                                                                       |
| 4                             | Conductivity(µs/cm)                          | 68.31  | 59.72  | 68.75  | 48.29  | 48.29  | 42.18  | 72.33  | 46.65  | 52.48  | 94.05  | 96.08  | 47.5   |                                                                                           |
| 5                             | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 6                             | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    | BDL    | BDL    | BDL    | 0.14   | 0.24   | 0.11   | 0.22   | 0.17   | BDL    | BDL    | 3 mg/l or less                                                                            |
| 7                             | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.020  | BDL    | BDL    |                                                                                           |
| 8                             | Total Coliform(MPN/100ml)                    | 2300   | 2200   | 3300   | 4900   | 3300   | 3100   | 2200   | 3300   | 2200   | 2200   | 330    | 490    | 5000 or less MPN/100 ml                                                                   |
| 9                             | Fecal Coliform(MPN/100ml)                    | 1300   | 1400   | 1100   | 2300   | 1700   | 1700   | 1300   | 1700   | 1300   | 1300   | 170    | 330    |                                                                                           |
| 10                            | Fecal Streptococci MPN/100ml                 | -      | -      | -      | 921    | 10.2   | 281    | 13     | 95     | 351    | 151    | 34     | 80     |                                                                                           |
| 11                            | Turbidity(NTU)                               | 2.64   | 2.04   | 3.66   | 2.81   | 2.81   | 2.62   | 4.47   | 2.48   | 3.05   | 3.36   | 4.12   | 5.46   |                                                                                           |
| 12                            | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                            | Total Alkalinity(mg/l)                       | 22.0   | 28.0   | 22.0   | 24.0   | 10.0   | 18.0   | 24.0   | 26.0   | 20.0   | 20.0   | 22.0   | 18.0   |                                                                                           |
| 14                            | Chloride mg/l                                | 10.0   | 10.5   | 10.0   | 9.0    | 5.0    | 4.0    | 9.0    | 9.0    | 7.49   | 10.8   | 6.95   | 5.46   |                                                                                           |
| 15                            | COD(mg/l)                                    | 8.0    | 4.0    | 6.0    | 6.0    | BDL    | 8.0    | 6.0    | 6.0    | 4.0    | 4.0    | 4.0    | 6.0    |                                                                                           |
| 16                            | Total Kjeldhal Nitrogen(mg/l)                | 5.93   | -      | -      | -      | -      | -      | 7.28   | -      | -      | -      | 28.0   | 14.0   |                                                                                           |
| 17                            | Ammonia mg/l                                 | BDL    | 0.07   | BDL    | 0.05   | BDL    | BDL    | BDL    | 0.14   | BDL    | 0.06   | 0.05   | 0.05   |                                                                                           |
| 18                            | Hardness(mg/l)                               | 18.0   | 18.0   | 16.0   | 10.0   | 14.0   | 12.0   | 14.0   | 14.0   | 12.0   | 30.0   | 12.0   | 12.0   |                                                                                           |
| 19                            | Calcium(mg/l)                                | BDL    | 5.6    | 4.0    | 3.2    | 2.0    | 3.0    | 4.01   | 3.2    | 3.2    | 3.2    | 3.2    | 4.0    |                                                                                           |
| 20                            | Magnesium(mg/l)                              | 3.4    | BDL    | BDL    | BDL    | 2.0    | 3.0    | BDL    | BDL    | BDL    | 5.35   | BDL    | BDL    |                                                                                           |
| 21                            | Sulphate(mg/l)                               | 2.3    | BDL    | 3.0    | 2.0    | BDL    | BDL    | BDL    | 2.46   | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 22                            | Sodium(mg/l)                                 | 38.4   | -      | -      | -      | -      | -      | 14.0   | -      | -      | -      | -      | -      |                                                                                           |
| 23                            | Total Dissolved Solids(mg/l)                 | 40.0   | 37.0   | 42.0   | 28.0   | 32.0   | 28.0   | 41.0   | 29.0   | 32.0   | 59.0   | 61.0   | 31.0   |                                                                                           |
| 24                            | Total Fixed Solids(mg/l)                     | 24.0   | 17.0   | 25.0   | 14.0   | 19.0   | 15.0   | 19.0   | 15.0   | 20.0   | 40.0   | 28.0   | 19.0   |                                                                                           |
| 25                            | Total Suspended Solid                        | 6.0    | 4.0    | 4.0    | 11.0   | 24.0   | 5.0    | 10.0   | 8.0    | 7.0    | 30.0   | 10.0   | 7.0    |                                                                                           |
| 26                            | Phosphate(mg/l)                              | 0.2    | 0.02   | 0.03   | BDL    | BDL    | BDL    | BDL    | 0.14   | 0.02   | 0.09   | 0.05   | 0.03   |                                                                                           |
| 27                            | Boron(mg/l)                                  | 1.02   | -      | -      | -      | -      | -      | 0.94   | -      | -      | -      | -      | -      |                                                                                           |
| 28                            | Potassium(mg/l)                              | 0.8    | -      | -      | -      | -      | -      | 0.66   | -      | -      | -      | -      | -      |                                                                                           |
| 29                            | Fluoride(mg/l)                               | 2.0    | BDL    | BDL    | BDL    | 0.22   | 0.31   | 0.38   | 0.29   | BDL    | BDL    | 0.54   | BDL    |                                                                                           |
| 30                            | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                            | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.011  | -      | -      | -      | -      | -      |                                                                                           |
| 32                            | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.054  | -      | -      | -      | -      | -      |                                                                                           |
| 33                            | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | 0.042  | -      | -      | -      | -      | -      |                                                                                           |
| 34                            | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                            | Nickel(mg/l)                                 | 0.228  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                            | Zinc(mg/l)                                   | 0.055  | -      | -      | -      | -      | -      | 0.022  | -      | -      | -      | -      | -      |                                                                                           |
| 37                            | IronTotal(mg/l)                              | 0.143  | -      | -      | -      | -      | -      | 0.075  | -      | -      | -      | -      | -      |                                                                                           |
| 38                            | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                            | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                            | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                            | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                            | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                            | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                            | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                            | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                            | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                            | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                            | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                            | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                            | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                            | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| CUMBHARIJUA CANAL, CORLIM 2020-2021 |                                              |          |         |          |        |        |        |         |        |         |         |         |          |                                                                                         |
|-------------------------------------|----------------------------------------------|----------|---------|----------|--------|--------|--------|---------|--------|---------|---------|---------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                              | Parameters                                   | Apr-20   | May-20  | Jun-20   | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20 | Dec-20  | Jan-21  | Feb-21  | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                   | Temperature°C                                | 30       | 31      | 30       | 28     | 26     | 28     | 29      | 29     | 29      | 28      | 29      | 31       |                                                                                         |
| 2                                   | Dissolved Oxygen(mg/l)                       | 4.9      | 4.8     | 6.0      | 5.0    | 6.0    | 6.0    | 5.5     | 4.7    | 5.6     | 6.0     | 7.0     | 6.5      | 4 mg/l or more                                                                          |
| 3                                   | pH                                           | 7.10     | 7.10    | 6.89     | 5.55   | 6.49   | 6.40   | 6.41    | 6.26   | 6.72    | 7.0     | 6.95    | 7.22     | 6.5 - 8.5                                                                               |
| 4                                   | Conductivity(µs/cm)                          | 49430.0  | 51920.0 | 32290.0  | 107.6  | 1222.0 | 140.2  | 2848.0  | 7475.0 | 24460.0 | 34600.0 | 31440.0 | 45050.0  |                                                                                         |
| 5                                   | BOD(mg/l)                                    | BDL      | BDL     | BDL      | BDL    | BDL    | BDL    | BDL     | BDL    | BDL     | BDL     | BDL     | BDL      | 3 mg/l or less                                                                          |
| 6                                   | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.3134   | 0.22    | 0.603    | 0.211  | 0.56   | 0.36   | 0.21    | 0.15   | 0.16    | 0.183   | 0.11    | BDL      |                                                                                         |
| 7                                   | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.027    | 0.275   | 0.007    | BDL    | BDL    | 0.007  | 0.011   | 0.007  | 0.007   | 0.006   | BDL     | 0.071    |                                                                                         |
| 8                                   | Total Coliform(MPN/100ml)                    | 490      | 1100    | 1700     | 2700   | 2200   | 2100   | 2300    | 2300   | 330     | 4900    | 1300    | 2300     |                                                                                         |
| 9                                   | Fecal Coliform(MPN/100ml)                    | 330      | 680     | 1400     | 2200   | 1300   | 1100   | 1300    | 1300   | 130     | 1700    | 780     | 1300     | 100 or less MPN/100 ml                                                                  |
| 10                                  | Fecal Streptococci (MPN/100ml)               | -        | -       | -        | 111    | 34     | 50     | 85      | 141    | 64      | 111     | 141     | 351      |                                                                                         |
| 11                                  | Turbidity(NTU)                               | 4.27     | 13.58   | 6.55     | 2.92   | 8.51   | 8.61   | 8.42    | 8.45   | 5.6     | 3.84    | 3.39    | 3.88     | 30 NTU                                                                                  |
| 12                                  | Phenolphthalein Alkalinity(mg/l)             | BDL      | BDL     | BDL      | BDL    | BDL    | BDL    | BDL     | BDL    | BDL     | 2.0     | BDL     | BDL      |                                                                                         |
| 13                                  | Total Alkalinity(mg/l)                       | 94.0     | 102.0   | 60.0     | 40.0   | 34.0   | 28.0   | 50.0    | 52.0   | 46.0    | 70.0    | 102.0   | 100.0    |                                                                                         |
| 14                                  | Chlorides(mg/l)                              | 16510.84 | 15420   | 12263.04 | 89.04  | 342.45 | 244.61 | 782.74  | 2450.0 | 7848.0  | 12719.0 | 2350.0  | 17489.26 |                                                                                         |
| 15                                  | COD(mg/l)                                    | -        | -       | -        | 6.0    | 8.0    | 8.0    | 10      | -      | -       | -       | -       | -        |                                                                                         |
| 16                                  | Total Kjeldahl Nitrogen(mg/l)                | 4.25     | -       | -        | -      | -      | -      | 8.96    | -      | -       | -       | 42.0    | 5.04     |                                                                                         |
| 17                                  | Ammonia (mg/l)                               | 0.14     | 0.10    | 0.356    | BDL    | BDL    | 0.050  | BDL     | 0.12   | 0.07    | 0.09    | 0.08    | BDL      |                                                                                         |
| 18                                  | Total Hardness(mg/l)                         | 6000.0   | 5400.0  | 6000.0   | 50.0   | 118.0  | 56.0   | 252.0   | 664.0  | 3400.0  | 2800.0  | 3800.0  | 9500.0   |                                                                                         |
| 19                                  | Calcium(mg/l)                                | 400.8    | 481.0   | 2500.0   | 16.0   | 8.0    | 20.0   | 20.0    | 49.7   | 513.0   | 288.0   | 152.3   | 1803.6   |                                                                                         |
| 20                                  | Magnesium(mg/l)                              | 1215.0   | 1021.0  | 8500     | 8.26   | 26.73  | 11.66  | 56.38   | 131.0  | 515.2   | 505.0   | 831.1   | 1870.23  |                                                                                         |
| 21                                  | Sulphate(mg/l)                               | 2446.88  | 1578    | 598.29   | 9.35   | 11.22  | 12.9   | 1241.46 | 74.7   | 395     | 299     | 964.0   | 1448.43  |                                                                                         |
| 22                                  | Sodium(mg/l)                                 | 310.0    | -       | -        | -      | -      | -      | 540.0   | -      | -       | -       | -       | -        |                                                                                         |
| 23                                  | Total Dissolved Solids(mg/l)                 | 32129.0  | 36344.0 | 19374.0  | 64.2   | 761.0  | 827.0  | 1708.0  | 4111.0 | 13450.0 | 20760.0 | 18851.0 | 27314.0  |                                                                                         |
| 24                                  | Total Fixed Solids(mg/l)                     | 22490.0  | 14538.0 | 12922.0  | 42.0   | 466.0  | 406.0  | 700.0   | 4010.0 | 12434.0 | 1014.0  | 17845.0 | 12000.0  |                                                                                         |
| 25                                  | Total Suspended Solids(mg/l)                 | 62.0     | 22.0    | 72.0     | 23.0   | 44.0   | 38.0   | 50.0    | 50.0   | 41.0    | 10.0    | 51.0    | 27.0     |                                                                                         |
| 26                                  | Phosphate(mg/l)                              | 0.08     | 0.068   | 0.117    | 0.144  | 0.113  | 0.02   | 0.057   | 0.40   | 0.03    | BDL     | 0.06    | 0.031    |                                                                                         |
| 27                                  | Boron(mg/l)                                  | -        | -       | -        | -      | -      | -      | 0.82    | -      | -       | -       | -       | -        |                                                                                         |
| 28                                  | Potassium(mg/l)                              | 10.5     | -       | -        | -      | -      | -      | 13      | -      | -       | -       | -       | -        |                                                                                         |
| 29                                  | Fluoride(mg/l)                               | 1.76     | BDL     | 0.380    | BDL    | BDL    | BDL    | 0.260   | BDL    | 0.88    | BDL     | BDL     | BDL      |                                                                                         |
| 30                                  | Arsenic(mg/l)                                | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 31                                  | Cadmium(mg/l)                                | BDL      | -       | -        | -      | -      | -      | 0.010   | -      | -       | -       | -       | -        |                                                                                         |
| 32                                  | Copper(mg/l)                                 | BDL      | -       | -        | -      | -      | -      | 0.026   | -      | -       | -       | -       | -        |                                                                                         |
| 33                                  | Lead(mg/l)                                   | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 34                                  | Chromium(mg/l)                               | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 35                                  | Nickel(mg/l)                                 | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 36                                  | Zinc(mg/l)                                   | 0.13     | -       | -        | -      | -      | -      | 0.027   | -      | -       | -       | -       | -        |                                                                                         |
| 37                                  | IronTotal(mg/l)                              | 1.419    | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 38                                  | Carbaryl (mg/L)                              | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 39                                  | DDT-α-p' (mg/L)                              | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 40                                  | DDT-p-p' (mg/L)                              | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 41                                  | alpha Endosulfan(mg/L)                       | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 42                                  | beta Endosulfan(mg/L)                        | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 43                                  | Anilofos (mg/L)                              | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 44                                  | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 45                                  | Aldrin/Dieldrin (mg/L)                       | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 46                                  | Alpha HCH (mg/L)                             | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 47                                  | Beta HCH (mg/L)                              | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 48                                  | Chlorpyrifos (mg/L)                          | BDL      | -       | -        | -      | -      | -      | 0.050   | -      | -       | -       | -       | -        |                                                                                         |
| 49                                  | Gamma-HCH (Lindane) (mg/L)                   | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 50                                  | Malathion (mg/L)                             | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |
| 51                                  | Methyl parathion(mg/L)                       | BDL      | -       | -        | -      | -      | -      | BDL     | -      | -       | -       | -       | -        |                                                                                         |

| RIVER ZUARI AT PANCHAWADI 2020-2021 |                                              |         |         |         |        |        |        |        |         |        |        |         |         |                                                                                         |
|-------------------------------------|----------------------------------------------|---------|---------|---------|--------|--------|--------|--------|---------|--------|--------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                              | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20  | Dec-20 | Jan-21 | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                   | Temperature°C                                | 30      | 30      | 29      | 28     | 27     | 29     | 28     | 29      | 30     | 29     | 29      | 29      | 4 mg/l or more<br>6.5 - 8.5                                                             |
| 2                                   | Dissolved Oxygen(mg/l)                       | 4.0     | 4.7     | 4.5     | 6.6    | 7.6    | 7.3    | 6.6    | 5.1     | 5.1    | 4.9    | 5.7     | 5.2     |                                                                                         |
| 3                                   | pH                                           | 6.74    | 7.2     | 6.83    | 6.36   | 6.54   | 6.27   | 6.31   | 6.8     | 6.42   | 6.42   | 6.91    | 6.85    |                                                                                         |
| 4                                   | Conductivity(µs/cm)                          | 27560.0 | 16980.0 | 2305.0  | 141.9  | 84.40  | 82.54  | 368.72 | 6048.00 | 6070.0 | 6069.0 | 8387.0  | 12490.0 | 3 mg/l or less                                                                          |
| 5                                   | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | BDL     | 2.3    | BDL    | BDL     | BDL     |                                                                                         |
| 6                                   | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.1     | 0.40    | 0.423   | 0.810  | 0.51   | 0.15   | BDL    | BDL     | 0.20   | BDL    | 0.1     | 0.29    |                                                                                         |
| 7                                   | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.059   | 0.060   | BDL     | BDL    | BDL    | BDL    | BDL    | 0.008   | 0.03   | BDL    | 0.024   | 0.04    | 100 or less MPN/100 ml                                                                  |
| 8                                   | Total Coliform(MPN/100ml)                    | 130     | 330     | 700     | 780    | 680    | 610    | 1300   | 1200    | 3300   | 790    | 460     | 1400    |                                                                                         |
| 9                                   | Fecal Coliform(MPN/100ml)                    | 78      | 230     | 330     | 450    | 400    | 400    | 780    | 680     | 1700   | 230    | 330     | 780     |                                                                                         |
| 10                                  | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 171    | 50     | 50     | 121    | 121     | 921    | 111    | 171     | 151     | 30 NTU                                                                                  |
| 11                                  | Turbidity(NTU)                               | 3.24    | 7.55    | 8.48    | 21.3   | 11.26  | 9.90   | 6.05   | 7.50    | 6.98   | 6.98   | 6.77    | 4.44    |                                                                                         |
| 12                                  | Phenolphthalein Alkalinity(mg/l)             | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    | BDL    | BDL     | BDL     |                                                                                         |
| 13                                  | Total Alkalinity(mg/l)                       | 68.0    | 112.0   | 40.0    | 30.0   | 20.0   | 22.0   | 22.0   | 38.0    | 48.0   | 44.0   | 50.0    | 54.0    |                                                                                         |
| 14                                  | Chlorides(mg/l)                              | 19217.5 | 5998.0  | 1457.0  | 25.44  | 10.76  | 10.76  | 122.00 | 1457.00 | 5241.0 | 3620.0 | 3302.17 | 7748.0  |                                                                                         |
| 15                                  | COD(mg/l)                                    | -       | -       | 8.0     | 8.0    | 8.0    | 6.0    | 8.0    | 18.0    | -      | -      | -       | -       |                                                                                         |
| 16                                  | Total Kjeldahl Nitrogen(mg/l)                | 12.66   | -       | -       | -      | -      | -      | 8.4    | -       | -      | -      | 44.8    | 28.0    |                                                                                         |
| 17                                  | Ammonia (mg/l)                               | 0.07    | 0.07    | 0.109   | BDL    | BDL    | BDL    | BDL    | 0.15    | BDL    | BDL    | BDL     | BDL     |                                                                                         |
| 18                                  | Total Hardness(mg/l)                         | 10000.0 | 880.0   | 1000.0  | 30.0   | 28.0   | 34.0   | 24.0   | 440.0   | 700.0  | 1000.0 | 1800.0  | 1800.0  |                                                                                         |
| 19                                  | Calcium(mg/l)                                | 2500.0  | 64.13   | 500.0   | 12.0   | 10.0   | 16.0   | 20.0   | 80.0    | 160.0  | 144.0  | 400.8   | 256.5   |                                                                                         |
| 20                                  | Magnesium(mg/l)                              | 1822.5  | 175.0   | 121.5   | 4.37   | 4.37   | 4.37   | BDL    | 58.00   | 73.0   | 156.00 | 340.0   | 282.00  |                                                                                         |
| 21                                  | Sulphate(mg/l)                               | 4515.7  | 128.2   | 1942.52 | 7.59   | 9.62   | 11.07  | 14.32  | 73.0    | 300.4  | 154.0  | 381.73  | 71.23   |                                                                                         |
| 22                                  | Sodium(mg/l)                                 | 44      | -       | -       | -      | -      | -      | 55.6   | -       | -      | -      | -       | -       |                                                                                         |
| 23                                  | Total Dissolved Solids(mg/l)                 | 16812.0 | 10016.0 | 1383.0  | 85.2   | 54.0   | 54.0   | 210.0  | 4232.0  | 3754.0 | 3640.0 | 5012.0  | 7341.0  |                                                                                         |
| 24                                  | Total Fixed Solids(mg/l)                     | 10351.0 | 9018.0  | 943.0   | 56.0   | 34.0   | 20.0   | 90.0   | 2537.0  | 3201.0 | 782.0  | 1125.0  | 7136.0  |                                                                                         |
| 25                                  | Total Suspended Solids(mg/l)                 | 35.0    | 57.0    | 31.0    | 18.0   | 27.0   | 21.0   | 9.0    | 6.0     | 13.0   | 49.0   | 16.0    | 62.0    |                                                                                         |
| 26                                  | Phosphate(mg/l)                              | 0.26    | BDL     | 0.110   | 0.282  | 0.037  | 0.04   | BDL    | 0.02    | 0.03   | 0.05   | 0.024   | 0.03    |                                                                                         |
| 27                                  | Boron(mg/l)                                  | 1.14    | -       | -       | -      | -      | -      | 0.74   | -       | -      | -      | -       | -       |                                                                                         |
| 28                                  | Potassium(mg/l)                              | 1.2     | -       | -       | -      | -      | -      | 2.5    | -       | -      | -      | -       | -       |                                                                                         |
| 29                                  | Flouride(mg/l)                               | BDL     | 0.43    | 0.700   | BDL    | BDL    | BDL    | BDL    | 0.41    | 0.22   | 0.21   | 0.2     | 0.45    |                                                                                         |
| 30                                  | Arsenic(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 31                                  | Cadmium(mg/l)                                | BDL     | -       | -       | -      | -      | -      | 0.006  | -       | -      | -      | -       | -       |                                                                                         |
| 32                                  | Copper(mg/l)                                 | BDL     | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 33                                  | Lead(mg/l)                                   | BDL     | -       | -       | -      | -      | -      | BDL    | -       | -      | BDL    | -       | -       |                                                                                         |
| 34                                  | Chromium(mg/l)                               | BDL     | -       | -       | -      | -      | -      | 0.068  | -       | -      | -      | -       | -       |                                                                                         |
| 35                                  | Nickel(mg/l)                                 | 0.258   | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 36                                  | Zinc(mg/l)                                   | 0.072   | -       | -       | -      | -      | -      | 0.023  | -       | -      | -      | -       | -       |                                                                                         |
| 37                                  | IronTotal(mg/l)                              | BDL     | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 38                                  | Carbaryl (mg/L)                              | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 39                                  | DDT- <i>o,p'</i> (mg/L)                      | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 40                                  | DDT- <i>p,p'</i> (mg/L)                      | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 41                                  | alpha Endosulfan(mg/L)                       | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 42                                  | beta Endosulfan(mg/L)                        | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 43                                  | Anilofos (mg/L)                              | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 44                                  | 2,4-Dichlorophenoxyacetic acid(mg/L)         | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 45                                  | Aldrin/Dieldrin (mg/L)                       | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 46                                  | Alpha HCH (mg/L)                             | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 47                                  | Beta HCH (mg/L)                              | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 48                                  | Chlorpyrifos (mg/L)                          | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 49                                  | Gamma-HCH (Lindane) (mg/L)                   | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 50                                  | Malathion (mg/L)                             | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |
| 51                                  | Methyl parathion(mg/L)                       | -       | -       | -       | -      | -      | -      | BDL    | -       | -      | -      | -       | -       |                                                                                         |

| RIVER ZUARI AT CORTALIM 2020-2021 |                                              |         |         |         |        |        |         |         |         |         |         |         |          | Limit for SW II river as per CPCB classification based on designated best use of rivers |  |
|-----------------------------------|----------------------------------------------|---------|---------|---------|--------|--------|---------|---------|---------|---------|---------|---------|----------|-----------------------------------------------------------------------------------------|--|
| Sr. No                            | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21   |                                                                                         |  |
| 1                                 | Temperature°C                                | 30      | 32      | 29      | 29     | 27     | 26      | 28      | 30      | 30      | 30      | 30      | 33       |                                                                                         |  |
| 2                                 | Dissolved Oxygen(mg/l)                       | 4.6     | 4.9     | 4.8     | 5.5    | 6.5    | 6.3     | 5.0     | 5.0     | 4.5     | 6.1     | 5.5     | 5.2      | 4 mg/l or more                                                                          |  |
| 3                                 | pH                                           | 7.50    | 7.58    | 7.10    | 7.10   | 7.40   | 7.08    | 7.34    | 7.18    | 6.98    | 6.85    | 7.53    | 7.61     | 6.5 - 8.5                                                                               |  |
| 4                                 | Conductivity(µs/cm)                          | 58470.0 | 58090.0 | 41220.0 | 975.7  | 258.44 | 13870.0 | 41800.0 | 41470.0 | 42330.0 | 44160.0 | 43590.0 | 44310.0  |                                                                                         |  |
| 5                                 | BOD(mg/l)                                    | BDL     | 2.2     | BDL     | BDL    | BDL    | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL      | 3 mg/l or less                                                                          |  |
| 6                                 | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.13    | 0.2     | 0.37    | 0.32   | 0.20   | 0.31    | 0.27    | 0.16    | 0.792   | 0.36    | 0.163   | BDL      |                                                                                         |  |
| 7                                 | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.013   | 0.183   | 0.18    | 0.024  | 0.028  | 0.005   | BDL     | 0.04    | 0.008   | 0.06    | 0.011   | 0.069    |                                                                                         |  |
| 8                                 | Total Coliform(MPN/100ml)                    | 2300    | 3300    | 4900    | 4900   | 4600   | 4900    | 4900    | 3300    | 4900    | 7900    | 4900    | 2700     | 100 or less MPN/100 ml                                                                  |  |
| 9                                 | Fecal Coliform(MPN/100ml)                    | 1300    | 1700    | 2300    | 3300   | 2300   | 3300    | 2300    | 2300    | 2300    | 3300    | 2300    | 2200     |                                                                                         |  |
| 10                                | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | >1601  | 241    | 171     | 541     | 95      | 431     | 431     | 921     | >1601    |                                                                                         |  |
| 11                                | Turbidity(NTU)                               | 15.37   | 12.95   | 15.42   | 77.7   | 70.4   | 21.7    | 6.31    | 12.93   | 3.04    | 14.02   | 14.33   | 15.09    | 30 NTU                                                                                  |  |
| 12                                | Phenolphthalein Alkalinity(mg/l)             | 4.0     | 2.0     | BDL     | BDL    | BDL    | BDL     | 8.0     | BDL     | 10.0    | BDL     | BDL     | BDL      |                                                                                         |  |
| 13                                | Total Alkalinity(mg/l)                       | 116.0   | 114.0   | 94.0    | 34.0   | 30.0   | 48.0    | 26.0    | 90.0    | 100.0   | 108.0   | 120.0   | 100.0    |                                                                                         |  |
| 14                                | Chlorides(mg/l)                              | 18212.0 | 19446.0 | 12992.0 | 194.0  | 53.0   | 4250.0  | 16046.0 | 15275.4 | 17489.2 | 17246.4 | 17978.5 | 17856.17 |                                                                                         |  |
| 15                                | COD(mg/l)                                    | -       | -       | -       | 14.0   | 14.0   | -       | -       | -       | -       | -       | -       | -        |                                                                                         |  |
| 16                                | Total Kjeldahl Nitrogen(mg/l)                | 4.7     | -       | -       | -      | -      | -       | 13.44   | -       | -       | -       | 43.4    | 3.36     |                                                                                         |  |
| 17                                | Ammonia (mg/l)                               | 0.11    | BDL     | BDL     | 0.11   | BDL    | 0.06    | BDL     | 0.11    | 0.05    | BDL     | BDL     | BDL      |                                                                                         |  |
| 18                                | Total Hardness(mg/l)                         | 7200.0  | 8500.0  | 4400.0  | 80.0   | 28.0   | 2400.0  | 4440.0  | 4500.0  | 4500.0  | 4000.0  | 4800.0  | 9500.0   |                                                                                         |  |
| 19                                | Calcium(mg/l)                                | 641.0   | 601.2   | 240.0   | 10.0   | 5.0    | 96.0    | 273.0   | 360.7   | 2000.0  | 400.8   | 2800.0  | 2004.0   |                                                                                         |  |
| 20                                | Magnesium(mg/l)                              | 1361.0  | 1701.0  | 924.0   | 13.0   | 5.0    | 525.0   | 914.0   | 874.8   | 607.50  | 729.00  | 486.0   | 1821.53  |                                                                                         |  |
| 21                                | Sulphate(mg/l)                               | 3727.0  | 2505.9  | 875.0   | 39.0   | 18.0   | 186.0   | 1975.0  | 2172.1  | 2060.45 | 7130.00 | 2786.16 | 5427.3   |                                                                                         |  |
| 22                                | Sodium(mg/l)                                 | 5840.0  | -       | -       | -      | -      | -       | 8330.0  | -       | -       | -       | -       | -        |                                                                                         |  |
| 23                                | Total Dissolved Solids(mg/l)                 | 40929.0 | 37758.0 | 28854.0 | 682.0  | 180.0  | 9709.0  | 25066.0 | 26124.0 | 25925.0 | 26937.0 | 25693.0 | 26585.00 |                                                                                         |  |
| 24                                | Total Fixed Solids(mg/l)                     | 16372.0 | 26430.0 | 11542.0 | 408.0  | 108.0  | 5625.0  | 13406.0 | 19504.0 | 12885.0 | 18581.0 | 13604.0 | 12308.0  |                                                                                         |  |
| 25                                | Total Suspended Solids(mg/l)                 | 18.0    | 42.0    | 79.0    | 47.0   | 57.0   | 82.0    | 47.0    | 39.0    | 50.0    | 56.0    | 39.0    | 32.0     |                                                                                         |  |
| 26                                | Phosphate(mg/l)                              | 0.12    | 0.08    | 0.09    | 0.06   | 0.13   | 0.06    | 0.04    | 0.05    | 0.61    | 0.06    | 0.048   | 0.067    |                                                                                         |  |
| 27                                | Boron(mg/l)                                  | 1.04    | -       | -       | -      | -      | -       | 1.20    | -       | -       | -       | -       | -        |                                                                                         |  |
| 28                                | Potassium(mg/l)                              | 142.0   | -       | -       | -      | -      | -       | 221.0   | -       | -       | -       | -       | -        |                                                                                         |  |
| 29                                | Flouride(mg/l)                               | BDL     | 0.9     | 1.16    | 0.44   | 0.22   | 0.94    | 0.93    | 0.8     | 0.045   | 1.2     | BDL     | BDL      |                                                                                         |  |
| 30                                | Arsenic(mg/l)                                | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 31                                | Cadmium(mg/l)                                | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 32                                | Copper(mg/l)                                 | BDL     | -       | -       | -      | -      | -       | 1.064   | -       | -       | -       | -       | -        |                                                                                         |  |
| 33                                | Lead(mg/l)                                   | BDL     | -       | -       | -      | -      | -       | 0.055   | -       | -       | -       | -       | -        |                                                                                         |  |
| 34                                | Chromium(mg/l)                               | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 35                                | Nickel(mg/l)                                 | 0.299   | -       | -       | -      | -      | -       | 0.288   | -       | -       | -       | -       | -        |                                                                                         |  |
| 36                                | Zinc(mg/l)                                   | 0.155   | -       | -       | -      | -      | -       | 0.134   | -       | -       | -       | -       | -        |                                                                                         |  |
| 37                                | Iron Total(mg/l)                             | 0.599   | -       | -       | -      | -      | -       | 0.085   | -       | -       | -       | -       | -        |                                                                                         |  |
| 38                                | Carbaryl (mg/L)                              | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 39                                | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 40                                | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 41                                | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 42                                | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 43                                | Anilofos (mg/L)                              | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 44                                | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 45                                | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 46                                | Alpha HCH (mg/L)                             | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 47                                | Beta HCH (mg/L)                              | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 48                                | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 49                                | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 50                                | Malathion (mg/L)                             | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |
| 51                                | Methyl parathion(mg/L)                       | BDL     | -       | -       | -      | -      | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |  |

| CREEK AT DANDO MOLLO, VELSAO, MORMUGAO 2020-2021 |                                              |         |        |        |        |        |        |         |         |          |         |         |         |                                                                                           |
|--------------------------------------------------|----------------------------------------------|---------|--------|--------|--------|--------|--------|---------|---------|----------|---------|---------|---------|-------------------------------------------------------------------------------------------|
| Sr. No                                           | Parameters                                   | Apr-20  | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20  | Dec-20   | Jan-21  | Feb-21  | Mar-21  | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                                                | Temperature°C                                | 29      | 32     | 29     | 29     | 26     | 26     | 28      | 29      | 29       | 29      | 32      | 32      |                                                                                           |
| 2                                                | Dissolved Oxygen(mg/l)                       | -       | 8.2    | 5.8    | 5.1    | 6.1    | 6.9    | 5.1     | 4.5     | 6.0      | 7.8     | 8.0     | 6       | 4 mg/l or more                                                                            |
| 3                                                | pH                                           | 8.30    | 8.50   | 7.20   | 7.10   | 6.80   | 7.40   | 6.95    | 6.85    | 6.87     | 6.73    | 7.39    | 7.29    | 6-9                                                                                       |
| 4                                                | Conductivity(µs/cm)                          | 21640.0 | 7120.0 | 1660.0 | 964.5  | 190.82 | 308.0  | 13130.0 | 18260.0 | 19370.0  | 18630.0 | 18770.0 | 17950.0 |                                                                                           |
| 5                                                | BOD(mg/l)                                    | -       | 2.0    | 2.9    | BDL    | BDL    | 2.6    | BDL     | BDL     | BDL      | BDL     | BDL     | BDL     | 3 mg/l or less                                                                            |
| 6                                                | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 4.26    | 3.56   | 5.43   | 1.17   | 0.77   | 9.0    | 0.33    | 0.22    | 1.53     | 0.62    | BDL     | BDL     |                                                                                           |
| 7                                                | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.03    | 0.057  | 0.51   | 0.034  | 0.084  | 0.454  | 0.011   | 0.049   | 0.065    | 0.05    | 0.069   | 0.068   |                                                                                           |
| 8                                                | Total Coliform(MPN/100ml)                    | 1300    | 1400   | 1700   | 2000   | 2100   | 2200   | 1400    | 1300    | 220      | 1400    | 1100    | 3300    | 5000 or less MPN/100 ml                                                                   |
| 9                                                | Fecal Coliform(MPN/100ml)                    | 780     | 1100   | 780    | 930    | 1100   | 1300   | 1100    | 780     | 130      | 330     | 230     | 2300    |                                                                                           |
| 10                                               | Fecal Streptococci (MPN/100ml)               | -       | -      | -      | >1601  | 47     | 80     | 151     | 351     | 95       | 281     | 211     | 221     |                                                                                           |
| 11                                               | Turbidity(NTU)                               | 3.25    | BDL    | 4.41   | 14.92  | 7.12   | 12.36  | 4.63    | 8.11    | 7.91     | 7.81    | 7.02    | 7.36    |                                                                                           |
| 12                                               | Phenolphthalein Alkalinity(mg/l)             | BDL     | 2.0    | BDL    | BDL    | BDL    | BDL    | BDL     | 4.0     | BDL      | BDL     | BDL     | BDL     |                                                                                           |
| 13                                               | Total Alkalinity(mg/l)                       | 48.0    | 38.0   | 58.0   | 68.0   | 34.0   | 26.0   | 34.0    | 84.0    | 90.0     | 36.0    | 60.0    | 60.0    |                                                                                           |
| 14                                               | Chlorides(mg/l)                              | 6921    | 2201.5 | 850    | 243    | 24.0   | 52.0   | 4794    | 6036.3  | 11374.13 | 2094.2  | 5259.01 | 6482.03 |                                                                                           |
| 15                                               | COD(mg/l)                                    | -       | -      | 12.0   | 12.0   | 6.0    | 8.0    | -       | -       | -        | -       | -       | -       |                                                                                           |
| 16                                               | Total Kjeldahl Nitrogen(mg/l)                | 5.6     | -      | -      | -      | -      | -      | 14      | -       | -        | -       | 7.0     | 2.8     |                                                                                           |
| 17                                               | Ammonia (mg/l)                               | 0.34    | 0.16   | 0.48   | BDL    | BDL    | BDL    | 0.15    | 0.47    | 0.14     | 0.15    | 0.08    | BDL     |                                                                                           |
| 18                                               | Total Hardness(mg/l)                         | 1920.0  | 1400.0 | 160.0  | 162.0  | 106.0  | 62.0   | 1000.0  | 1800.0  | 2000.0   | 208.0   | 3400.0  | 2500.0  |                                                                                           |
| 19                                               | Calcium(mg/l)                                | 152.0   | 240.5  | 48.0   | 35.0   | 12.0   | 13.0   | 80.0    | 160.3   | 1000.0   | 42.5    | 2400.0  | 601.2   |                                                                                           |
| 20                                               | Magnesium(mg/l)                              | 374     | 194.4  | 10.0   | 18.0   | 18.0   | 7.0    | 194.0   | 340.2   | 243.0    | 24.8    | 243.0   | 461.41  |                                                                                           |
| 21                                               | Sulphate(mg/l)                               | 910     | 95.12  | 92.0   | 39     | 11.0   | 9.0    | 435.0   | 918.6   | 888.13   | 1188.4  | 4460.3  | 108.78  |                                                                                           |
| 22                                               | Sodium(mg/l)                                 | 5460.0  | -      | -      | -      | -      | -      | 2190.0  | -       | -        | -       | -       | -       |                                                                                           |
| 23                                               | Total Dissolved Solids(mg/l)                 | 15148.0 | 4699.0 | 1162.0 | 675.0  | 133.0  | 205.0  | 7710.0  | 11321.0 | 11885.0  | 11768.0 | 10426.0 | 10154.0 |                                                                                           |
| 24                                               | Total Fixed Solids(mg/l)                     | 6059.0  | 3336.0 | 465.0  | 400.0  | 80.0   | 120.0  | 4681.0  | 7581.0  | 6191.0   | 6853.0  | 4584.0  | 4934.0  |                                                                                           |
| 25                                               | Total Suspended Solids(mg/l)                 | 45.0    | 22.0   | 33.0   | 32.0   | 8.0    | 50.0   | 37.0    | 34.0    | 81.0     | 41.0    | 18.0    | 13.0    |                                                                                           |
| 26                                               | Phosphate(mg/l)                              | 0.29    | 0.09   | 0.23   | 0.29   | 0.07   | 0.16   | 0.13    | 0.12    | 0.72     | 0.13    | 0.118   | 0.802   |                                                                                           |
| 27                                               | Boron(mg/l)                                  | 0.65    | -      | -      | -      | -      | -      | 0.80    | -       | -        | -       | -       | -       |                                                                                           |
| 28                                               | Potassium(mg/l)                              | 115.0   | -      | -      | -      | -      | -      | 82.8    | -       | -        | -       | -       | -       |                                                                                           |
| 29                                               | Flouride(mg/l)                               | BDL     | 0.81   | 0.24   | 0.39   | 0.21   | 0.21   | 2190    | 0.27    | 0.227    | 0.54    | 0.26    | BDL     |                                                                                           |
| 30                                               | Arsenic(mg/l)                                | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 31                                               | Cadmium(mg/l)                                | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 32                                               | Copper(mg/l)                                 | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 33                                               | Lead(mg/l)                                   | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 34                                               | Chromium(mg/l)                               | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 35                                               | Nickel(mg/l)                                 | 0.22    | -      | -      | -      | -      | -      | 0.093   | -       | -        | -       | -       | -       |                                                                                           |
| 36                                               | Zinc(mg/l)                                   | 0.161   | -      | -      | -      | -      | -      | 0.031   | -       | -        | -       | -       | -       |                                                                                           |
| 37                                               | IronTotal(mg/l)                              | 0.21    | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 38                                               | Carbaryl (mg/L)                              | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 39                                               | DDT-o,p' (mg/L)                              | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 40                                               | DDT-p,p' (mg/L)                              | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 41                                               | alpha Endosulfan(mg/L)                       | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 42                                               | beta Endosulfan(mg/L)                        | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 43                                               | Anilofos (mg/L)                              | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 44                                               | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 45                                               | Aldrin/Dieldrin (mg/L)                       | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 46                                               | Alpha HCH (mg/L)                             | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 47                                               | Beta HCH (mg/L)                              | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 48                                               | Chlorpyrifos (mg/L)                          | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 49                                               | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 50                                               | Malathion (mg/L)                             | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |
| 51                                               | Methyl parathion(mg/L)                       | BDL     | -      | -      | -      | -      | -      | BDL     | -       | -        | -       | -       | -       |                                                                                           |

| RIVER MANDOVI NEAR MANDOVI BRIDGE, PANAJI 2020-2021 |                                              |         |         |         |        |        |        |         |         |         |         |         |         | Limit for SW II river as per CPCB classification based on designated best use of rivers |  |
|-----------------------------------------------------|----------------------------------------------|---------|---------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|--|
| Sr. No                                              | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  |                                                                                         |  |
| 1                                                   | Temperature°C                                | 29      | 32      | 30      | 29     | 29     | 30     | 30      | 29      | 28      | 29      | 30      | 30      |                                                                                         |  |
| 2                                                   | Dissolved Oxygen(mg/l)                       | 6.3     | 5.9     | 5.3     | 6.9    | 7.5    | 6.8    | 6.3     | 5.5     | 5.6     | 5.8     | 6.0     | 7.2     | 4 mg/l or more                                                                          |  |
| 3                                                   | pH                                           | 7.58    | 7.77    | 7.59    | 6.98   | 6.91   | 6.75   | 7.30    | 7.62    | 7.80    | 7.72    | 7.89    | 7.77    | 6.5 - 8.5                                                                               |  |
| 4                                                   | Conductivity(µs/cm)                          | 52870.0 | 59130.0 | 55970.0 | 1278.0 | 359.87 | 2625.0 | 33810.0 | 40390.0 | 56030.0 | 56240.0 | 53060.0 | 57580.0 |                                                                                         |  |
| 5                                                   | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |  |
| 6                                                   | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.24    | BDL     | 0.38    | 0.99   | 0.56   | BDL    | BDL     | 0.10    | 0.10    | 0.11    | 0.19    | BDL     |                                                                                         |  |
| 7                                                   | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.018   | 0.07    | 0.41    | 0.10   | 0.006  | BDL    | BDL     | 0.005   | BDL     | 0.013   | 0.006   | 0.03    |                                                                                         |  |
| 8                                                   | Total Coliform(MPN/100ml)                    | 200     | 78      | 120     | 280    | 220    | 170    | 210     | 140     | 210     | 330     | 230     | 140     | 100 or less MPN/100 ml                                                                  |  |
| 9                                                   | Fecal Coliform(MPN/100ml)                    | 93      | 78      | 92      | 94     | 79     | 79     | 94      | 70      | 84      | 230     | 130     | 110     |                                                                                         |  |
| 10                                                  | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 49     | >1601  | 44     | 95      | 141     | 9.2     | 64      | 1601    | 64      |                                                                                         |  |
| 11                                                  | Turbidity(NTU)                               | 2.8     | 4.94    | 3.81    | 3.17   | 7.0    | 7.0    | 4.83    | 1.94    | 4.72    | 4.33    | 4.04    | 3       | 30 NTU                                                                                  |  |
| 12                                                  | Phenolphthalein Alkalinity(mg/l)             | 4.0     | BDL     | 4.0     | BDL    | BDL    | BDL    | 4.0     | 8.0     | 8.0     | 14.0    | BDL     | 6.0     |                                                                                         |  |
| 13                                                  | Total Alkalinity(mg/l)                       | 108.0   | 128.0   | 142.0   | 36.0   | 32.0   | 46.0   | 50.0    | 116.0   | 122.0   | 118.0   | 116.0   | 110.0   |                                                                                         |  |
| 14                                                  | Chlorides(mg/l)                              | 17220.0 | 19340.6 | 19568.0 | 1101.0 | 79.0   | 1839.0 | 11888.0 | 18345.0 | 17612.0 | 15891.4 | 17969.0 | 17245.0 |                                                                                         |  |
| 15                                                  | COD(mg/l)                                    | -       | -       | -       | 6.0    | 6.0    | 8.0    | -       | -       | -       | -       | -       | -       |                                                                                         |  |
| 16                                                  | Total Kjeldahl Nitrogen(mg/l)                | 3.86    | -       | -       | -      | -      | -      | 10.08   | -       | -       | -       | 14.0    | 3.9     |                                                                                         |  |
| 17                                                  | Ammonia (mg/l)                               | BDL     | 0.22    | 0.10    | BDL    | BDL    | 0.08   | 0.12    | 0.16    | 0.05    | 0.12    | BDL     | 0.16    |                                                                                         |  |
| 18                                                  | Total Hardness(mg/l)                         | 6400.0  | 20500.0 | 10000.0 | 200.0  | 50.0   | 740.0  | 4000.0  | 5500.0  | 5500.0  | 3600.0  | 3000.0  | 7400.0  |                                                                                         |  |
| 19                                                  | Calcium(mg/l)                                | 481.0   | 5000.0  | 1202.0  | 13.0   | 7.0    | 51.0   | 762.0   | 361.0   | 417.0   | 561.1   | 641.3   | 1283.0  |                                                                                         |  |
| 20                                                  | Magnesium(mg/l)                              | 1264.0  | 3766.5  | 1701.0  | 41.0   | 8.0    | 149.0  | 510.0   | 1118.0  | 1084.0  | 534.6   | 340.2   | 1020.6  |                                                                                         |  |
| 21                                                  | Sulphate(mg/l)                               | 2046.0  | 4395.2  | 1534.0  | 22.0   | 13.0   | 78.0   | 1160.0  | 1046.0  | 1754.0  | 3305.9  | 2373.1  | 2550.0  |                                                                                         |  |
| 22                                                  | Sodium(mg/l)                                 | 7.6     | -       | -       | -      | -      | -      | 4930    | -       | -       | -       | -       | -       |                                                                                         |  |
| 23                                                  | Total Dissolved Solids(mg/l)                 | 31722.0 | 36671.0 | 33587.0 | 769.0  | 212.0  | 1548.0 | 20189.0 | 23831.0 | 33618.0 | 34306.0 | 29715.0 | 33964.0 |                                                                                         |  |
| 24                                                  | Total Fixed Solids(mg/l)                     | 12598.0 | 29134.0 | 17845.0 | 312.0  | 108.0  | 954.0  | 12124.0 | 14879.0 | 14853.0 | 21469.0 | 28050.0 | 31970.0 |                                                                                         |  |
| 25                                                  | Total Suspended Solids(mg/l)                 | 40.0    | 53.0    | 23.0    | 33.0   | 46.0   | 25.0   | 23.0    | 15.0    | 31.0    | 47.0    | 7.0     | 108.0   |                                                                                         |  |
| 26                                                  | Phosphate(mg/l)                              | BDL     | 0.08    | 0.11    | 0.07   | 0.08   | 0.02   | 0.09    | 0.06    | 0.05    | 0.03    | BDL     | 0.11    |                                                                                         |  |
| 27                                                  | Boron(mg/l)                                  | 0.86    | -       | -       | -      | -      | -      | 0.58    | -       | -       | -       | -       | -       |                                                                                         |  |
| 28                                                  | Potassium(mg/l)                              | 3.8     | -       | -       | -      | -      | -      | 145     | -       | -       | -       | -       | -       |                                                                                         |  |
| 29                                                  | Flouride(mg/l)                               | BDL     | BDL     | 0.53    | 0.28   | BDL    | 0.67   | 0.84    | 0.91    | BDL     | 0.20    | 1.05    | 0.40    |                                                                                         |  |
| 30                                                  | Arsenic(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 31                                                  | Cadmium(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 32                                                  | Copper(mg/l)                                 | BDL     | -       | -       | -      | -      | -      | 0.295   | -       | -       | -       | -       | -       |                                                                                         |  |
| 33                                                  | Lead(mg/l)                                   | 0.059   | -       | -       | -      | -      | -      | 0.083   | -       | -       | -       | -       | -       |                                                                                         |  |
| 34                                                  | Chromium(mg/l)                               | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 35                                                  | Nickel(mg/l)                                 | 0.134   | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 36                                                  | Zinc(mg/l)                                   | 0.17    | -       | -       | -      | -      | -      | 0.119   | -       | -       | -       | -       | -       |                                                                                         |  |
| 37                                                  | Iron Total(mg/l)                             | 0.053   | -       | -       | -      | -      | -      | 0.221   | -       | -       | -       | -       | -       |                                                                                         |  |
| 38                                                  | Carbaryl (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 39                                                  | DDT-0,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 40                                                  | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 41                                                  | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 42                                                  | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 43                                                  | Anilofos (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 44                                                  | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 45                                                  | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 46                                                  | Alpha HCH (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 47                                                  | Beta HCH (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 48                                                  | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 49                                                  | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 50                                                  | Malathion (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |
| 51                                                  | Methyl parathion(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |  |

| RIVER MANDOVIA AT TONCA MARCELA 2020-2021 |                                              |          |         |         |        |        |        |        |         |         |          |         |          |                                                                                         |
|-------------------------------------------|----------------------------------------------|----------|---------|---------|--------|--------|--------|--------|---------|---------|----------|---------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                                    | Parameters                                   | Apr-20   | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20  | Dec-20  | Jan-21   | Feb-21  | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                         | Temperature°C                                | 29       | 30      | 30      | 28     | 26     | 28     | 28     | 28      | 29      | 28       | 28      | 30       |                                                                                         |
| 2                                         | Dissolved Oxygen(mg/l)                       | 5.6      | 5.2     | 4.0     | 6.5    | 7.3    | 7.0    | 6.7    | 7.2     | 5.4     | 5.6      | 5.9     | 5.5      | 4 mg/l or more                                                                          |
| 3                                         | pH                                           | 7.23     | 7.20    | 6.88    | 6.57   | 6.47   | 6.74   | 6.24   | 7.01    | 6.14    | 6.85     | 7.17    | 6.92     | 6.5 - 8.5                                                                               |
| 4                                         | Conductivity(µs/cm)                          | 44030    | 47660   | 32500.0 | 31.2   | 138.27 | 135.85 | 425.72 | 4308.00 | 22650.0 | 38750.0  | 38600.0 | 37870.0  |                                                                                         |
| 5                                         | BOD(mg/l)                                    | BDL      | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | BDL     | BDL     | BDL      | BDL     | BDL      | 3 mg/l or less                                                                          |
| 6                                         | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.1352   | 0.14    | 0.758   | 0.211  | 0.23   | BDL    | 0.14   | BDL     | 0.13    | 0.171    | 0.14    | BDL      |                                                                                         |
| 7                                         | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.088    | 0.193   | 0.028   | 0.0088 | BDL    | BDL    | 0.008  | BDL     | BDL     | BDL      | BDL     | 0.072    |                                                                                         |
| 8                                         | Total Coliform(MPN/100ml)                    | 1400     | 1100    | 1300    | 1400   | 1400   | 1100   | 1700   | 2100    | 1400    | 1700     | 1700    | 490      |                                                                                         |
| 9                                         | Fecal Coliform(MPN/100ml)                    | 930      | 680     | 780     | 930    | 1100   | 790    | 1100   | 1100    | 790     | 1300     | 1300    | 330      | 100 or less MPN/100 ml                                                                  |
| 10                                        | Fecal Streptococci (MPN/100ml)               | -        | -       | -       | >1601  | 33     | 24     | -      | 49      | 23      | 44       | 111     | 171      |                                                                                         |
| 11                                        | Turbidity(NTU)                               | 2.28     | 6.69    | 3.12    | 44.8   | 16.27  | 7.91   | 17.51  | 3.59    | 5.54    | 4.62     | 4.29    | 3.65     | 30 NTU                                                                                  |
| 12                                        | Phenolphthalein Alkalinity(mg/l)             | 2.0      | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | BDL     | BDL     | 2.0      | BDL     | BDL      |                                                                                         |
| 13                                        | Total Alkalinity(mg/l)                       | 102.0    | 98.0    | 60.0    | 30.0   | 30.0   | 30.0   | 30.0   | 50.0    | 62.0    | 34.0     | 34.0    | 120.0    |                                                                                         |
| 14                                        | Chlorides(mg/l)                              | 16021.63 | 14084.0 | 12748.7 | 18.10  | 22.99  | 244.61 | 97.84  | 3249.00 | 7373.00 | 10518.00 | 12996.0 | 17648.25 |                                                                                         |
| 15                                        | COD(mg/l)                                    | -        | -       | -       | 14.0   | 6.0    | 8.0    | 8.0    | -       | -       | -        | -       | -        |                                                                                         |
| 16                                        | Total Kjeldahl Nitrogen(mg/l)                | 3.8      | -       | -       | -      | -      | -      | 7.26   | -       | -       | -        | 70.0    | 5.6      |                                                                                         |
| 17                                        | Ammonia (mg/l)                               | 0.091    | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | 0.20    | BDL     | BDL      | BDL     | BDL      |                                                                                         |
| 18                                        | Total Hardness(mg/l)                         | 7000.0   | 4800.0  | 5000.0  | 30.0   | 22.0   | 36.0   | 52.0   | 798.0   | 1800.0  | 2000.0   | 3400.0  | 9500.0   |                                                                                         |
| 19                                        | Calcium(mg/l)                                | 601.2    | 561.0   | 1000.0  | 10.0   | 4.0    | 18.0   | 8.0    | 57.8    | 577.2   | 256.0    | 321.0   | 2004.0   |                                                                                         |
| 20                                        | Magnesium(mg/l)                              | 1336.5   | 826.0   | 972.0   | 4.86   | 4.37   | 7.7    | 10.69  | 159.00  | 87.5    | 330.0    | 631.8   | 1821.53  |                                                                                         |
| 21                                        | Sulphate(mg/l)                               | 2086.08  | 1307.0  | 633.90  | 16.04  | 18.01  | 5.71   | 4.39   | 54.00   | 150.0   | 348.00   | 4753.0  | 4482.68  |                                                                                         |
| 22                                        | Sodium(mg/l)                                 | 152.0    | -       | -       | -      | -      | -      | 57.2   | -       | -       | -        | -       | -        |                                                                                         |
| 23                                        | Total Dissolved Solids(mg/l)                 | 29500.0  | 29785.0 | 19500.0 | 18.7   | 75.0   | 85.0   | 256.0  | 2360.0  | 12511.0 | 31590.0  | 23155.0 | 22074.0  |                                                                                         |
| 24                                        | Total Fixed Solids(mg/l)                     | 19580.0  | 13344.0 | 13512.0 | 12.0   | 37.0   | 40.0   | 110.0  | 2255.0  | 11496.0 | 15900.0  | 22211.0 | 9576.0   |                                                                                         |
| 25                                        | Total Suspended Solids(mg/l)                 | 37.0     | 18.0    | 77.0    | 14.0   | 22.0   | 16.0   | 49.0   | 44.0    | 65.0    | 70.0     | 78.0    | 23.0     |                                                                                         |
| 26                                        | Phosphate(mg/l)                              | 0.23     | 0.03    | 0.050   | 0.211  | 0.14   | BDL    | 0.033  | 0.49    | 0.02    | BDL      | 0.07    | 0.03     |                                                                                         |
| 27                                        | Boron(mg/l)                                  | 0.67     | -       | -       | -      | -      | -      | 0.44   | -       | -       | -        | -       | -        |                                                                                         |
| 28                                        | Potassium(mg/l)                              | 1.6      | -       | -       | -      | -      | -      | 2.9    | -       | -       | -        | -       | -        |                                                                                         |
| 29                                        | Flouride(mg/l)                               | 1.69     | BDL     | 0.521   | BDL    | BDL    | BDL    | BDL    | 0.21    | 1.03    | 0.422    | BDL     | BDL      |                                                                                         |
| 30                                        | Arsenic(mg/l)                                | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 31                                        | Cadmium(mg/l)                                | BDL      | -       | -       | -      | -      | -      | 0.012  | -       | -       | -        | -       | -        |                                                                                         |
| 32                                        | Copper(mg/l)                                 | BDL      | -       | -       | -      | -      | -      | 0.038  | -       | -       | -        | -       | -        |                                                                                         |
| 33                                        | Lead(mg/l)                                   | 0.226    | -       | -       | -      | -      | -      | 0.037  | -       | -       | -        | -       | -        |                                                                                         |
| 34                                        | Chromium(mg/l)                               | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 35                                        | Nickel(mg/l)                                 | 0.301    | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 36                                        | Zinc(mg/l)                                   | 0.148    | -       | -       | -      | -      | -      | 0.020  | -       | -       | -        | -       | -        |                                                                                         |
| 37                                        | IronTotal(mg/l)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 38                                        | Carbaryl (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 39                                        | DDT- $\alpha$ p' (mg/L)                      | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 40                                        | DDT-p,p' (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 41                                        | alpha Endosulfan(mg/L)                       | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 42                                        | beta Endosulfan(mg/L)                        | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 43                                        | Anilofos (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 44                                        | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 45                                        | Aldrin/Dieldrin (mg/L)                       | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 46                                        | Alpha HCH (mg/L)                             | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 47                                        | Beta HCH (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 48                                        | Chlorpyrifos (mg/L)                          | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 49                                        | Gamma-HCH (Lindane) (mg/L)                   | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 50                                        | Malathion (mg/L)                             | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |
| 51                                        | Methyl parathion(mg/L)                       | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -        | -       | -        |                                                                                         |

| Sr. No | Parameters                                   | SELAULIM RESERVOIR AT SELAULIM, SANGUEM 2020-2021 |        |        |        |        |        |        |        |        |        |        |        | Limit for class C river as per CPCB classification based on designated best use of rivers |
|--------|----------------------------------------------|---------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
|        |                                              | Apr-20                                            | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 |                                                                                           |
| 1      | Temperature°C                                | 31                                                | 31     | 28     | 28     | 27     | 28     | 30     | 29     | 30     | 30     | 30     | 33     |                                                                                           |
| 2      | Dissolved Oxygen mg/l                        | 8.8                                               | 7.5    | 7.0    | 7.8    | 8.0    | 8.0    | 8.0    | 8.5    | 7.7    | 6.1    | 7.4    | 7.8    | 4 mg/l or more                                                                            |
| 3      | pH                                           | 7.47                                              | 7.37   | 7.56   | 6.47   | 6.90   | 6.95   | 6.70   | 6.80   | 6.72   | 8.34   | 8.50   | 7.01   | 6-9                                                                                       |
| 4      | Conductivity(µs/cm)                          | 60.85                                             | 83.97  | 51.67  | 21.30  | 43.23  | 41.13  | 37.67  | 48.62  | 47.0   | 139.17 | 139.24 | 52.57  |                                                                                           |
| 5      | BOD(mg/l)                                    | BDL                                               | 2.1    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 3 mg/l or less                                                                            |
| 6      | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.14                                              | BDL    | 0.30   | BDL    | 0.1    | 0.1    | BDL    | BDL    | 0.10   | BDL    | BDL    | 0.14   |                                                                                           |
| 7      | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL                                               | 0.007  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 8      | Total Coliform(MPN/100ml)                    | 13                                                | 13     | 49     | 130    | 130    | 110    | 140    | 170    | 220    | 6.8    | 4.5    | 13     | 5000 or less MPN/100 ml                                                                   |
| 9      | Fecal Coliform(MPN/100ml)                    | 4.5                                               | 4.5    | 13     | 49     | 49     | 33     | 79     | 110    | 110    | 2      | 2      | 4.5    |                                                                                           |
| 10     | Fecal Streptococci MPN/100ml                 | -                                                 | -      | -      | 351    | 171    | 22     | 171    | 64     | 12     | 47     | 2      | 12     |                                                                                           |
| 11     | Turbidity(NTU)                               | BDL                                               | 2.20   | 3.82   | 1.72   | BDL    | 1.89   | 2.53   | 2.53   | 2.25   | 1.89   | 1.87   | 6.07   |                                                                                           |
| 12     | Phenolphthalein Alkalinity(mg/l)             | BDL                                               | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13     | Total Alkalinity(mg/l)                       | 30.0                                              | 34.0   | 32.0   | 28.0   | 26.0   | 24.0   | 20.0   | 26.0   | 36.0   | 20.0   | 24.0   | 18.0   |                                                                                           |
| 14     | Chloride mg/l                                | 8.0                                               | 12.3   | 8.0    | 9.0    | 6.0    | 5.0    | 5.0    | 5.0    | 7.0    | BDL    | 4.0    | 4.5    |                                                                                           |
| 15     | COD(mg/l)                                    | 4.0                                               | 5.0    | 4.0    | 4.0    | 4.0    | 4.0    | 4.0    | 4.0    | 4.0    | 4.0    | 4.0    | 6.0    |                                                                                           |
| 16     | Total Kjeldhal Nitrogen(mg/l)                | 3.64                                              | -      | -      | -      | -      | -      | 6.72   | -      | -      | -      | 28.0   | 42.0   |                                                                                           |
| 17     | Ammonia mg/l                                 | BDL                                               | BDL    | BDL    | 0.06   | BDL    | 0.14   | 0.06   | 0.02   | 0.06   | BDL    | BDL    | BDL    |                                                                                           |
| 18     | Hardness(mg/l)                               | 22.0                                              | 8.0    | 30.0   | 20.0   | 26.0   | 18.0   | 20.0   | 20.0   | 12.0   | 12.0   | 30.0   | 14.0   |                                                                                           |
| 19     | Calcium(mg/l)                                | 6.0                                               | 6.0    | 6.0    | 3.0    | 5.0    | 4.0    | 5.0    | 4.0    | 4.0    | 4.01   | 3.0    | 2.40   |                                                                                           |
| 20     | Magnesium(mg/l)                              | BDL                                               | BDL    | 3.0    | 3.0    | 3.0    | 2.0    | BDL    | 2.0    | BDL    | BDL    | 5.0    | BDL    |                                                                                           |
| 21     | Sulphate(mg/l)                               | BDL                                               | 5.31   | BDL    | 4.0    | BDL    | BDL    | BDL    | 3.0    | 2.0    | 2.88   | 2.0    | BDL    |                                                                                           |
| 22     | Sodium(mg/l)                                 | 15.0                                              | -      | -      | -      | -      | -      | 4.2    | -      | -      | -      | -      | -      |                                                                                           |
| 23     | Total Dissolved Solids(mg/l)                 | 38.0                                              | 54.0   | 31.0   | 13.0   | 24.0   | 23.0   | 24.0   | 30.0   | 29.0   | 88.0   | 85.0   | 35.0   |                                                                                           |
| 24     | Total Fixed Solid(mg/l)                      | 11.0                                              | 28.0   | 12.0   | 6.0    | 11.0   | 9.0    | BDL    | 12.0   | 14.0   | 84.0   | 41.0   | 21.0   |                                                                                           |
| 25     | Total Suspended Solid (mg/l)                 | 11.0                                              | 8.0    | 25.0   | 29.0   | 11.0   | 10.0   | 9.0    | 14.0   | 22.0   | 3.0    | 14.0   | 10.0   |                                                                                           |
| 26     | Phosphate(mg/l)                              | 0.08                                              | 0.03   | 0.02   | 0.02   | 0.04   | BDL    | 0.02   | 0.03   | 0.02   | BDL    | 0.02   | BDL    |                                                                                           |
| 27     | Boron(mg/l)                                  | 0.82                                              | -      | -      | -      | -      | -      | 0.58   | -      | -      | -      | -      | -      |                                                                                           |
| 28     | Potassium(mg/l)                              | 0.15                                              | -      | -      | -      | -      | -      | 0.46   | -      | -      | -      | -      | -      |                                                                                           |
| 29     | Fluoride(mg/l)                               | 0.24                                              | 1.09   | 0.04   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 30     | Arsenic(mg/l)                                | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31     | Cadmium(mg/l)                                | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32     | Copper(mg/l)                                 | BDL                                               | -      | -      | -      | -      | -      | 0.012  | -      | -      | -      | -      | -      |                                                                                           |
| 33     | Lead(mg/l)                                   | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34     | Chromium(mg/l)                               | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35     | Nickel(mg/l)                                 | 0.202                                             | -      | 0.202  | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36     | Zinc(mg/l)                                   | 0.097                                             | -      | -      | -      | -      | -      | 0.018  | -      | -      | -      | -      | -      |                                                                                           |
| 37     | Iron Total(mg/l)                             | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 38     | Carbaryl (mg/L)                              | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39     | DDT-o,p' (mg/L)                              | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40     | DDT-p,p' (mg/L)                              | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41     | alpha Endosulfan(mg/L)                       | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42     | beta Endosulfan(mg/L)                        | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43     | Amblofix (mg/L)                              | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44     | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45     | Aldrin/Dieldrin (mg/L)                       | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46     | Alpha HCH (mg/L)                             | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47     | Beta HCH (mg/L)                              | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48     | Chlorpyrifos (mg/L)                          | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49     | Gamma-HCH (Lindane) (mg/L)                   | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50     | Malathion (mg/L)                             | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51     | Methyl parathion(mg/L)                       | BDL                                               | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |



| AGRICULTURAL CANAL UPSTREAM OF CUNCOLIM INDUSTRIAL ESTATE 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        | Limit for Class E as per CPCB classification based on designated best use |        |                |  |
|---------------------------------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------------------------------------------------------------|--------|----------------|--|
| Sr. No                                                              | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21                                                                    | Mar-21 |                |  |
| 1                                                                   | Temperature°C                                | 30     | 29     | 30     | 28     | 27     | 27     | 27     | DRY    | 29     | 29     | 29                                                                        | 30     |                |  |
| 2                                                                   | Dissolved Oxygen(mg/l)                       | 6.5    | 6.9    | 6.4    | 5.6    | 6.1    | 6.5    | 6.4    |        | 6.8    | 6.4    | 8.1                                                                       | 7.2    |                |  |
| 3                                                                   | pH                                           | 7.40   | 8.50   | 6.86   | 6.39   | 6.48   | 6.27   | 6.98   |        | 7.23   | 7.28   | 7.18                                                                      | 7.40   |                |  |
| 4                                                                   | Conductivity(µs/cm)                          | 76.63  | 145.4  | 292.47 | 269.55 | 298.3  | 110.8  | 94.65  |        | 55.38  | 69.24  | 64.88                                                                     | 117.52 | Max 2250 µs/cm |  |
| 5                                                                   | BOD(mg/l)                                    | BDL    | 4.4    | BDL    | BDL    | BDL    | BDL    | BDL    |        | BDL    | BDL    | 2.8                                                                       | BDL    |                |  |
| 6                                                                   | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    | 0.13   | 0.14   | 1.01   | 0.10   | BDL    |        | BDL    | BDL    | BDL                                                                       | BDL    |                |  |
| 7                                                                   | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | 0.007  | 0.011  | BDL    | BDL    | 0.095  |        | BDL    | 0.007  | BDL                                                                       | BDL    |                |  |
| 8                                                                   | Total Coliform(MPN/100ml)                    | 3300   | 2300   | 490    | 490    | 930    | 1700   | 1300   |        | 2400   | 1700   | 3300                                                                      | 1300   |                |  |
| 9                                                                   | Fecal Coliform(MPN/100ml)                    | 1300   | 780    | 230    | 330    | 680    | 1300   | 780    |        | 790    | 1300   | 2300                                                                      | 790    |                |  |
| 10                                                                  | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 541    | 64     | 921    | 431    |        | 221    | 921    | 541                                                                       | 111    |                |  |
| 11                                                                  | Turbidity(NTU)                               | 2.98   | 1.82   | 1.99   | 4.55   | 7.32   | 10.60  | 9.54   |        | 3.31   | 2.49   | 2.35                                                                      | 1.98   |                |  |
| 12                                                                  | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |        | BDL    | BDL    | BDL                                                                       | BDL    |                |  |
| 13                                                                  | Total Alkalinity(mg/l)                       | 24.0   | 26.0   | 38.0   | 34.0   | 24.0   | 32.0   | 40.0   |        | 24.0   | 20.0   | 28.0                                                                      | 24.0   |                |  |
| 14                                                                  | Chlorides(mg/l)                              | 7.80   | 30.00  | 45.33  | 18.70  | 19.5   | 8.00   | 8.32   |        | 7.83   | 8.00   | 23.00                                                                     | 11.00  |                |  |
| 15                                                                  | COD(mg/l)                                    | 6.0    | 18.0   | 10.0   | 7.0    | 12.0   | 4.0    | 6.0    |        | 10.0   | 8.0    | 6.0                                                                       | 4.0    |                |  |
| 16                                                                  | Total Kjeldahl Nitrogen(mg/l)                | 3.86   | -      | -      | -      | -      | -      | 5.6    |        | -      | -      | 63.0                                                                      | 1.1    |                |  |
| 17                                                                  | Ammonia (mg/l)                               | BDL    | 0.7    | BDL    | 0.17   | BDL    | 0.09   | BDL    |        | BDL    | BDL    | BDL                                                                       | BDL    |                |  |
| 18                                                                  | Total Hardness(mg/l)                         | 28.0   | 38.0   | 66.0   | 52.0   | 32.0   | 38.0   | 6.0    |        | 18.0   | 22.0   | 30.0                                                                      | 18.0   |                |  |
| 19                                                                  | Calcium(mg/l)                                | 14.0   | 5.6    | 40.0   | 12.0   | 9.62   | 7.0    | BDL    |        | 4.0    | 4.0    | 3.0                                                                       | 4.0    |                |  |
| 20                                                                  | Magnesium(mg/l)                              | 3.4    | 5.8    | 6.3    | 5.3    | BDL    | 5.0    | BDL    |        | 3.40   | 3.00   | 5.0                                                                       | BDL    |                |  |
| 21                                                                  | Sulphate(mg/l)                               | 5.55   | 4.0    | 23.65  | 56.4   | 51.71  | 9.00   | BDL    |        | 2.97   | 3.00   | BDL                                                                       | BDL    |                |  |
| 22                                                                  | Sodium(mg/l)                                 | 72     | -      | -      | -      | -      | -      | 10.90  |        | -      | -      | -                                                                         | -      | Max 2mg/l      |  |
| 23                                                                  | Total Dissolved Solids(mg/l)                 | 48.0   | 101.0  | 175.0  | 172.0  | 176.0  | 68.0   | 55.0   |        | 35.0   | 41.0   | 38.0                                                                      | 80.0   |                |  |
| 24                                                                  | Total Fixed Solids(mg/l)                     | 23.0   | 40.0   | 103.0  | 101.0  | 168.0  | 22.0   | 25.0   |        | 13.0   | 20.0   | 12.0                                                                      | 48.0   |                |  |
| 25                                                                  | Total Suspended Solids(mg/l)                 | 8.0    | 32.0   | 33.0   | 32.0   | 5.0    | 20.0   | 8.0    |        | 12.0   | 11.0   | 20.0                                                                      | 5.0    |                |  |
| 26                                                                  | Phosphate(mg/l)                              | 0.10   | 0.20   | 0.14   | 0.13   | BDL    | 0.03   | 0.02   |        | 0.023  | 0.021  | 0.030                                                                     | BDL    |                |  |
| 27                                                                  | Boron(mg/l)                                  | 0.76   | -      | -      | -      | -      | -      | 0.48   |        | -      | -      | -                                                                         | -      |                |  |
| 28                                                                  | Potassium(mg/l)                              | 8.2    | -      | -      | -      | -      | -      | 3.7    |        | BDL    | -      | BDL                                                                       | BDL    |                |  |
| 29                                                                  | Flouride(mg/l)                               | BDL    | 0.36   | BDL    | 1.1    | 0.97   | BDL    | BDL    |        | BDL    | 0.222  | BDL                                                                       | BDL    |                |  |
| 30                                                                  | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 31                                                                  | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 32                                                                  | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.029  |        | -      | -      | -                                                                         | -      |                |  |
| 33                                                                  | Lead(mg/l)                                   | 0.036  | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 34                                                                  | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 35                                                                  | Nickel(mg/l)                                 | 0.308  | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 36                                                                  | Zinc(mg/l)                                   | 0.061  | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 37                                                                  | Iron Total(mg/l)                             | 0.118  | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 38                                                                  | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 39                                                                  | DDT-1-o,p' (mg/L)                            | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 40                                                                  | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 41                                                                  | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 42                                                                  | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 43                                                                  | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 44                                                                  | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 45                                                                  | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 46                                                                  | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 47                                                                  | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 48                                                                  | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 49                                                                  | Gammah-HCH (Lindane) (mg/L)                  | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 50                                                                  | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |
| 51                                                                  | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    |        | -      | -      | -                                                                         | -      |                |  |

| AGRICULTURAL CANAL DOWNSTREAM OF CUNCOLIM INDUSTRIAL ESTATE 2020-2021 |                                              |        |        |        |        |        |        |         |        |        |        |        |        |                                                                           |       |
|-----------------------------------------------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|---------------------------------------------------------------------------|-------|
| Sr. No                                                                | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for Class E as per CPCB classification based on designated best use |       |
| 1                                                                     | Temperature°C                                | 30     | 29     | 30     | 28     | 27     | 27     | 27      | DRY    | 29     | 29     | 29     | 30     | Max 2250 µs/cm                                                            |       |
| 2                                                                     | Dissolved Oxygen(mg/l)                       | 7.0    | 8.1    | 6.4    | 5.7    | 5.9    | 6.1    | 6.5     |        | 6.5    | 6.0    | 7.4    | 7.4    |                                                                           | 7.5   |
| 3                                                                     | pH                                           | 7.85   | 7.80   | 6.73   | 6.31   | 6.33   | 6.05   | 6.31    |        | 7.32   | 7.40   | 7.22   | 7.42   |                                                                           | 6-8.5 |
| 4                                                                     | Conductivity(µs/cm)                          | 86.72  | 69.87  | 285.32 | 276.55 | 271.4  | 111.36 | 267.01  |        | 57.44  | 53.69  | 52.54  | 63.04  |                                                                           | 63.04 |
| 5                                                                     | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     |        | BDL    | BDL    | 2.1    | BDL    |                                                                           | BDL   |
| 6                                                                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    | 0.18   | 0.12   | 0.99   | BDL    | 0.102   |        | BDL    | BDL    | BDL    | BDL    |                                                                           | BDL   |
| 7                                                                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | 0.008  | 0.013  | BDL    | BDL    | BDL     |        | BDL    | 0.005  | BDL    | BDL    |                                                                           | BDL   |
| 8                                                                     | Total Coliform(MPN/100ml)                    | 4600   | 1700   | 1300   | 1400   | 2200   | 4600   | 2200    |        | 1300   | 3400   | 4900   | 2200   |                                                                           | 2200  |
| 9                                                                     | Fecal Coliform(MPN/100ml)                    | 1700   | 680    | 490    | 700    | 1300   | 2300   | 1300    |        | 790    | 2200   | 3300   | 1300   |                                                                           | 1300  |
| 10                                                                    | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 241    | 541    | >1601  | >1601   |        | >1601  | 431    | 351    | 151    |                                                                           | 151   |
| 11                                                                    | Turbidity(NTU)                               | 3.34   | 1.43   | 2.31   | 4.27   | 7.03   | 11.87  | 6.15    |        | 2.18   | 1.82   | 2.72   | 2.72   |                                                                           | 2.76  |
| 12                                                                    | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     |        | BDL    | BDL    | BDL    | BDL    |                                                                           | BDL   |
| 13                                                                    | Total Alkalinity(mg/l)                       | 24.0   | 24.0   | 42.0   | 32.0   | 20.0   | 26.0   | 30.0    |        | 30.0   | 20.0   | 24.0   | 24.0   |                                                                           | 24.0  |
| 14                                                                    | Chlorides(mg/l)                              | 5.87   | 9.0    | 42.38  | 19.2   | 16.0   | 9.00   | 244.61  |        | 5.87   | 9.00   | 15.00  | 15.00  |                                                                           | 6.00  |
| 15                                                                    | COD(mg/l)                                    | 8.0    | 12.0   | 13.0   | 6.0    | 6.0    | 4.0    | 10.0    |        | 8.0    | 8.0    | 4.0    | 6.0    |                                                                           | 6.0   |
| 16                                                                    | Total Kjeldahl Nitrogen(mg/l)                | 4.2    | -      | -      | -      | -      | -      | 6.72    |        | -      | -      | -      | 7.0    |                                                                           | 1.7   |
| 17                                                                    | Ammonia (mg/l)                               | 0.05   | 0.23   | 0.06   | 0.10   | BDL    | 0.08   | BDL     |        | BDL    | BDL    | BDL    | BDL    |                                                                           | BDL   |
| 18                                                                    | Total Hardness(mg/l)                         | 24.0   | 22.0   | 72.0   | 70.0   | 42.0   | 48.0   | 28.0    |        | 18.0   | 22.0   | 26.0   | 20.0   |                                                                           | 20.0  |
| 19                                                                    | Calcium(mg/l)                                | 7.2    | 4.0    | 34.0   | 8.8    | 10.42  | 9.0    | 5.6     |        | 3.2    | 3.0    | 4.0    | 4.0    |                                                                           | 3.2   |
| 20                                                                    | Magnesium(mg/l)                              | BDL    | 3.0    | 9.2    | 11.7   | 3.9    | 6.0    | 5.44    |        | 3.60   | 3.00   | 4.0    | 2.90   |                                                                           | 2.90  |
| 21                                                                    | Sulphate(mg/l)                               | 6.14   | BDL    | 21.29  | 59     | 52.33  | 14.0   | 1055.28 |        | 2.85   | 3.0    | BDL    | BDL    |                                                                           | BDL   |
| 22                                                                    | Sodium(mg/l)                                 | 84     | -      | -      | -      | -      | -      | 24.4    |        | -      | -      | -      | -      |                                                                           | -     |
| 23                                                                    | Total Dissolved Solids(mg/l)                 | 52.0   | 47.0   | 163.0  | 180.0  | 160.0  | 67.0   | 161.0   |        | 34.0   | 32.0   | 35.0   | 35.0   |                                                                           | 36.0  |
| 24                                                                    | Total Fixed Solids(mg/l)                     | 39.0   | 20.0   | 86.0   | 110.0  | 154.0  | 20.0   | 78.0    |        | 14.0   | 16.0   | 11.0   | 11.0   |                                                                           | 25.0  |
| 25                                                                    | Total Suspended Solids(mg/l)                 | 15.0   | 15.0   | 28.0   | 36.0   | 24.0   | 23.0   | 14.0    |        | 16.0   | 10.0   | 22.0   | 22.0   |                                                                           | 8.0   |
| 26                                                                    | Phosphate(mg/l)                              | 0.564  | 0.03   | 0.19   | 0.13   | 0.02   | 0.03   | 0.086   |        | 0.023  | 0.025  | 0.02   | 0.02   |                                                                           | BDL   |
| 27                                                                    | Boron(mg/l)                                  | 0.72   | -      | -      | -      | -      | -      | 0.56    |        | -      | -      | -      | -      |                                                                           | -     |
| 28                                                                    | Potassium(mg/l)                              | 7.2    | -      | -      | -      | -      | -      | 4.8     | -      | -      | -      | -      | -      |                                                                           |       |
| 29                                                                    | Flouride(mg/l)                               | BDL    | 0.64   | BDL    | 1.3    | 1.09   | BDL    | 0.25    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                           |       |
| 30                                                                    | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 31                                                                    | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.028   | -      | -      | -      | -      | -      |                                                                           |       |
| 32                                                                    | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.017   | -      | -      | -      | -      | -      |                                                                           |       |
| 33                                                                    | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 34                                                                    | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 35                                                                    | Nickel(mg/l)                                 | 0.287  | -      | -      | -      | -      | -      | 0.855   | -      | -      | -      | -      | -      |                                                                           |       |
| 36                                                                    | Zinc(mg/l)                                   | 0.085  | -      | -      | -      | -      | -      | 0.091   | -      | -      | -      | -      | -      |                                                                           |       |
| 37                                                                    | Iron Total(mg/l)                             | 0.453  | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 38                                                                    | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 39                                                                    | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 40                                                                    | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 41                                                                    | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 42                                                                    | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 43                                                                    | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 44                                                                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 45                                                                    | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 46                                                                    | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 47                                                                    | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 48                                                                    | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 49                                                                    | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 50                                                                    | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |
| 51                                                                    | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL     | -      | -      | -      | -      | -      |                                                                           |       |

| RUMDER LAKE, NUVEM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                       | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                            | Temperature°C                                | 29     | 31     | 28     | 28     | 27     | 28     | 27     | 28     | 29     | 27     | 30     | 32     | 4 mg/l or more<br>6-9                                                                     |
| 2                            | Dissolved Oxygen (mg/l)                      | 6.2    | 6.0    | 4.3    | 4.2    | 5.0    | 4.9    | 5.3    | 1.3    | 1.8    | 4.8    | 5.6    | 1.2    |                                                                                           |
| 3                            | pH                                           | 6.98   | 7.22   | 6.36   | 6.28   | 6.25   | 6.59   | 6.29   | 6.12   | 6.35   | 6.64   | 6.52   | 6.46   |                                                                                           |
| 4                            | Conductivity µs/cm                           | 140.90 | 176.33 | 158.40 | 104.84 | 90.05  | 81.57  | 107.87 | 116.08 | 119.3  | 135.6  | 137.2  | 138.05 | 3 mg/l or less                                                                            |
| 5                            | BOD(mg/l)                                    | BDL    | 4.2    | 2.0    | BDL    | BDL    | BDL    | BDL    | 6.2    | 3.6    | BDL    | 3.8    | 3.6    |                                                                                           |
| 6                            | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | 3.57   | 2.61   | 0.12   | BDL    | BDL    | BDL    | 0.39   | 0.45   | 0.521  | BDL    | 0.15   |                                                                                           |
| 7                            | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | 0.04   | 0.04   | 0.02   | BDL    | 0.012  | BDL    | BDL    | 0.04   | BDL    | BDL    | BDL    | 5000 or less MPN/100 ml                                                                   |
| 8                            | Total Coliform(MPN/100ml)                    | 2300   | 4900   | 2700   | 2100   | 2400   | 2500   | 4600   | 1700   | 4900   | 4900   | 1100   | 1700   |                                                                                           |
| 9                            | Fecal Coliform(MPN/100ml)                    | 1300   | 2300   | 1400   | 1500   | 2100   | 1700   | 1700   | 1300   | 3300   | 1300   | 230    | 1300   |                                                                                           |
| 10                           | Fecal Streptococci(MPN/100ml)                | -      | -      | -      | 18     | 71     | 351    | 141    | 281    | -      | 171    | 151    | 431    |                                                                                           |
| 11                           | Turbidity(NTU)                               | 6.57   | 19.01  | 15     | 10.66  | 14.92  | 12.44  | 6.17   | 7.48   | 8.30   | 8.38   | 8.62   | 8.35   |                                                                                           |
| 12                           | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                           | Total Alkalinity(mg/l)                       | 46.0   | 36.0   | 28.0   | 34.0   | 30.0   | 26.0   | 34.0   | 50.0   | 44.0   | 50.0   | 24.0   | 44.0   |                                                                                           |
| 14                           | Chloride mg/l                                | 25.0   | 25.5   | 20.5   | 13.0   | 12.72  | 15.17  | 15.5   | 13.0   | 12.49  | 18.59  | 249.60 | 14.39  |                                                                                           |
| 15                           | COD(mg/l)                                    | 14.0   | 6.0    | 8.0    | 6.0    | 10.0   | 10.0   | 10.0   | 12.0   | 10.0   | 8.0    | 10.0   | 14.0   |                                                                                           |
| 16                           | Total Kjeldhal Nitrogen(mg/l)                | 5.94   | -      | -      | -      | -      | -      | 7.84   | -      | -      | -      | 14.0   | 28.0   |                                                                                           |
| 17                           | Ammonia mg/l                                 | 0.08   | 0.14   | BDL    | 0.05   | BDL    | 0.104  | BDL    | BDL    | 0.15   | BDL    | BDL    | 0.09   |                                                                                           |
| 18                           | Hardness(mg/l)                               | 38.0   | 32.0   | 28.0   | 22.0   | 18.0   | 26.0   | 26.0   | 22.0   | 20.0   | 32.0   | 10.0   | 34.0   |                                                                                           |
| 19                           | Calcium(mg/l)                                | 7.2    | 7.2    | 7.2    | 5.6    | 10.0   | 6.0    | 5.6    | 8.0    | 7.2    | 14     | BDL    | 7.2    |                                                                                           |
| 20                           | Magnesium(mg/l)                              | 4.9    | 3.4    | 2.4    | BDL    | 1.94   | 2.0    | 2.92   | BDL    | BDL    | 4.37   | BDL    | 3.9    |                                                                                           |
| 21                           | Sulphate(mg/l)                               | 4.7    | 10.9   | 16.1   | 8.33   | 22.0   | 4.7    | 2.54   | 4.74   | 3.91   | 5.69   | 9.78   | 2.60   |                                                                                           |
| 22                           | Sodium(mg/l)                                 | 510    | -      | -      | -      | -      | -      | 12.1   | -      | -      | -      | -      | -      |                                                                                           |
| 23                           | Total Dissolved Solids(mg/l)                 | 86.0   | 110.0  | 92.0   | 64.0   | 54.0   | 43.0   | 67.0   | 73.0   | 76.0   | 83.0   | 86.0   | 86.0   |                                                                                           |
| 24                           | Total Fixed Solids(mg/l)                     | 50.0   | 52.0   | 56.0   | 32.0   | 24.0   | 18.0   | 35.0   | 37.0   | 38.0   | 34.0   | 68.0   | 54.0   |                                                                                           |
| 25                           | Total Suspended Solid (mg/l)                 | 35.0   | 14.0   | 8.0    | 10.0   | 22.0   | 24.0   | 11.0   | 22.0   | 16.0   | 25.0   | 15.0   | 23.0   |                                                                                           |
| 26                           | Phosphate(mg/l)                              | 0.14   | 0.07   | 0.06   | 0.27   | 0.097  | 0.058  | 0.04   | 0.05   | 0.03   | BDL    | BDL    | 0.02   |                                                                                           |
| 27                           | Boron(mg/l)                                  | 0.78   | -      | -      | -      | -      | -      | 0.38   | -      | -      | -      | -      | -      |                                                                                           |
| 28                           | Potassium(mg/l)                              | 26     | -      | -      | -      | -      | -      | 1.5    | -      | -      | -      | -      | -      |                                                                                           |
| 29                           | Fluoride(mg/l)                               | BDL    | BDL    | 0.9    | BDL    | BDL    | 0.26   | 0.41   | 0.43   | BDL    | BDL    | 1.08   | BDL    |                                                                                           |
| 30                           | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      |                                                                                           |
| 31                           | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.012  | -      | -      | -      | -      | -      |                                                                                           |
| 32                           | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 33                           | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | 0.070  | -      | -      | -      | -      | -      |                                                                                           |
| 34                           | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                           | Nickel(mg/l)                                 | 0.275  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                           | Zinc(mg/l)                                   | 0.063  | -      | -      | -      | -      | -      | 0.029  | -      | -      | -      | -      | -      |                                                                                           |
| 37                           | Iron Total(mg/l)                             | 0.119  | -      | -      | -      | -      | -      | 0.092  | -      | -      | -      | -      | -      |                                                                                           |
| 38                           | Carbaryl (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                           | DDT-o,p' (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                           | DDT-p,p' (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                           | alpha Endosulfan(mg/L)                       | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                           | beta Endosulfan(mg/L)                        | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                           | Anilofos (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                           | 2,4-Dichlorophenoxyacetic acid(mg/L)         | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                           | Aldrin/Dieldrin (mg/L)                       | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                           | Alpha HCH (mg/L)                             | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                           | Beta HCH (mg/L)                              | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                           | Chlorpyrifos (mg/L)                          | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                           | Gamma-HCH (Lindane) (mg/L)                   | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                           | Malathion (mg/L)                             | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                           | Methyl parathion(mg/L)                       | -      | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| RIVERSAL AT ORLIM BRIDGE 2020-2021 |                                              |         |         |         |        |        |        |        |        |          |          |         |         | Limit for SW II river as per CPCB classification based on designated best use of rivers |  |
|------------------------------------|----------------------------------------------|---------|---------|---------|--------|--------|--------|--------|--------|----------|----------|---------|---------|-----------------------------------------------------------------------------------------|--|
| Sr. No                             | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20   | Jan-21   | Feb-21  | Mar-21  |                                                                                         |  |
| 1                                  | Temperature°C                                | 29      | 29      | 29      | 29     | 28     | 29     | 28     | 29     | 30       | 30       | 30      | 31      |                                                                                         |  |
| 2                                  | Dissolved Oxygen(mg/l)                       | 4.5     | 4.0     | 4.4     | 4.5    | 5.1    | 4.8    | 4.1    | 4.5    | 5.1      | 4.4      | 3.8     | 4.7     | 4 mg/l or more                                                                          |  |
| 3                                  | pH                                           | 6.96    | 7.48    | 7.15    | 6.93   | 7.24   | 6.94   | 7.01   | 6.69   | 6.23     | 6.97     | 6.96    | 6.93    | 6.5 - 8.5                                                                               |  |
| 4                                  | Conductivity(µs/cm)                          | 36810   | 24570   | 31000.0 | 324.76 | 175.06 | 644.5  | 691.3  | 4643.0 | 4553.0   | 35940.0  | 25180.0 | 13360.0 |                                                                                         |  |
| 5                                  | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | 2.3    | 0.14   | BDL      | BDL      | BDL     | BDL     | 3 mg/l or less                                                                          |  |
| 6                                  | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.552   | 0.143   | 3.83    | 0.35   | 0.24   | 0.17   | 0.14   | 0.23   | 0.141    | 0.056    | BDL     | 0.34    |                                                                                         |  |
| 7                                  | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.005   | 0.022   | 0.28    | 0.04   | 0.026  | 0.025  | 0.038  | 0.017  | 0.016    | 0.173    | 0.06    | 0.153   |                                                                                         |  |
| 8                                  | Total Coliform(MPN/100ml)                    | 2200    | 2700    | 1700    | 2200   | 1700   | 1700   | 2200   | 3300   | 2200     | 1300     | 78      | 790     | 100 or less MPN/100 ml                                                                  |  |
| 9                                  | Fecal Coliform(MPN/100ml)                    | 1700    | 1700    | 1100    | 1300   | 1100   | 1200   | 1300   | 1700   | 1700     | 790      | 45      | 450     |                                                                                         |  |
| 10                                 | Fecal Streptococci (MPN/100ml)               | -       | -       | 64      | 351    | 34     | 34     | 281    | 1601   | 16       | 431      | 221     | 541     |                                                                                         |  |
| 11                                 | Turbidity(NTU)                               | 6.07    | 7.96    | 17.12   | 8.93   | 4.18   | 8.27   | 5.87   | 4.3    | 4.45     | 2.73     | 3.61    | 3.6     | 30 NTU                                                                                  |  |
| 12                                 | Phenolphthalein Alkalinity(mg/l)             | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | BDL    | BDL      | 2.0      | BDL     | BDL     |                                                                                         |  |
| 13                                 | Total Alkalinity(mg/l)                       | 210.0   | 80.0    | 92.0    | 92.0   | 34.0   | 58.0   | 54.0   | 58.0   | 170.0    | 98.0     | 92.0    | 104.0   |                                                                                         |  |
| 14                                 | Chlorides(mg/l)                              | 1129.5  | 8013.47 | 11996.0 | 60.0   | 35.5   | 1350.0 | 190.0  | 225.0  | 17611.56 | 16633.00 | 11663.1 | 9882.0  |                                                                                         |  |
| 15                                 | COD(mg/l)                                    | -       | -       | -       | 6.0    | 4.0    | -      | 6.0    | 8.0    | -        | -        | -       | -       |                                                                                         |  |
| 16                                 | Total Kjeldahl Nitrogen(mg/l)                | 3.47    | -       | -       | -      | -      | -      | 8.4    | -      | -        | -        | 42.0    | 11.21   |                                                                                         |  |
| 17                                 | Ammonia (mg/l)                               | 0.17    | 0.059   | 0.36    | 0.11   | 0.17   | 0.11   | 0.15   | 0.16   | 0.15     | 0.56     | 0.09    | BDL     |                                                                                         |  |
| 18                                 | Total Hardness(mg/l)                         | 5500.0  | 7500.0  | 3200.0  | 42.0   | 46.0   | 180.0  | 56.0   | 62.0   | 8500.0   | 2800.0   | 500.0   | 2900.0  |                                                                                         |  |
| 19                                 | Calcium(mg/l)                                | 172.3   | 1000.0  | 400.80  | 9.62   | 8.82   | 24.00  | 4.81   | 4.01   | 4000.00  | 440.90   | 160.30  | 361.00  |                                                                                         |  |
| 20                                 | Magnesium(mg/l)                              | 1232.0  | 972.0   | 534.6   | 4.4    | 5.8    | 29.2   | 10.7   | 12.6   | 1093     | 413.1    | 24.3    | 486.0   |                                                                                         |  |
| 21                                 | Sulphate(mg/l)                               | 1784.3  | 1088.32 | 441.60  | 9.70   | 18.60  | 62.25  | 9.13   | 17.8   | 603.93   | 1356.40  | 1757.2  | 782.0   |                                                                                         |  |
| 22                                 | Sodium(mg/l)                                 | 480     | -       | -       | -      | -      | -      | 87.3   | -      | -        | -        | -       | -       |                                                                                         |  |
| 23                                 | Total Dissolved Solids(mg/l)                 | 24295.0 | 12372.0 | 18298.0 | 193.0  | 108.0  | 379.0  | 408.0  | 2591.0 | 2783.0   | 22247.0  | 16367.0 | 8283.0  |                                                                                         |  |
| 24                                 | Total Fixed Solids(mg/l)                     | 14334.0 | 10557.0 | 18091.0 | 168.0  | 89.0   | 277.0  | 379.0  | 2287.0 | 1089.0   | 15147.0  | 9275.0  | 956.0   |                                                                                         |  |
| 25                                 | Total Suspended Solids(mg/l)                 | 54.0    | 55.5    | 176.0   | 17.0   | 11.0   | 45.0   | 55.0   | 60.0   | 42.0     | 32.0     | 23.0    | 18.0    |                                                                                         |  |
| 26                                 | Phosphate(mg/l)                              | 0.166   | 0.074   | 0.20    | 0.13   | 0.18   | 0.08   | 0.07   | 0.07   | 0.097    | 0.08     | 0.09    | 0.05    |                                                                                         |  |
| 27                                 | Boron(mg/l)                                  | 0.46    | -       | -       | -      | -      | -      | 0.32   | -      | -        | -        | -       | -       |                                                                                         |  |
| 28                                 | Potassium(mg/l)                              | 8.5     | -       | -       | -      | -      | -      | 4.4    | -      | -        | -        | -       | -       |                                                                                         |  |
| 29                                 | Flouride(mg/l)                               | 0.8     | BDL     | 0.81    | 0.30   | 0.81   | 0.96   | 0.78   | 0.74   | 0.71     | 0.28     | 0.43    | BDL     |                                                                                         |  |
| 30                                 | Arsenic(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 31                                 | Cadmium(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 32                                 | Copper(mg/l)                                 | BDL     | -       | -       | -      | -      | -      | 0.031  | -      | -        | -        | -       | -       |                                                                                         |  |
| 33                                 | Lead(mg/l)                                   | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 34                                 | Chromium(mg/l)                               | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 35                                 | Nickel(mg/l)                                 | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 36                                 | Zinc(mg/l)                                   | 0.103   | -       | -       | -      | -      | -      | 0.034  | -      | -        | -        | -       | -       |                                                                                         |  |
| 37                                 | IronTotal(mg/l)                              | 0.425   | -       | -       | -      | -      | -      | 0.103  | -      | -        | -        | -       | -       |                                                                                         |  |
| 38                                 | Carbaryl (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 39                                 | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 40                                 | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 41                                 | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 42                                 | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 43                                 | Anilofos (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 44                                 | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 45                                 | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 46                                 | Alpha HCH (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 47                                 | Beta HCH (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 48                                 | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 49                                 | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 50                                 | Malathion (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |
| 51                                 | Methyl parathion(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL    | -      | -        | -        | -       | -       |                                                                                         |  |

| RIVER SAL AT KHAREBAND, MARGAO 2020-2021 |                                              |        |        |                                                                |        |        |        |        |        |        |        |         |        |                                                                                         |
|------------------------------------------|----------------------------------------------|--------|--------|----------------------------------------------------------------|--------|--------|--------|--------|--------|--------|--------|---------|--------|-----------------------------------------------------------------------------------------|
| Sr. No                                   | Parameters                                   | Apr-20 | May-20 | Jun-20                                                         | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21  | Mar-21 | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                        | Temperature°C                                |        |        |                                                                | 29     | 28     | 29     | 28     | 29     | 30     | 30     | 30      | 29     |                                                                                         |
| 2                                        | Dissolved Oxygen(mg/l)                       |        |        |                                                                | 4.7    | 4.3    | 4.0    | 2.8    | 2.5    | 5.6    | BDL    | BDL     | 1.3    | 4 mg/l or more                                                                          |
| 3                                        | pH                                           |        |        |                                                                | 6.80   | 7.23   | 6.86   | 6.72   | 6.77   | 6.67   | 6.82   | 6.80    | 6.53   | 6.5 - 8.5                                                                               |
| 4                                        | Conductivity(µs/cm)                          |        |        |                                                                | 115.12 | 89.88  | 144.4  | 172.5  | 285.0  | 276.88 | 247.72 | 239.40  | 216.00 |                                                                                         |
| 5                                        | BOD(mg/l)                                    |        |        |                                                                | BDL    | BDL    | BDL    | 3.1    | BDL    | BDL    | 6.0    | 3.9     | 4.2    | 3 mg/l or less                                                                          |
| 6                                        | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) |        |        |                                                                | 0.47   | 0.11   | 0.11   | 0.15   | 1.90   | 0.815  | 0.594  | BDL     | 2.12   |                                                                                         |
| 7                                        | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  |        |        |                                                                | 0.06   | 0.018  | 0.047  | 0.061  | BDL    | 1.650  | 0.610  | 0.07    | 1.729  |                                                                                         |
| 8                                        | Total Coliform(MPN/100ml)                    |        |        |                                                                | 9400   | 7000   | 8400   | 7000   | 7000   | 7000   | 11000  | 54000   | 28000  |                                                                                         |
| 9                                        | Fecal Coliform(MPN/100ml)                    |        |        |                                                                | 7000   | 4900   | 5800   | 4900   | 4900   | 4900   | 2300   | 35000   | 17000  | 100 or less MPN/100 ml                                                                  |
| 10                                       | Fecal Streptococci (MPN/100ml)               |        |        |                                                                | 48     | 541    | 47     | 1601   | >1601  | 541    | 541    | 541     | 921    |                                                                                         |
| 11                                       | Turbidity(NTU)                               |        |        |                                                                | 7.87   | 3.64   | 6.87   | 7.23   | 16.79  | 17.19  | 4.38   | 8.37    | 51.4   | 30 NTU                                                                                  |
| 12                                       | Phenolphthalein Alkalinity(mg/l)             |        |        |                                                                | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    |                                                                                         |
| 13                                       | Total Alkalinity(mg/l)                       |        |        |                                                                | 92.0   | 28.0   | 42.0   | 54.0   | 58.0   | 130    | 46.0   | 60      | 102.0  |                                                                                         |
| 14                                       | Chlorides(mg/l)                              |        |        |                                                                | 16.5   | 16.0   | 37.0   | 16.0   | 19.0   | 25.93  | 294.0  | 10670.4 | 36.0   |                                                                                         |
| 15                                       | COD(mg/l)                                    |        |        |                                                                | 4.0    | 8.0    | 8.0    | 10.0   | 16.0   | 6.0    | 18.0   | -       | 10.0   |                                                                                         |
| 16                                       | Total Kjeldahl Nitrogen(mg/l)                |        |        |                                                                | -      | -      | -      | 8.96   | -      | -      | -      | 28.0    | 28.01  |                                                                                         |
| 17                                       | Ammonia (mg/l)                               |        |        |                                                                | 0.09   | 0.21   | 0.19   | 0.21   | 0.21   | 1.08   | BDL    | 0.70    | 0.20   |                                                                                         |
| 18                                       | Total Hardness(mg/l)                         |        |        |                                                                | 24.0   | 34.0   | 44     | 132.0  | 142.0  | 38.0   | 40.0   | 40.0    | 84.0   |                                                                                         |
| 19                                       | Calcium(mg/l)                                |        |        |                                                                | 6.41   | 4.81   | 8.82   | 24.85  | 27.25  | 30.0   | 13.6   | 9.6     | 22.0   |                                                                                         |
| 20                                       | Magnesium(mg/l)                              |        |        |                                                                | BDL    | 5.3    | 5.3    | 17.0   | 18.0   | 2.0    | BDL    | 3.9     | 7.0    |                                                                                         |
| 21                                       | Sulphate(mg/l)                               |        |        |                                                                | 21.25  | 10.88  | 6.51   | 4.43   | 5.73   | 9.74   | 19.4   | 12.83   | 332.0  |                                                                                         |
| 22                                       | Sodium(mg/l)                                 |        |        |                                                                | -      | -      | -      | 15.3   | -      | -      | -      | -       | -      |                                                                                         |
| 23                                       | Total Dissolved Solids(mg/l)                 |        |        | Sample Not collected                                           | 71.0   | 53.0   | 87.0   | 102.0  | 157.0  | 199.0  | 155.0  | 147.0   | 134.0  |                                                                                         |
| 24                                       | Total Fixed Solids(mg/l)                     |        |        | Sample Not collected due to excessive growth of Water Hyacinth | 64     | 50.0   | 64.0   | 81.0   | 115.0  | 70.0   | 102.0  | 83.0    | 78.0   |                                                                                         |
| 25                                       | Total Suspended Solids(mg/l)                 |        |        |                                                                | 10.0   | 8.0    | 18.0   | 23.0   | 27.0   | 29.0   | 42.0   | 38.0    | 44.0   |                                                                                         |
| 26                                       | Phosphate(mg/l)                              |        |        |                                                                | 0.13   | 0.17   | 0.08   | 0.10   | 0.11   | 0.94   | 1.35   | 0.07    | 0.07   |                                                                                         |
| 27                                       | Boron(mg/l)                                  |        |        |                                                                | -      | -      | -      | 0.58   | -      | -      | -      | -       | -      |                                                                                         |
| 28                                       | Potassium(mg/l)                              |        |        |                                                                | -      | -      | -      | 1.8    | -      | -      | -      | -       | -      |                                                                                         |
| 29                                       | Flouride(mg/l)                               |        |        |                                                                | BDL    | 1.50   | 0.61   | 0.20   | 0.97   | BDL    | BDL    | 1.1     | 0.20   |                                                                                         |
| 30                                       | Arsenic(mg/l)                                |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 31                                       | Cadmium(mg/l)                                |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 32                                       | Copper(mg/l)                                 |        |        |                                                                | -      | -      | -      | 0.021  | -      | -      | -      | -       | -      |                                                                                         |
| 33                                       | Lead(mg/l)                                   |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 34                                       | Chromium(mg/l)                               |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 35                                       | Nickel(mg/l)                                 |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 36                                       | Zinc(mg/l)                                   |        |        |                                                                | -      | -      | -      | 0.013  | -      | -      | -      | -       | -      |                                                                                         |
| 37                                       | IronTotal(mg/l)                              |        |        |                                                                | -      | -      | -      | 0.114  | -      | -      | -      | -       | -      |                                                                                         |
| 38                                       | Carbaryl (mg/L)                              |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 39                                       | DDT-o,p' (mg/L)                              |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 40                                       | DDT-p,p' (mg/L)                              |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 41                                       | alpha Endosulfan(mg/L)                       |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 42                                       | beta Endosulfan(mg/L)                        |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 43                                       | Anilofos (mg/L)                              |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 44                                       | 2,4-Dichlorophenoxyacetic acid(mg/L)         |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 45                                       | Aldrin/Dieldrin (mg/L)                       |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 46                                       | Alpha HCH (mg/L)                             |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 47                                       | Beta HCH (mg/L)                              |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 48                                       | Chlorpyrifos (mg/L)                          |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 49                                       | Gamma-HCH (Lindane) (mg/L)                   |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 50                                       | Malathion (mg/L)                             |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |
| 51                                       | Methyl parathion(mg/L)                       |        |        |                                                                | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                                                                                         |

| RIVER TIRACOL AT KERI, PERNEM 2020-2021 |                                              |         |          |          |        |        |         |         |         |         |         |         |         |                                                                                         |
|-----------------------------------------|----------------------------------------------|---------|----------|----------|--------|--------|---------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                  | Parameters                                   | Apr-20  | May-20   | Jun-20   | Jul-20 | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                       | Temperature°C                                | 29      | 31       | 29       | 28     | 26     | 30      | 29      | 29      | 29      | 28      | 28      | 28      |                                                                                         |
| 2                                       | Dissolved Oxygen(mg/l)                       | 4.5     | 5.0      | 5.5      | 6.6    | 6.3    | 8.2     | 6.5     | 7.1     | 6.8     | 6.8     | 6.0     | 6.2     | 4 mg/l or more                                                                          |
| 3                                       | pH                                           | 7.73    | 7.82     | 7.68     | 6.64   | 6.88   | 6.50    | 7.09    | 7.42    | 7.88    | 7.80    | 7.71    | 7.74    | 6.5 - 8.5                                                                               |
| 4                                       | Conductivity(µs/cm)                          | 61520.0 | 60910.0  | 64600.0  | 607.35 | 207.2  | 59150.0 | 25640.0 | 31060.0 | 45770.0 | 47890.0 | 55640.0 | 57450.0 |                                                                                         |
| 5                                       | BOD(mg/l)                                    | BDL     | BDL      | BDL      | BDL    | BDL    | BDL     | BDL     | 2.0     | BDL     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                                       | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.15    | BDL      | 0.12     | 0.13   | 0.1    | 0.1     | 0.10    | 0.10    | BDL     | BDL     | BDL     | 0.53    |                                                                                         |
| 7                                       | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.047    | 0.05     | 0.059  | 0.016  | BDL     | BDL     | 0.024   | BDL     | BDL     | BDL     | 0.02    |                                                                                         |
| 8                                       | Total Coliform(MPN/100ml)                    | 170     | 230      | 490      | 490    | 460    | 330     | 790     | 1100    | 270     | 270     | 1300    | 790     |                                                                                         |
| 9                                       | Fecal Coliform(MPN/100ml)                    | 110     | 130      | 140      | 230    | 210    | 170     | 490     | 790     | 220     | 170     | 790     | 490     | 100 or less MPN/100 ml                                                                  |
| 10                                      | Fecal Streptococci(MPN/100ml)                | -       | -        | -        | 13     | >1601  | 211     | >1601   | 921     | 78      | 221     | 211     | 241     |                                                                                         |
| 11                                      | Turbidity(NTU)                               | 2.32    | 6.46     | 11.94    | 30.9   | 60.4   | 19.53   | 6.11    | 3.11    | 3.09    | 3.37    | 3.90    | 6.91    | 30 NTU                                                                                  |
| 12                                      | Phenolphthalein Alkalinity(mg/l)             | 12.0    | 8.0      | 8.0      | BDL    | BDL    | BDL     | BDL     | BDL     | 6.0     | 10.0    | 8.0     | 10.0    |                                                                                         |
| 13                                      | Total Alkalinity(mg/l)                       | 108.0   | 110.0    | 94.0     | 34.0   | 32.0   | 14.0    | 76.0    | 86.0    | 100.0   | 112.0   | 122.0   | 112.0   |                                                                                         |
| 14                                      | Chlorides(mg/l)                              | 18334.0 | 16998.28 | 13550.80 | 153.30 | 36.5   | 1773.90 | 12515.9 | 10840.6 | 15571.1 | 16144.0 | 16744.8 | 17345.1 |                                                                                         |
| 15                                      | COD(mg/l)                                    | -       | -        | -        | 10.0   | 7.0    | 9.0     | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                                      | Total Kjeldahl Nitrogen(mg/l)                | 5.94    | -        | -        | -      | -      | -       | 7.84    | -       | -       | -       | 42.0    | 98.1    |                                                                                         |
| 17                                      | Ammonia (mg/l)                               | 0.10    | 0.100    | 0.07     | 0.06   | BDL    | 0.22    | BDL     | 0.30    | 0.07    | BDL     | 0.05    | BDL     |                                                                                         |
| 18                                      | Total Hardness(mg/l)                         | 5000.0  | 9000.0   | 7800.0   | 86.0   | 32.0   | 504.0   | 13200.0 | 600.0   | 3200.0  | 5400.0  | 5800.0  | 6000.0  |                                                                                         |
| 19                                      | Calcium(mg/l)                                | 400.8   | 1500.0   | 1200.0   | 8.0    | 3.2    | 38.5    | 320.6   | 160.3   | 481.0   | 401.0   | 400.8   | 1402.8  |                                                                                         |
| 20                                      | Magnesium(mg/l)                              | 972.0   | 1825.5   | 1603.8   | 16.0   | 5.8    | 99.1    | 3031.2  | 48.6    | 486.0   | 1069.0  | 1166.4  | 607.5   |                                                                                         |
| 21                                      | Sulphate(mg/l)                               | 2978.0  | 6260.68  | 4682.20  | 65.60  | 9.35   | 19.90   | 3286.50 | 650.70  | 2042.20 | 1623.00 | 1649.70 | 79.4    |                                                                                         |
| 22                                      | Sodium(mg/l)                                 | 3920.0  | -        | -        | -      | -      | -       | 3190.0  | -       | -       | -       | -       | -       |                                                                                         |
| 23                                      | Total Dissolved Solids(mg/l)                 | 43064.0 | 35849.0  | 41244.0  | 376.0  | 131.0  | 36673.0 | 15640.0 | 19257.0 | 28835.0 | 28734.0 | 33896.0 | 32172.0 |                                                                                         |
| 24                                      | Total Fixed Solids(mg/l)                     | 17226.0 | 25308.0  | 23467.0  | 195.0  | 73.0   | 25167.0 | 10148.0 | 11902.0 | 19031.0 | 11246.0 | 20850.0 | 29652.0 |                                                                                         |
| 25                                      | Total Suspended Solids(mg/l)                 | 63.0    | 73.0     | 46.0     | 33.0   | 21.0   | 42.0    | 45.0    | 36.0    | 37.0    | 26.0    | 86.0    | 10.0    |                                                                                         |
| 26                                      | Phosphate(mg/l)                              | 0.039   | 0.055    | 0.49     | 0.78   | BDL    | 0.03    | 0.05    | 0.04    | 0.02    | 0.03    | BDL     | 0.03    |                                                                                         |
| 27                                      | Boron(mg/l)                                  | 0.84    | -        | -        | -      | -      | -       | 0.90    | -       | -       | -       | -       | -       |                                                                                         |
| 28                                      | Potassium(mg/l)                              | 260.0   | -        | -        | -      | -      | -       | 121.0   | -       | -       | -       | -       | -       |                                                                                         |
| 29                                      | Flouride(mg/l)                               | BDL     | BDL      | 0.38     | 0.2    | 0.78   | 0.56    | 0.66    | 0.4     | 0.93    | BDL     | BDL     | 0.80    |                                                                                         |
| 30                                      | Arsenic(mg/l)                                | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                                      | Cadmium(mg/l)                                | BDL     | -        | -        | -      | -      | -       | 0.018   | -       | -       | -       | -       | -       |                                                                                         |
| 32                                      | Copper(mg/l)                                 | BDL     | -        | -        | -      | -      | -       | 0.162   | -       | -       | -       | -       | -       |                                                                                         |
| 33                                      | Lead(mg/l)                                   | 0.121   | -        | -        | -      | -      | -       | 0.065   | -       | -       | -       | -       | -       |                                                                                         |
| 34                                      | Chromium(mg/l)                               | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                                      | Nickel(mg/l)                                 | 0.252   | -        | -        | -      | -      | -       | 0.447   | -       | -       | -       | -       | -       |                                                                                         |
| 36                                      | Zinc(mg/l)                                   | 0.122   | -        | -        | -      | -      | -       | 0.206   | -       | -       | -       | -       | -       |                                                                                         |
| 37                                      | IronTotal(mg/l)                              | 0.263   | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 38                                      | Carbaryl (mg/L)                              | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                                      | DDT-α-p' (mg/L)                              | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                                      | DDT-p,p' (mg/L)                              | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                                      | alpha Endosulfan(mg/L)                       | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                                      | beta Endosulfan(mg/L)                        | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                                      | Anilofos (mg/L)                              | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                                      | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                                      | Aldrin/Dieldrin (mg/L)                       | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                                      | Alpha HCH (mg/L)                             | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                                      | Beta HCH (mg/L)                              | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                                      | Chlorpyrifos (mg/L)                          | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                                      | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                                      | Malathion (mg/L)                             | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                                      | Methyl parathion(mg/L)                       | BDL     | -        | -        | -      | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| RIVER CHAPORA NEAR SIOLIM BRIDGE 2020-2021 |                                              |         |          |         |        |        |        |         |         |         |         |         |         |                                                                                         |
|--------------------------------------------|----------------------------------------------|---------|----------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                     | Parameters                                   | Apr-20  | May-20   | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                          | Temperature°C                                | 30°C    | 32       | 28      | 28     | 26     | 30     | 29      | 30      | 29      | 28      | 29      | 28      |                                                                                         |
| 2                                          | Dissolved Oxygen(mg/l)                       | 6.0     | 6.0      | 5.9     | 6.6    | 7.2    | 7.3    | 7.0     | 7.4     | 6.6     | 7.2     | 6.6     | 5.8     | 4 mg/l or more                                                                          |
| 3                                          | pH                                           | 7.59    | 7.85     | 7.66    | 6.72   | 7.75   | 6.70   | 7.58    | 7.62    | 7.69    | 7.62    | 7.86    | 7.82    | 6.5 – 8.5                                                                               |
| 4                                          | Conductivity(µs/cm)                          | 41770.0 | 50220.0  | 43690.0 | 329.11 | 126.3  | 832.23 | 28630.0 | 38790.0 | 36610.0 | 36370.0 | 53110.0 | 55690.0 |                                                                                         |
| 5                                          | BOD(mg/l)                                    | BDL     | 2.0      | BDL     | BDL    | BDL    | BDL    | BDL     | 2.0     | 2.0     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                                          | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.13    | BDL      | 0.51    | 0.43   | 0.23   | 0.19   | 0.15    | 0.15    | BDL     | 0.11    | 0.11    | 0.54    |                                                                                         |
| 7                                          | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.056   | 0.030    | 0.125   | 0.006  | BDL    | BDL    | BDL     | 0.055   | BDL     | BDL     | BDL     | 0.005   |                                                                                         |
| 8                                          | Total Coliform(MPN/100ml)                    | 780     | 1100     | 2300    | 2300   | 2200   | 2100   | 3300    | 1700    | 790     | 1300    | 790     | 1300    |                                                                                         |
| 9                                          | Fecal Coliform(MPN/100ml)                    | 450     | 680      | 1300    | 1300   | 1100   | 1100   | 2300    | 1700    | 490     | 330     | 490     | 790     | 100 or less MPN/100 ml                                                                  |
| 10                                         | Fecal Streptococci (MPN/100ml)               | -       | -        | -       | 95     | >1601  | 351    | 241     | >1601   | 351     | 171     | 431     | 59      |                                                                                         |
| 11                                         | Turbidity(NTU)                               | BDL     | 17.10    | 6.17    | 16.80  | 43.32  | 14.67  | 5.34    | 2.82    | 3.21    | 2.49    | 2.36    | 4.58    | 30 NTU                                                                                  |
| 12                                         | Phenolphthalein Alkalinity(mg/l)             | 4.0     | BDL      | BDL     | BDL    | BDL    | BDL    | 4.0     | BDL     | 2.0     | 10.0    | 14.0    | 10.0    |                                                                                         |
| 13                                         | Total Alkalinity(mg/l)                       | 96.0    | 100.0    | 108.0   | 32.0   | 32.0   | 30.0   | 80.0    | 102.0   | 92.0    | 84.0    | 76.0    | 110.0   |                                                                                         |
| 14                                         | Chlorides(mg/l)                              | 10077.0 | 18333.85 | 1478.3  | 69.0   | 22.7   | 2.0    | 9362.4  | 15176.9 | 12688.4 | 10029.0 | 15745.1 | 17594.7 |                                                                                         |
| 15                                         | COD(mg/l)                                    | -       | -        | 6.0     | 7.0    | 5.0    | 7.0    | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                                         | Total Kjeldahl Nitrogen(mg/l)                | 4.93    | -        | -       | -      | -      | -      | 8.96    | -       | -       | -       | 56.0    | 56.0    |                                                                                         |
| 17                                         | Ammonia (mg/l)                               | BDL     | 0.093    | BDL     | 0.06   | BDL    | 0.18   | 0.14    | 0.31    | 0.29    | BDL     | 0.26    | 0.06    |                                                                                         |
| 18                                         | Total Hardness(mg/l)                         | 7400.0  | 10000.0  | 106.0   | 40.0   | 18.0   | 72.0   | 4000.0  | 1800.0  | 2000.0  | 2800.0  | 5200.0  | 5000.0  |                                                                                         |
| 19                                         | Calcium(mg/l)                                | 481.0   | 5000.0   | 14.0    | 4.0    | 4.0    | 6.4    | 320.6   | 240.5   | 601.2   | 481.0   | 641.3   | 1202.8  |                                                                                         |
| 20                                         | Magnesium(mg/l)                              | 1507.0  | 1215.0   | 22.4    | 7.3    | BDL    | 13.6   | 777.6   | 291.6   | 121.5   | 389.0   | 874.8   | 486.0   |                                                                                         |
| 21                                         | Sulphate(mg/l)                               | 1947.0  | 5236.46  | 254.2   | 22.9   | 6.92   | 46.5   | 1478.8  | 1030.1  | 1238.3  | 1017.0  | 2468.4  | 611.0   |                                                                                         |
| 22                                         | Sodium(mg/l)                                 | 5300.0  | -        | -       | -      | -      | -      | 4660.0  | -       | -       | -       | -       | -       |                                                                                         |
| 23                                         | Total Dissolved Solids(mg/l)                 | 29239.0 | 29352.0  | 27088.0 | 207.0  | 77.0   | 524.0  | 17178.0 | 24437.0 | 22413.0 | 21822.0 | 31702.0 | 33414.0 |                                                                                         |
| 24                                         | Total Fixed Solids(mg/l)                     | 11695.0 | 23557.0  | 19164.0 | 129.0  | 41.0   | 351.0  | 11509.0 | 15617.0 | 15240.0 | 9827.0  | 19539.0 | 30852.0 |                                                                                         |
| 25                                         | Total Suspended Solids(mg/l)                 | 55.0    | 82.0     | 21.0    | 15.0   | 15.0   | 29.0   | 32.0    | 25.0    | 26.0    | 22.0    | 56.0    | 8.0     |                                                                                         |
| 26                                         | Phosphate(mg/l)                              | 0.08    | 0.048    | 0.33    | 0.35   | BDL    | 0.02   | 0.06    | 0.06    | 0.03    | 0.04    | 0.02    | 0.07    |                                                                                         |
| 27                                         | Boron(mg/l)                                  | 0.62    | -        | -       | -      | -      | -      | 0.84    | -       | -       | -       | -       | -       |                                                                                         |
| 28                                         | Potassium(mg/l)                              | 310.0   | -        | -       | -      | -      | -      | 134.0   | -       | -       | -       | -       | -       |                                                                                         |
| 29                                         | Flouride(mg/l)                               | BDL     | 0.267    | 0.44    | 0.28   | 0.15   | BDL    | 1.12    | 0.57    | 0.85    | BDL     | 0.29    | 0.82    |                                                                                         |
| 30                                         | Arsenic(mg/l)                                | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                                         | Cadmium(mg/l)                                | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 32                                         | Copper(mg/l)                                 | BDL     | -        | -       | -      | -      | -      | 0.270   | -       | -       | -       | -       | -       |                                                                                         |
| 33                                         | Lead(mg/l)                                   | 0.098   | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 34                                         | Chromium(mg/l)                               | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                                         | Nickel(mg/l)                                 | 0.216   | -        | -       | -      | -      | -      | 0.150   | -       | -       | -       | -       | -       |                                                                                         |
| 36                                         | Zinc(mg/l)                                   | 0.147   | -        | -       | -      | -      | -      | 0.082   | -       | -       | -       | -       | -       |                                                                                         |
| 37                                         | IronTotal(mg/l)                              | 0.137   | -        | -       | -      | -      | -      | 0.130   | -       | -       | -       | -       | -       |                                                                                         |
| 38                                         | Carbaryl (mg/L)                              | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                                         | DDT-o,p' (mg/L)                              | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                                         | DDT-p,p' (mg/L)                              | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                                         | alpha Endosulfan(mg/L)                       | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                                         | beta Endosulfan(mg/L)                        | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                                         | Anilofos (mg/L)                              | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                                         | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                                         | Aldrin/Dieldrin (mg/L)                       | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                                         | Alpha HCH (mg/L)                             | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                                         | Beta HCH (mg/L)                              | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                                         | Chlorpyrifos (mg/L)                          | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                                         | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                                         | Malathion (mg/L)                             | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                                         | Methyl parathion(mg/L)                       | BDL     | -        | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| RIVER SINQUERIM, CANDOLIM SIDE 2020-2021 |                                              |         |         |         |         |        |         |         |         |         |          |         |         |                                                                                         |
|------------------------------------------|----------------------------------------------|---------|---------|---------|---------|--------|---------|---------|---------|---------|----------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                   | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21   | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                        | Temperature°C                                | 29°C    | 30      | 30      | 29      | 26     | 30      | 30      | 29      | 30      | 28       | 29      | 32      |                                                                                         |
| 2                                        | Dissolved Oxygen(mg/l)                       | 4.5     | 4.7     | 5.4     | 7.2     | 7.5    | 6.0     | 4.9     | 5.4     | 5.1     | 4.1      | 5.4     | 5.0     | 4 mg/l or more                                                                          |
| 3                                        | pH                                           | 6.89    | 7.68    | 7.60    | 7.60    | 7.20   | 7.50    | 7.40    | 7.60    | 7.30    | 7.76     | 7.42    | 6.62    | 6.5 - 8.5                                                                               |
| 4                                        | Conductivity(µs/cm)                          | 60360.0 | 62100.0 | 52960.0 | 11110.0 | 722.09 | 27850.0 | 40500.0 | 50390.0 | 52520.0 | 51070.0  | 53210.0 | 55600.0 |                                                                                         |
| 5                                        | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL     | BDL    | BDL     | BDL     | BDL     | 2.0     | BDL      | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                                        | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.19    | 0.65    | 0.75    | 0.39    | 1.02   | 1.60    | 1.22    | 1.35    | 0.23    | 0.572    | 0.11    | 0.17    |                                                                                         |
| 7                                        | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.005   | 0.03    | 0.03    | 0.01    | 0.011  | 0.065   | 0.005   | 0.007   | BDL     | 0.050    | BDL     | 0.010   |                                                                                         |
| 8                                        | Total Coliform(MPN/100ml)                    | 1300    | 490     | 2800    | 2300    | 2100   | 1700    | 3300    | 2300    | 3300    | 2700     | 230     | 490     |                                                                                         |
| 9                                        | Fecal Coliform(MPN/100ml)                    | 780     | 330     | 2200    | 1300    | 1400   | 1100    | 2300    | 1300    | 1300    | 1700     | 130     | 230     | 100 or less MPN/100 ml                                                                  |
| 10                                       | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 281     | 431    | >1601   | 211     | 95      | 49      | 171      | 121     | 48      |                                                                                         |
| 11                                       | Turbidity(NTU)                               | 8.99    | 7.51    | 4.98    | 13.8    | 23.7   | 30.0    | 4.90    | 6.67    | 5.53    | 7.70     | 5.40    | 13.02   | 30 NTU                                                                                  |
| 12                                       | Phenolphthalein Alkalinity(mg/l)             | BDL     | BDL     | BDL     | BDL     | BDL    | BDL     | BDL     | 6.0     | BDL     | 12.0     | 6.0     | BDL     |                                                                                         |
| 13                                       | Total Alkalinity(mg/l)                       | 130.0   | 136.0   | 112.0   | 44.0    | 32.0   | 80.0    | 94.0    | 110.0   | 114.0   | 100.0    | 114.0   | 126.0   |                                                                                         |
| 14                                       | Chlorides(mg/l)                              | 20993.5 | 18994.0 | 19062.0 | 8451.0  | 243.0  | 8644.0  | 15056.0 | 15663.0 | 17719.5 | 18712.28 | 17494.6 | 16829.0 |                                                                                         |
| 15                                       | COD(mg/l)                                    | -       | -       | -       | -       | 6.0    | -       | -       | -       | -       | -        | -       | -       |                                                                                         |
| 16                                       | Total Kjeldahl Nitrogen(mg/l)                | 6.44    | -       | -       | -       | -      | -       | 14      | -       | -       | -        | 57.4    | 14.01   |                                                                                         |
| 17                                       | Ammonia (mg/l)                               | 0.200   | 0.120   | BDL     | BDL     | 0.090  | 0.11    | BDL     | BDL     | 0.06    | BDL      | 0.09    | BDL     |                                                                                         |
| 18                                       | Total Hardness(mg/l)                         | 6200.0  | 5600.0  | 6200.0  | 1080.0  | 76.0   | 2840.0  | 5000.0  | 5280.0  | 4000.0  | 4800.0   | 4600.0  | 6200.0  |                                                                                         |
| 19                                       | Calcium(mg/l)                                | 561.12  | 240.5   | 401.0   | 80.0    | 9.0    | 224.0   | 401.0   | 409.0   | 1002.0  | 961.9    | 480.9   | 601.0   |                                                                                         |
| 20                                       | Magnesium(mg/l)                              | 1166.4  | 1215.0  | 1264.0  | 214.0   | 13.0   | 554.0   | 972.0   | 1035.0  | 364.5   | 932.66   | 826.2   | 1142.0  |                                                                                         |
| 21                                       | Sulphate(mg/l)                               | 1410.3  | 1424.5  | 1498.0  | 622.0   | 37.0   | 837.0   | 1341.0  | 1650.0  | 1213.0  | 2244.38  | 1527.5  | 2612.0  |                                                                                         |
| 22                                       | Sodium(mg/l)                                 | 3220.0  | -       | -       | -       | -      | -       | 7950.0  | -       | -       | -        | -       | -       |                                                                                         |
| 23                                       | Total Dissolved Solids(mg/l)                 | 34646.0 | 36660.0 | 37072.0 | 7777.0  | 505.0  | 19495.0 | 28350.0 | 35273.0 | 30987.0 | 29487.0  | 31589.0 | 33360.0 |                                                                                         |
| 24                                       | Total Fixed Solids(mg/l)                     | 33540.0 | 34662.0 | 22243.0 | 3110.0  | 300.0  | 11697.0 | 17010.0 | 21163.0 | 24322.0 | 16220.0  | 18926.0 | 18945.0 |                                                                                         |
| 25                                       | Total Suspended Solids(mg/l)                 | 58.0    | 70.0    | 64.0    | 53.0    | 34.0   | 68.0    | 52.0    | 91.0    | 11.0    | 43.0     | 76.0    | 30.0    |                                                                                         |
| 26                                       | Phosphate(mg/l)                              | 0.084   | 0.09    | 0.12    | 0.12    | 0.08   | 0.25    | 0.03    | 0.05    | 0.085   | 0.082    | 0.03    | 0.03    |                                                                                         |
| 27                                       | Boron(mg/l)                                  | 0.72    | -       | -       | -       | -      | -       | 0.88    | -       | -       | -        | -       | -       |                                                                                         |
| 28                                       | Potassium(mg/l)                              | 250.0   | -       | -       | -       | -      | -       | 184.0   | -       | -       | -        | -       | -       |                                                                                         |
| 29                                       | Flouride(mg/l)                               | BDL     | 1.0     | 1.23    | 0.82    | 0.21   | 1.29    | 2.89    | 1.12    | 0.53    | 0.21     | BDL     | BDL     |                                                                                         |
| 30                                       | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 31                                       | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -      | -       | 0.042   | -       | -       | -        | -       | -       |                                                                                         |
| 32                                       | Copper(mg/l)                                 | BDL     | -       | -       | -       | -      | -       | 0.048   | -       | -       | -        | -       | -       |                                                                                         |
| 33                                       | Lead(mg/l)                                   | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 34                                       | Chromium(mg/l)                               | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 35                                       | Nickel(mg/l)                                 | 0.262   | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 36                                       | Zinc(mg/l)                                   | 0.172   | -       | -       | -       | -      | -       | 0.097   | -       | -       | -        | -       | -       |                                                                                         |
| 37                                       | Iron Total(mg/l)                             | 0.406   | -       | -       | -       | -      | -       | 0.105   | -       | -       | -        | -       | -       |                                                                                         |
| 38                                       | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 39                                       | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 40                                       | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 41                                       | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 42                                       | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 43                                       | Anilofos (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 44                                       | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 45                                       | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 46                                       | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 47                                       | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 48                                       | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 49                                       | Gamma-HCH (Lindane) (mg/l)                   | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 50                                       | Malathion (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 51                                       | Methyl parathion(mg/l)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |



| RIVER SINQUERIM, NEAR GANPATI TEMPLE 2020-2021 |                                              |         |         |         |         |        |         |         |         |         |          |         |         |                                                                                         |
|------------------------------------------------|----------------------------------------------|---------|---------|---------|---------|--------|---------|---------|---------|---------|----------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                         | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21   | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                              | Temperature°C                                | 29      | 30      | 30      | 29      | 26     | 30      | 30      | 29      | 30      | 28       | 29      | 32      |                                                                                         |
| 2                                              | Dissolved Oxygen(mg/l)                       | 4.7     | 6.5     | 5.2     | 7.1     | 7.2    | 6.2     | 5.9     | 5.5     | 4.9     | 4.3      | 5.8     | 5.1     | 4 mg/l or more                                                                          |
| 3                                              | pH                                           | 6.92    | 7.78    | 7.60    | 7.60    | 7.40   | 7.40    | 7.40    | 7.7     | 7.39    | 7.71     | 7.45    | 6.62    | 6.5 - 8.5                                                                               |
| 4                                              | Conductivity(µs/cm)                          | 60260   | 63430   | 53480.0 | 13010.0 | 830.37 | 35060.0 | 39610.0 | 51460.0 | 52680.0 | 50180.0  | 52770.0 | 55350.0 |                                                                                         |
| 5                                              | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL     | BDL    | BDL     | BDL     | BDL     | 2.1     | BDL      | BDL     | BDL     | BDL                                                                                     |
| 6                                              | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.21    | 0.98    | 0.65    | 0.40    | 1.43   | 0.44    | 0.58    | 0.64    | BDL     | 0.559    | 0.11    | 0.18    | 3 mg/l or less                                                                          |
| 7                                              | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.03    | 0.03    | 0.01    | 0.032  | 0.012   | 0.007   | 0.01    | BDL     | 0.053    | BDL     | 0.008   |                                                                                         |
| 8                                              | Total Coliform(MPN/100ml)                    | 1100    | 790     | 1700    | 3400    | 2600   | 2100    | 2700    | 2200    | 2700    | 4900     | 45      | 220     |                                                                                         |
| 9                                              | Fecal Coliform(MPN/100ml)                    | 450     | 490     | 1400    | 2700    | 2100   | 1700    | 2200    | 1700    | 1400    | 2300     | 20      | 130     | 100 or less MPN/100 ml                                                                  |
| 10                                             | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 131     | 541    | >1601   | 121     | 241     | 141     | 131      | 171     | 39      |                                                                                         |
| 11                                             | Turbidity(NTU)                               | 6.06    | 6.48    | 5.48    | 14.17   | 24.4   | 14.73   | 4.54    | 12.41   | 4.5     | 3.21     | 7.67    | 15.31   | 30 NTU                                                                                  |
| 12                                             | Phenolphthalein Alkalinity(mg/l)             | BDL     | BDL     | BDL     | BDL     | BDL    | BDL     | BDL     | 4.0     | BDL     | 12.0     | 8.0     | BDL     |                                                                                         |
| 13                                             | Total Alkalinity(mg/l)                       | 128.0   | 120.0   | 116.0   | 48.0    | 34.0   | 76.0    | 94.0    | 108.0   | 120.0   | 110.0    | 114.0   | 128.0   |                                                                                         |
| 14                                             | Chlorides(mg/l)                              | 21993.2 | 19244.0 | 18819.0 | 3643.0  | 243.0  | 9519.0  | 13720.0 | 16270.0 | 17095.5 | 18589.98 | 17994.4 | 16878.0 |                                                                                         |
| 15                                             | COD(mg/l)                                    | -       | -       | -       | -       | 6.0    | -       | -       | -       | -       | -        | -       | -       |                                                                                         |
| 16                                             | Total Kjeldahl Nitrogen(mg/l)                | 5.32    | -       | -       | -       | -      | -       | 10.08   | -       | -       | -        | 42.0    | 9.81    |                                                                                         |
| 17                                             | Ammonia (mg/l)                               | 0.165   | 0.12    | BDL     | BDL     | BDL    | 0.15    | 0.06    | 0.09    | 0.11    | BDL      | 0.11    | BDL     |                                                                                         |
| 18                                             | Total Hardness(mg/l)                         | 7000.0  | 6000.0  | 6400.0  | 1360.0  | 82.0   | 3360.0  | 4800.0  | 5160.0  | 2500.0  | 5000.0   | 4800.0  | 6200.0  |                                                                                         |
| 19                                             | Calcium(mg/l)                                | 641.30  | 400.8   | 802.0   | 144.0   | 10.0   | 224.0   | 401.0   | 449.0   | 802.0   | 1042.1   | 561.1   | 561.0   |                                                                                         |
| 20                                             | Magnesium(mg/l)                              | 1312.2  | 1215.0  | 1069.0  | 243.0   | 14.0   | 680.0   | 923.0   | 982.0   | 121.5   | 961.77   | 826.2   | 1166.0  |                                                                                         |
| 21                                             | Sulphate(mg/l)                               | 1666.7  | 1552.7  | 1397.0  | 507.0   | 37.0   | 900.0   | 1648.0  | 1127.0  | 1096.0  | 1923.75  | 1289.2  | 2476.0  |                                                                                         |
| 22                                             | Sodium(mg/l)                                 | 2140.0  | -       | -       | -       | -      | -       | 7350.0  | -       | -       | -        | -       | -       |                                                                                         |
| 23                                             | Total Dissolved Solids(mg/l)                 | 35571.0 | 37499.0 | 37436.0 | 9107.0  | 581.0  | 24542.0 | 27727.0 | 36022.0 | 29500.0 | 29278.0  | 31059.0 | 32586.0 |                                                                                         |
| 24                                             | Total Fixed Solids(mg/l)                     | 33564.0 | 35504.0 | 22462.0 | 3642.0  | 348.0  | 14725.0 | 16636.0 | 21613.0 | 23388.0 | 16323.0  | 17854.0 | 17486.0 |                                                                                         |
| 25                                             | Total Suspended Solids(mg/l)                 | 60.0    | 71.0    | 77.0    | 44.0    | 59.0   | 73.0    | 56.0    | 90.0    | 10.0    | 40.0     | 70.0    | 38.0    |                                                                                         |
| 26                                             | Phosphate(mg/l)                              | 0.113   | 0.11    | 0.06    | 0.10    | 0.07   | 0.11    | 0.02    | 0.08    | 0.20    | 0.044    | 0.020   | 0.030   |                                                                                         |
| 27                                             | Boron(mg/l)                                  | 0.54    | -       | -       | -       | -      | -       | 0.78    | -       | -       | -        | -       | -       |                                                                                         |
| 28                                             | Potassium(mg/l)                              | 190.0   | -       | -       | -       | -      | -       | 199.0   | -       | -       | -        | -       | -       |                                                                                         |
| 29                                             | Flouride(mg/l)                               | BDL     | 0.98    | 1.19    | 0.86    | 0.31   | 1.53    | 2.98    | 1.11    | 0.70    | 0.20     | BDL     | BDL     |                                                                                         |
| 30                                             | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 31                                             | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -      | -       | 0.043   | -       | -       | -        | -       | -       |                                                                                         |
| 32                                             | Copper(mg/l)                                 | BDL     | -       | -       | -       | -      | -       | 0.046   | -       | -       | -        | -       | -       |                                                                                         |
| 33                                             | Lead(mg/l)                                   | BDL     | -       | -       | -       | -      | -       | 0.094   | -       | -       | -        | -       | -       |                                                                                         |
| 34                                             | Chromium(mg/l)                               | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 35                                             | Nickel(mg/l)                                 | 0.226   | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 36                                             | Zinc(mg/l)                                   | 0.143   | -       | -       | -       | -      | -       | 0.102   | -       | -       | -        | -       | -       |                                                                                         |
| 37                                             | Iron Total(mg/l)                             | 0.46    | -       | -       | -       | -      | -       | 0.164   | -       | -       | -        | -       | -       |                                                                                         |
| 38                                             | Carbaryl (mg/L)                              | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 39                                             | DDT-o,p' (mg/L)                              | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 40                                             | DDT-p,p' (mg/L)                              | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 41                                             | alpha Endosulfan(mg/L)                       | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 42                                             | beta Endosulfan(mg/L)                        | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 43                                             | Anilofos (mg/L)                              | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 44                                             | 2,4-Dichlorophenoxyacetic acid(mg/L)         | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 45                                             | Aldrin/Dieldrin (mg/L)                       | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 46                                             | Alpha HCH (mg/L)                             | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 47                                             | Beta HCH (mg/L)                              | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 48                                             | Chlorpyrifos (mg/L)                          | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 49                                             | Gamma-HCH (Lindane) (mg/L)                   | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 50                                             | Malathion (mg/L)                             | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |
| 51                                             | Methyl parathion(mg/L)                       | -       | -       | -       | -       | -      | -       | BDL     | -       | -       | -        | -       | -       |                                                                                         |

| RIVER MANDOLI AT IFFI JETTY 2020-2021 |                                              |         |         |         |         |        |         |         |         |         |         |         |         |                                                                                         |
|---------------------------------------|----------------------------------------------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                     | Temperature°C                                | 30      | 31      | 30      | 29      | 29     | 30      | 30      | 29      | 28      | 29      | 31      | 32      |                                                                                         |
| 2                                     | Dissolved Oxygen(mg/l)                       | 6.1     | 5.9     | 4.8     | 7.0     | 7.2    | 7.0     | 6.5     | 5.0     | 6.0     | 6.6     | 6.7     | 6.6     | 4 mg/l or more                                                                          |
| 3                                     | pH                                           | 7.98    | 7.88    | 7.63    | 7.10    | 7.10   | 7.06    | 7.49    | 7.74    | 7.80    | 7.69    | 7.96    | 7.84    | 6.5 - 8.5                                                                               |
| 4                                     | Conductivity(µs/cm)                          | 63370.0 | 62850.0 | 57100.0 | 8123.0  | 2696.1 | 13070.0 | 40000.0 | 48650.0 | 56150.0 | 57060.0 | 54740.0 | 57820.0 |                                                                                         |
| 5                                     | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL     | BDL    | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.28    | 0.23    | 0.4     | 0.10    | 0.1    | 0.1     | 0.12    | 0.13    | 0.10    | 0.22    | 0.15    | BDL     |                                                                                         |
| 7                                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.02    | 0.024   | 0.009   | BDL    | BDL     | 0.007   | 0.005   | BDL     | 0.015   | BDL     | 0.02    |                                                                                         |
| 8                                     | Total Coliform(MPN/100ml)                    | 170     | 110     | 140     | 220     | 240    | 140     | 240     | 240     | 140     | 13      | 210     | 170     | 100 or less MPN/100 ml                                                                  |
| 9                                     | Fecal Coliform(MPN/100ml)                    | 92      | 68      | 94      | 94      | 91     | 79      | 94      | 79      | 94      | 7.8     | 140     | 140     |                                                                                         |
| 10                                    | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 281     | >1601  | 221     | >1601   | 921     | 48      | 111     | 95      | 80      |                                                                                         |
| 11                                    | Turbidity(NTU)                               | 4.45    | 9.23    | 2.13    | 7.81    | 8.11   | 4.26    | 3.96    | 2.95    | 2.39    | 3.09    | 2.55    | 1.85    | 30 NTU                                                                                  |
| 12                                    | Phenolphthalein Alkalinity(mg/l)             | 18.0    | 6.0     | 12.0    | BDL     | BDL    | BDL     | 6.0     | 10.0    | 18.0    | 8.0     | 6.0     | 8.0     |                                                                                         |
| 13                                    | Total Alkalinity(mg/l)                       | 112.0   | 134.0   | 124.0   | 60.0    | 36.0   | 54.0    | 96.0    | 112.0   | 96.0    | 120.0   | 112.0   | 118.0   |                                                                                         |
| 14                                    | Chlorides(mg/l)                              | 19463.8 | 18345   | 19446.0 | 12934.8 | 1231.9 | 6060.9  | 14166.7 | 18231.9 | 17615.9 | 18494.0 | 17719.5 | 17745.0 |                                                                                         |
| 15                                    | COD(mg/l)                                    | -       | -       | -       | -       | 15.0   | -       | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                                    | Total Kjeldahl Nitrogen(mg/l)                | 3.92    | -       | -       | -       | -      | -       | 10.08   | -       | -       | -       | 28.0    | 3.9     |                                                                                         |
| 17                                    | Ammonia (mg/l)                               | 0.06    | 0.10    | 0.8     | 0.13    | BDL    | 0.08    | BDL     | 0.10    | BDL     | 0.12    | BDL     | 0.13    |                                                                                         |
| 18                                    | Total Hardness(mg/l)                         | 7000.0  | 8000.0  | 6600.0  | 4500.0  | 300.0  | 1400.0  | 1400.0  | 6100.0  | 4000.0  | 5800.0  | 3000.0  | 6400.0  |                                                                                         |
| 19                                    | Calcium(mg/l)                                | 4000.0  | 721.0   | 481.0   | 1202.4  | 24.0   | 120.2   | 320.6   | 521.0   | 801.6   | 881.8   | 561.1   | 1042.1  |                                                                                         |
| 20                                    | Magnesium(mg/l)                              | 729.0   | 1507.0  | 1312.2  | 364.5   | 58.2   | 267.3   | 145.8   | 1166.4  | 486.0   | 874.8   | 388.8   | 1020.6  |                                                                                         |
| 21                                    | Sulphate(mg/l)                               | 4672.4  | 1102.0  | 3042.2  | 724.9   | 59.2   | 564.4   | 1986.4  | 2507.1  | 1859.3  | 2431.0  | 2387.79 | 2536.00 |                                                                                         |
| 22                                    | Sodium(mg/l)                                 | 4520.0  | -       | -       | -       | -      | -       | 6750.0  | -       | -       | -       | -       | -       |                                                                                         |
| 23                                    | Total Dissolved Solids(mg/l)                 | 33073.0 | 36852.0 | 39373.0 | 4956.0  | 1644.0 | 7842.0  | 24000.0 | 30275.0 | 33506.0 | 35928.0 | 29723.0 | 34128.0 |                                                                                         |
| 24                                    | Total Fixed Solids(mg/l)                     | 21894.0 | 21248.0 | 26373.0 | 3086.0  | 983.0  | 5489.0  | 15065.0 | 19246.0 | 22053.0 | 33928.0 | 26985.0 | 32130.0 |                                                                                         |
| 25                                    | Total Suspended Solids(mg/l)                 | 48.0    | 43.0    | 28.0    | 52.0    | 39.0   | 36.0    | 51.0    | 41.0    | 38.0    | 90.0    | 4.0     | 90.0    |                                                                                         |
| 26                                    | Phosphate(mg/l)                              | 0.09    | 0.06    | 0.18    | 0.13    | BDL    | BDL     | 0.06    | 0.07    | 0.04    | 0.07    | 0.02    | 0.07    |                                                                                         |
| 27                                    | Boron(mg/l)                                  | 0.81    | -       | -       | -       | -      | -       | 0.92    | -       | -       | -       | -       | -       |                                                                                         |
| 28                                    | Potassium(mg/l)                              | 468.0   | -       | -       | -       | -      | -       | 195.0   | -       | -       | -       | -       | -       |                                                                                         |
| 29                                    | Flouride(mg/l)                               | BDL     | 0.37    | 1.2     | 1.26    | 0.37   | 0.85    | 0.76    | 0.91    | 1.21    | 1.11    | 1.33    | 0.50    |                                                                                         |
| 30                                    | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                                    | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 32                                    | Copper(mg/l)                                 | BDL     | -       | -       | -       | -      | -       | 0.141   | -       | -       | -       | -       | -       |                                                                                         |
| 33                                    | Lead(mg/l)                                   | BDL     | -       | -       | -       | -      | -       | 0.035   | -       | -       | -       | -       | -       |                                                                                         |
| 34                                    | Chromium(mg/l)                               | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                                    | Nickel(mg/l)                                 | 0.143   | -       | -       | -       | -      | -       | 0.256   | -       | -       | -       | -       | -       |                                                                                         |
| 36                                    | Zinc(mg/l)                                   | 0.172   | -       | -       | -       | -      | -       | 0.095   | -       | -       | -       | -       | -       |                                                                                         |
| 37                                    | IronTotal(mg/l)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 38                                    | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                                    | DDT- $\alpha$ p' (mg/L)                      | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                                    | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                                    | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                                    | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                                    | Anilofos (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                                    | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                                    | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                                    | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                                    | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                                    | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                                    | Malathion (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                                    | Methyl parathion(mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| RIVER MANDOLI NEAR HOTEL MARIOTT 2020-2021 |                                              |         |         |         |         |        |         |         |         |         |         |         |         |                                                                                         |
|--------------------------------------------|----------------------------------------------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                     | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                          | Temperature°C                                | 30      | 31      | 30      | 29      | 29     | 30      | 30      | 29      | 28      | 29      | 31      | 32      |                                                                                         |
| 2                                          | Dissolved Oxygen(mg/l)                       | 5.9     | 5.9     | 4.6     | 7.4     | 6.6    | 6.4     | 6.3     | 5.1     | 5.6     | 6.4     | 6.9     | 6.4     | 4 mg/l or more                                                                          |
| 3                                          | pH                                           | 7.95    | 7.84    | 7.66    | 7.16    | 7.20   | 7.58    | 7.51    | 7.76    | 7.84    | 7.81    | 8.01    | 7.81    | 6.5 - 8.5                                                                               |
| 4                                          | Conductivity(µs/cm)                          | 64350.0 | 63030.0 | 57160.0 | 10330.0 | 1841.0 | 37000.0 | 45870.0 | 54530.0 | 56360.0 | 56990.0 | 54570.0 | 57360.0 |                                                                                         |
| 5                                          | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL     | BDL    | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL                                                                                     |
| 6                                          | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.23    | 0.11    | 0.1     | BDL     | 0.1    | 0.1     | 0.11    | 0.10    | 0.10    | 0.22    | 0.17    | BDL     | 3 mg/l or less                                                                          |
| 7                                          | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.005   | 0.15    | 0.027   | 0.007   | BDL    | BDL     | 0.007   | BDL     | BDL     | 0.016   | BDL     | 0.02    |                                                                                         |
| 8                                          | Total Coliform(MPN/100ml)                    | 170     | 140     | 170     | 210     | 170    | 210     | 170     | 130     | 170     | 230     | 130     | 220     |                                                                                         |
| 9                                          | Fecal Coliform(MPN/100ml)                    | 83      | 78      | 84      | 91      | 84     | 93      | 94      | 79      | 94      | 130     | 78      | 170     | 100 or less MPN/100 ml                                                                  |
| 10                                         | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 50      | 1601   | >1601   | 171     | 35      | 14      | 171     | 211     | 71      |                                                                                         |
| 11                                         | Turbidity(NTU)                               | 4.0     | 9.97    | 2.40    | 12.69   | 7.80   | 3.86    | 2.77    | 1.58    | 2.39    | 3.16    | 2.04    | 2.60    | 30 NTU                                                                                  |
| 12                                         | Phenolphthalein Alkalinity(mg/l)             | 20.0    | 6.0     | 10.0    | BDL     | BDL    | 4.0     | 8.0     | 20.0    | 14.0    | 8.0     | 10.0    | 8.0     |                                                                                         |
| 13                                         | Total Alkalinity(mg/l)                       | 110.0   | 134.0   | 124.0   | 66.0    | 38.0   | 90.0    | 96.0    | 102.0   | 72.0    | 118.0   | 110.0   | 116.0   |                                                                                         |
| 14                                         | Chlorides(mg/l)                              | 18724.7 | 18345   | 19323.0 | 12811.6 | 1601.5 | 2956.5  | 16507.3 | 18478.3 | 17739.2 | 18744.0 | 17969.0 | 17995.0 |                                                                                         |
| 15                                         | COD(mg/l)                                    | -       | -       | -       | -       | 13.0   | -       | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                                         | Total Kjeldahl Nitrogen(mg/l)                | 3.58    | -       | -       | -       | -      | -       | 12.32   | -       | -       | -       | 28.0    | 3.4     |                                                                                         |
| 17                                         | Ammonia (mg/l)                               | 0.22    | 0.15    | 0.11    | 0.15    | BDL    | BDL     | 0.07    | BDL     | BDL     | 0.13    | BDL     | 0.14    |                                                                                         |
| 18                                         | Total Hardness(mg/l)                         | 21000.0 | 8400.0  | 7000.0  | 4500.0  | 130.0  | 4000.0  | 2800.0  | 6200.0  | 6000.0  | 6000.0  | 4000.0  | 6800.0  |                                                                                         |
| 19                                         | Calcium(mg/l)                                | 3000.0  | 641.0   | 240.5   | 601.2   | 8.8    | 400.8   | 481.0   | 1202.4  | 601.2   | 962.0   | 881.8   | 1122.2  |                                                                                         |
| 20                                         | Magnesium(mg/l)                              | 4374.0  | 1652.0  | 1555.2  | 729.0   | 26.2   | 729.0   | 388.8   | 777.6   | 1093.5  | 874.0   | 437.4   | 1069.2  |                                                                                         |
| 21                                         | Sulphate(mg/l)                               | 4914.5  | 1109.0  | 3329.2  | 560.9   | 43.6   | 1401.0  | 2345.5  | 3313.9  | 1030.1  | 2526.0  | 2395.12 | 2593.00 |                                                                                         |
| 22                                         | Sodium(mg/l)                                 | 630.0   | -       | -       | -       | -      | -       | 7760.0  | -       | -       | -       | -       | -       |                                                                                         |
| 23                                         | Total Dissolved Solids(mg/l)                 | 39897.0 | 36849.0 | 35699.0 | 6611.0  | 1160.0 | 22570.0 | 28439.0 | 33263.0 | 34379.0 | 34454.0 | 29728.0 | 33854.0 |                                                                                         |
| 24                                         | Total Fixed Solids(mg/l)                     | 23467.0 | 21587.0 | 24499.0 | 4156.0  | 695.0  | 14896.0 | 17523.0 | 21217.0 | 22691.0 | 32449.0 | 26951.0 | 31862.0 |                                                                                         |
| 25                                         | Total Suspended Solids(mg/l)                 | 61.0    | 42.0    | 24.0    | 68.0    | 32.0   | 45.0    | 59.0    | 35.0    | 43.0    | 95.0    | 4.0     | 95.0    |                                                                                         |
| 26                                         | Phosphate(mg/l)                              | 0.06    | 0.06    | 0.09    | 0.09    | 0.04   | 0.05    | 0.07    | 0.05    | 0.06    | 0.07    | 0.06    | 0.08    |                                                                                         |
| 27                                         | Boron(mg/l)                                  | 0.76    | -       | -       | -       | -      | -       | 0.88    | -       | -       | -       | -       | -       |                                                                                         |
| 28                                         | Potassium(mg/l)                              | 462.0   | -       | -       | -       | -      | -       | 210.0   | -       | -       | -       | -       | -       |                                                                                         |
| 29                                         | Flouride(mg/l)                               | BDL     | 0.36    | 1.2     | 1.32    | 0.49   | 1.37    | 0.98    | 0.89    | 1.0     | 1.16    | 1.14    | 0.52    |                                                                                         |
| 30                                         | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                                         | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 32                                         | Copper(mg/l)                                 | BDL     | -       | -       | -       | -      | -       | 0.175   | -       | -       | -       | -       | -       |                                                                                         |
| 33                                         | Lead(mg/l)                                   | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 34                                         | Chromium(mg/l)                               | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                                         | Nickel(mg/l)                                 | BDL     | -       | -       | -       | -      | -       | 0.138   | -       | -       | -       | -       | -       |                                                                                         |
| 36                                         | Zinc(mg/l)                                   | 0.149   | -       | -       | -       | -      | -       | 0.088   | -       | -       | -       | -       | -       |                                                                                         |
| 37                                         | IronTotal(mg/l)                              | 0.415   | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 38                                         | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                                         | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                                         | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                                         | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                                         | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                                         | Anilofos (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                                         | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                                         | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                                         | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                                         | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                                         | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                                         | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                                         | Malathion (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                                         | Methyl parathion(mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| RIVER MANDOVIA AT AMONA 2020-2021 |                                              |          |         |         |        |        |        |        |         |         |         |         |          |                                                                                         |
|-----------------------------------|----------------------------------------------|----------|---------|---------|--------|--------|--------|--------|---------|---------|---------|---------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                            | Parameters                                   | Apr-20   | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                 | Temperature°C                                | 29       | 31      | 30      | 28     | 26     | 28     | 28     | 29      | 29      | 28      | 28      | 30       | 4 mg/l or more<br>6.5 - 8.5                                                             |
| 2                                 | Disolved Oxygen(mg/l)                        | 5.1      | 5.3     | 4.5     | 6.5    | 7.5    | 7.2    | 6.4    | 5.3     | 6.6     | 5.8     | 7.1     | 5.5      |                                                                                         |
| 3                                 | pH                                           | 7.10     | 7.30    | 6.79    | 6.60   | 6.45   | 6.68   | 6.52   | 6.88    | 6.85    | 6.93    | 7.09    | 7.07     |                                                                                         |
| 4                                 | Conductivity(µs/cm)                          | 43330.0  | 42550.0 | 28590.0 | 27.1   | 131.98 | 126.11 | 148.90 | 9267.00 | 18550.0 | 25560.0 | 27580.0 | 33540.0  | 3 mg/l or less                                                                          |
| 5                                 | BOD(mg/l)                                    | BDL      | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | BDL     | 2.5     | BDL     | BDL     | BDL      |                                                                                         |
| 6                                 | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.2077   | 0.19    | 0.739   | 0.211  | 0.69   | BDL    | 0.30   | 0.12    | 0.15    | 0.19    | 0.24    | BDL      |                                                                                         |
| 7                                 | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.112    | 0.236   | 0.023   | 0.0091 | BDL    | BDL    | 0.037  | BDL     | BDL     | BDL     | BDL     | 0.074    | 100 or less MPN/100 ml                                                                  |
| 8                                 | Total Coliform(MPN/100ml)                    | 1700     | 1400    | 1400    | 1400   | 1200   | 1200   | 1400   | 1100    | 1700    | 1300    | 3500    | 230      |                                                                                         |
| 9                                 | Fecal Coliform(MPN/100ml)                    | 1100     | 780     | 930     | 940    | 940    | 840    | 1100   | 790     | 1700    | 790     | 1700    | 130      |                                                                                         |
| 10                                | Fecal Streptococci (MPN/100ml)               | -        | -       | -       | 95     | 71     | 42     | -      | 171     | 121     | 85      | 50      | 241      | 30 NTU                                                                                  |
| 11                                | Turbidity(NTU)                               | 2.3      | 6.47    | 4.86    | 50.0   | 16.19  | 3.75   | 19.64  | 4.31    | 5.30    | 2.57    | 2.62    | 3.56     |                                                                                         |
| 12                                | Phenolphthaleim Alkalinity(mg/l)             | BDL      | BDL     | BDL     | BDL    | BDL    | BDL    | BDL    | BDL     | BDL     | BDL     | BDL     | BDL      |                                                                                         |
| 13                                | Total Alkalinity(mg/l)                       | 98.0     | 94.0    | 64.0    | 24.0   | 20.0   | 26.0   | 28.0   | 40.0    | 60.0    | 66.0    | 36.0    | 90.0     |                                                                                         |
| 14                                | Chlorides(mg/l)                              | 13208.67 | 12263   | 10441.0 | 15.17  | 25.44  | 122.30 | 27.88  | 2500.00 | 6248.00 | 8928.00 | 10747.0 | 17978.47 |                                                                                         |
| 15                                | COD(mg/l)                                    | -        | -       | -       | 16.0   | 6.0    | 6.0    | 6.0    | -       | -       | -       | -       | -        |                                                                                         |
| 16                                | Total Kjeldahl Nitrogen(mg/l)                | 4.03     | -       | -       | -      | -      | -      | 8.96   | -       | -       | -       | 154.0   | 5.04     |                                                                                         |
| 17                                | Ammonia (mg/l)                               | BDL      | BDL     | 0.080   | BDL    | BDL    | BDL    | BDL    | 0.07    | 0.06    | BDL     | BDL     | BDL      |                                                                                         |
| 18                                | Total Hardness(mg/l)                         | 5500.0   | 4200.0  | 5000.0  | 30.0   | 28.0   | 30.0   | 28.0   | 370.0   | 2200.0  | 1900.0  | 4000.0  | 7000.0   |                                                                                         |
| 19                                | Calcium(mg/l)                                | 200.4    | 321     | 2500.0  | 14.0   | 4.0    | 12.0   | 6.4    | 33.7    | 352.7   | 224.0   | 321.0   | 1002.0   |                                                                                         |
| 20                                | Magnesium(mg/l)                              | 1215.0   | 826.0   | 607.5   | 3.89   | 5.83   | 6.3    | 5.25   | 70.0    | 320.8   | 326.0   | 777.6   | 1457.51  |                                                                                         |
| 21                                | Sulphate(mg/l)                               | 1889.28  | 870.0   | 569.80  | 16.83  | 18.67  | 6.9    | 2.73   | 29.0    | 124.0   | 269.0   | 4848.0  | 1013.33  |                                                                                         |
| 22                                | Sodium(mg/l)                                 | 30.0     | -       | -       | -      | -      | -      | 19.1   | -       | -       | -       | -       | -        | 19548.0                                                                                 |
| 23                                | Total Dissolved Solids(mg/l)                 | 28597.0  | 33362.0 | 17154.0 | 16.2   | 83.0   | 78.6   | 91.0   | 5090.0  | 10195.0 | 15330.0 | 16546.0 | 19548.0  |                                                                                         |
| 24                                | Total Fixed Solids(mg/l)                     | 19654.0  | 11914.0 | 9283.0  | 9.0    | 49.0   | 35.0   | 52.0   | 4891.0  | 9083.0  | 7640.0  | 15448.0 | 8000.0   |                                                                                         |
| 25                                | Total Suspended Solids(mg/l)                 | 54.0     | 16.0    | 62.0    | 12.0   | 25.0   | 11.0   | 18.0   | 42.0    | 58.0    | 45.0    | 79.0    | 20.0     | 0.02                                                                                    |
| 26                                | Phosphate(mg/l)                              | 0.10     | 0.027   | 0.057   | 0.075  | 0.035  | 0.030  | 0.035  | 0.34    | BDL     | BDL     | 0.05    | 0.02     |                                                                                         |
| 27                                | Boron(mg/l)                                  | 0.68     | -       | -       | -      | -      | -      | 0.50   | -       | -       | -       | -       | -        |                                                                                         |
| 28                                | Potassium(mg/l)                              | 1.5      | -       | -       | -      | -      | -      | 1.8    | -       | -       | -       | -       | -        | BDL                                                                                     |
| 29                                | Flouride(mg/l)                               | 1.59     | BDL     | 0.564   | BDL    | BDL    | BDL    | BDL    | BDL     | 0.97    | 0.532   | BDL     | BDL      |                                                                                         |
| 30                                | Arsenic(mg/l)                                | BDL      | -       | -       | BDL    | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 31                                | Cadmium(mg/l)                                | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 32                                | Copper(mg/l)                                 | BDL      | -       | -       | -      | -      | -      | 0.031  | -       | -       | -       | -       | -        |                                                                                         |
| 33                                | Lead(mg/l)                                   | BDL      | -       | -       | -      | -      | -      | 0.039  | -       | -       | -       | -       | -        |                                                                                         |
| 34                                | Chromium(mg/l)                               | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 35                                | Nickel(mg/l)                                 | 0.272    | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 36                                | Zinc(mg/l)                                   | 0.141    | -       | -       | -      | -      | -      | 0.032  | -       | -       | -       | -       | -        |                                                                                         |
| 37                                | Iron Total(mg/l)                             | 0.456    | -       | -       | -      | -      | -      | 0.284  | -       | -       | -       | -       | -        |                                                                                         |
| 38                                | Carbaryl (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 39                                | DDT-o,p' (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 40                                | DDT-p,p' (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 41                                | alpha Endosulfan(mg/L)                       | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 42                                | beta Endosulfan(mg/L)                        | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 43                                | Anilofos (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 44                                | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 45                                | Aldrin/Dieldrm (mg/L)                        | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 46                                | Alpha HCH (mg/L)                             | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 47                                | Beta HCH (mg/L)                              | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 48                                | Chlorpyrifos (mg/L)                          | BDL      | -       | -       | -      | -      | -      | 0.011  | -       | -       | -       | -       | -        |                                                                                         |
| 49                                | Gamma-HCH (Lindane) (mg/L)                   | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 50                                | Malathion (mg/L)                             | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |
| 51                                | Methyl parathion(mg/L)                       | BDL      | -       | -       | -      | -      | -      | BDL    | -       | -       | -       | -       | -        |                                                                                         |

| RAJA LAKE 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|---------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No              | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                   | Temperature°C                                | 29     | 30     | 27     | 29     | 26     | 28     | 29     | 29     | 30     | 29     | 29     | 31     |                                                                                           |
| 2                   | Dissolved Oxygen mg/l                        | 8.0    | 7.1    | 4.9    | 6.2    | 6.2    | 6.8    | 6.9    | 4.4    | 4.8    | 4.8    | 2.8    | 3.1    | 4 mg/l or more                                                                            |
| 3                   | pH                                           | 7.55   | 6.54   | 6.73   | 6.24   | 6.88   | 6.61   | 6.53   | 6.13   | 6.15   | 6.92   | 6.89   | 6.62   | 6-9                                                                                       |
| 4                   | Conductivity(µs/cm)                          | 156.84 | 220.23 | 267.65 | 28.12  | 80.02  | 88.75  | 76.92  | 92.04  | 94.13  | 176.43 | 177.51 | 131.98 |                                                                                           |
| 5                   | BOD(mg/l) mg/l                               | BDL    | 2.1    | 3.7    | BDL    | BDL    | 2.1    | BDL    | BDL    | 2.3    | BDL    | 3.4    | BDL    | 3 mg/l or less                                                                            |
| 6                   | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.11   | 1.37   | 4.77   | 0.28   | 0.31   | BDL    | BDL    | BDL    | 0.17   | BDL    | BDL    | 0.27   |                                                                                           |
| 7                   | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.009  | 0.123  | 0.01   | BDL    | BDL    | BDL    | 0.007  | BDL    | 0.046  | BDL    | BDL    | BDL    |                                                                                           |
| 8                   | Total Coliform(MPN/100ml)                    | 3300   | 2300   | 4900   | 3300   | 2700   | 2600   | 4900   | 4600   | 4900   | 3300   | 68     | 2300   | 5000 or less MPN/100 ml                                                                   |
| 9                   | Fecal Coliform(MPN/100ml)                    | 1700   | 1300   | 1700   | 2300   | 1700   | 1700   | 2200   | 3300   | 2300   | 1300   | 45     | 1300   |                                                                                           |
| 10                  | Fecal Streptococci MPN/100ml                 | -      | -      | -      | 10.2   | 71     | 41     | 16     | 95     | 94     | 111    | 39     | 24     |                                                                                           |
| 11                  | Turbidity(NTU)                               | 35.2   | 75.4   | 128    | 2.6    | 1.85   | 2.46   | 2.44   | 1.96   | 2.05   | 4.62   | 5.08   | 5.39   |                                                                                           |
| 12                  | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                  | Total Alkalinity(mg/l)                       | 36.0   | 28.0   | 38.0   | 30.0   | 30.0   | 34.0   | 38.0   | 34.0   | 44.0   | 34.0   | 42.0   | 40.0   |                                                                                           |
| 14                  | Chloride mg/l                                | 23.0   | 35.5   | 27.0   | 10.0   | 9.0    | 9.0    | 9.0    | 8.0    | 10.0   | 4.0    | 12.0   | 12.0   |                                                                                           |
| 15                  | COD(mg/l)                                    | 6.0    | 12.0   | 8.0    | 6.0    | 10.0   | 8.0    | 10.0   | 10.0   | 10.0   | 10.0   | 12.0   | 6.0    |                                                                                           |
| 16                  | Total Kjeldhal Nitrogen(mg/l)                | 3.42   | -      | -      | -      | -      | -      | 6.72   | -      | -      | -      | 56.0   | 42.0   |                                                                                           |
| 17                  | Ammonia mg/l                                 | 0.2563 | 2.05   | 1.97   | 0.05   | 0.12   | 0.17   | 0.21   | 0.03   | 0.06   | 0.14   | 0.05   | 0.09   |                                                                                           |
| 18                  | Hardness(mg/l)                               | 40.0   | 30.0   | 30.0   | 36.0   | 32.0   | 18.0   | 46.0   | 50.0   | 26.0   | 28.0   | 48.0   | 30.0   |                                                                                           |
| 19                  | Calcium(mg/l)                                | 6.0    | 8.0    | 8.0    | 3.0    | 3.0    | 6.0    | 6.0    | 5.0    | 8.0    | 6.41   | 9.0    | 6.40   |                                                                                           |
| 20                  | Magnesium(mg/l)                              | 6.0    | 5.3    | 7.0    | 7.0    | 6.0    | BDL    | 8.0    | 9.0    | BDL    | 2.9    | 6.0    | 3.4    |                                                                                           |
| 21                  | Sulphate(mg/l)                               | 17.0   | 8.56   | 121.00 | 8.00   | 5.00   | 3.00   | 2.00   | 3.00   | 5.00   | 8.41   | 4.0    | BDL    |                                                                                           |
| 22                  | Sodium mg/l                                  | 11.0   | -      | -      | -      | -      | -      | 7.7    | -      | -      | -      | -      | -      |                                                                                           |
| 23                  | Total Dissolved Solids(mg/l)                 | 94.0   | 138.0  | 169.0  | 18.0   | 48.0   | 55.0   | 49.0   | 60.0   | 58.0   | 113.0  | 106.0  | 74.0   |                                                                                           |
| 24                  | Total Fixed Solids(mg/l)                     | 33.0   | 72.0   | 89.0   | 9.0    | 16.0   | 19.0   | 19.0   | 28.0   | 23.0   | 105.0  | 51.0   | 59.0   |                                                                                           |
| 25                  | Total Suspended Solid(mg/l)                  | 55.0   | 41.0   | 89.0   | 36.0   | 19.0   | 16.0   | 15.0   | 15.0   | 19.0   | 23.0   | 35.0   | 10.0   |                                                                                           |
| 26                  | Phosphate(mg/l)                              | 0.11   | 0.19   | 0.25   | 0.04   | 0.14   | 0.02   | 0.04   | 0.08   | 0.07   | 0.06   | 0.06   | 0.02   |                                                                                           |
| 27                  | Boron(mg/l)                                  | 0.72   | -      | -      | -      | -      | -      | 0.50   | -      | -      | -      | -      | -      |                                                                                           |
| 28                  | Potassium(mg/l)                              | 0.8    | -      | -      | -      | -      | -      | 1.3    | -      | -      | -      | -      | -      |                                                                                           |
| 29                  | Fluoride(mg/l)                               | 0.72   | 1.38   | 0.67   | 0.34   | BDL    | 0.25   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 30                  | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                  | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32                  | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 33                  | Lead(mg/l)                                   | 0.042  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34                  | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                  | Nickel(mg/l)                                 | 0.261  | -      | -      | -      | -      | -      | 0.082  | -      | -      | -      | -      | -      |                                                                                           |
| 36                  | Zinc(mg/l)                                   | 0.115  | -      | -      | -      | -      | -      | 0.018  | -      | -      | -      | -      | -      |                                                                                           |
| 37                  | Iron Total(mg/l)                             | 0.563  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 38                  | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                  | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                  | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                  | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                  | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                  | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                  | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                  | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                  | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                  | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                  | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                  | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                  | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                  | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| SAIPEM LAKE, NAVELEM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|--------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                         | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                              | Temperature°C                                |        |        | 28     | 29     | 28     | 29     | 28     | 30     |        | 30     | 30     | 29     |                                                                                           |
| 2                              | Dissolved Oxygen mg/l                        |        |        | 4.1    | 4.2    | 5.8    | 5.7    | 5.2    | 4.9    |        | 4.0    | 4.9    | 3.0    | 4 mg/l or more                                                                            |
| 3                              | pH                                           |        |        | 7.0    | 7.0    | 7.34   | 7.11   | 7.21   | 7.23   |        | 7.80   | 7.38   | 6.55   | 6-9                                                                                       |
| 4                              | Conductivity(µs/cm)                          |        |        | 358.26 | 300.76 | 176.76 | 278.2  | 291.1  | 299.0  |        | 280.9  | 463.63 | 210.0  |                                                                                           |
| 5                              | BOD(mg/l) mg/l                               |        |        | 5.0    | BDL    | 2.7    | BDL    | 2.5    | BDL    |        | 6.0    | 2.5    | 4.6    | 3 mg/l or less                                                                            |
| 6                              | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) |        |        | 1.05   | 0.98   | 1.44   | 0.31   | 1.43   | 2.35   |        | 0.99   | 0.15   | 0.36   |                                                                                           |
| 7                              | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  |        |        | 0.86   | 0.18   | 0.06   | 0.32   | 0.34   | 0.24   |        | BDL    | 0.06   | 0.756  |                                                                                           |
| 8                              | Total Coliform(MPN/100ml)                    |        |        | 7900   | 11000  | 8400   | 8400   | 4900   | 7000   |        | 7900   | 1400   | 2700   | 5000 or less MPN/100 ml                                                                   |
| 9                              | Fecal Coliform(MPN/100ml)                    |        |        | 3300   | 7000   | 4600   | 4300   | 3300   | 4900   |        | 4900   | 230    | 1700   |                                                                                           |
| 10                             | Fecal Streptococci MPN/100ml                 |        |        | -      | >1601  | 241    | 351    | 281    | 171    |        | 211    | 80     | 85     |                                                                                           |
| 11                             | Turbidity(NTU)                               |        |        | 54.40  | 14.37  | 8.15   | 13.92  | 14.02  | 29.70  |        | 7.46   | 9.64   | 30.5   |                                                                                           |
| 12                             | Phenolphthalein Alkalinity(mg/l)             |        |        | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |        | BDL    | BDL    | BDL    |                                                                                           |
| 13                             | Total Alkalinity(mg/l)                       |        |        | 40.0   | 40.0   | 46.0   | 76.0   | 96.0   | 100.0  |        | 72.0   | 158    | 116.0  |                                                                                           |
| 14                             | Chloride mg/l                                |        |        | 110    | 26.0   | 18.5   | 50     | 27.0   | 29.0   |        | 56.8   | 77.4   | 26.0   |                                                                                           |
| 15                             | COD(mg/l)                                    |        |        | 20.0   | 4.0    | 8.0    | 8.0    | 10.0   | 12.0   |        | 20.0   | 8.0    | 14.0   |                                                                                           |
| 16                             | Ammonia mg/l                                 |        |        | 0.63   | 0.38   | -      | -      | 10.08  | -      |        | -      | 42.0   | 14.01  |                                                                                           |
| 17                             | Total Kjeldhal Nitrogen(mg/l)                |        |        | -      | -      | 0.23   | 0.17   | 0.26   | 0.27   |        | BDL    | BDL    | BDL    |                                                                                           |
| 18                             | Hardness(mg/l)                               |        |        | 98.0   | 74.0   | 66.0   | 88.0   | 66.0   | 68.0   |        | 98.0   | 108    | 112.0  |                                                                                           |
| 19                             | Calcium(mg/l)                                |        |        | 19.24  | 21.64  | 23.25  | 22.44  | 5.61   | 6.41   |        | 36.1   | 41.7   | 39.0   |                                                                                           |
| 20                             | Magnesium(mg/l)                              |        |        | 12.2   | BDL    | BDL    | 7.8    | 12.6   | 12.6   |        | BDL    | BDL    | 4.0    |                                                                                           |
| 21                             | Sulphate(mg/l)                               |        |        | 44.0   | 44.4   | 18.32  | 40.7   | 11.70  | 12.37  |        | 10.7   | 14.86  | 13.0   |                                                                                           |
| 22                             | Sodium(mg/l)                                 |        |        | -      | -      | -      | -      | 24.5   | -      |        | -      | -      | -      |                                                                                           |
| 23                             | Total Dissolved Solids(mg/l)                 |        |        | 213.0  | 178.0  | 103.0  | 165.0  | 172.0  | 165.0  |        | 177.0  | 278.0  | 132.0  |                                                                                           |
| 24                             | Total Fixed Solids(mg/l)                     |        |        | 184.0  | 171.0  | 89.0   | 150.0  | 150.0  | 150.0  |        | 124.0  | 141.0  | 70.0   |                                                                                           |
| 25                             | Total Suspended Solid(mg/l)                  |        |        | 30.0   | 41.0   | 34.0   | 42.0   | 45.0   | 52.0   |        | 28.0   | 14.0   | 34.0   |                                                                                           |
| 26                             | Phosphate(mg/l)                              |        |        | 0.41   | 0.26   | 0.17   | 0.22   | 0.14   | 0.16   |        | 0.37   | 0.09   | 0.08   |                                                                                           |
| 27                             | Boron(mg/l)                                  |        |        | -      | -      | -      | -      | 0.76   | -      |        | -      | -      | -      |                                                                                           |
| 28                             | Potassium(mg/l)                              |        |        | -      | -      | -      | -      | 2.8    | -      |        | -      | -      | -      |                                                                                           |
| 29                             | Fluoride(mg/l)                               |        |        | 0.20   | BDL    | 1.00   | 1.07   | 1.0    | 1.0    |        | BDL    | 1.5    | 0.20   |                                                                                           |
| 30                             | Arsenic(mg/l)                                |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 31                             | Cadmium(mg/l)                                |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 32                             | Copper(mg/l)                                 |        |        | -      | -      | -      | -      | 0.012  | -      |        | -      | -      | -      |                                                                                           |
| 33                             | Lead(mg/l)                                   |        |        | -      | -      | -      | -      | 0.037  | -      |        | -      | -      | -      |                                                                                           |
| 34                             | Chromium(mg/l)                               |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 35                             | Nickel(mg/l)                                 |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 36                             | Zinc(mg/l)                                   |        |        | -      | -      | -      | -      | 0.023  | -      |        | -      | -      | -      |                                                                                           |
| 37                             | IronTotal(mg/l)                              |        |        | -      | -      | -      | -      | 0.082  | -      |        | -      | -      | -      |                                                                                           |
| 38                             | Carbaryl (mg/L)                              |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 39                             | DDT-o,p' (mg/L)                              |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 40                             | DDT-p,p' (mg/L)                              |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 41                             | alpha Endosulfan(mg/L)                       |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 42                             | beta Endosulfan(mg/L)                        |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 43                             | Anilofos (mg/L)                              |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 44                             | 2,4-Dichlorophenoxyacetic acid(mg/L)         |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 45                             | Aldrin/Dieldrin (mg/L)                       |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 46                             | Alpha HCH (mg/L)                             |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 47                             | Beta HCH (mg/L)                              |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 48                             | Chlorpyrifos (mg/L)                          |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 49                             | Gamma-HCH (Lindane) (mg/L)                   |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 50                             | Malathion (mg/L)                             |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |
| 51                             | Methyl parathion(mg/L)                       |        |        | -      | -      | -      | -      | BDL    | -      |        | -      | -      | -      |                                                                                           |

| CURTORM LAKE, CURTORM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        | Limit for class C river as per CPCB classification based on designated best use of rivers |  |
|---------------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|--|
| Sr. No                          | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 |                                                                                           |  |
| 1                               | Temperature°C                                | 29     | 30     | 27     | 29     | 26     | 28     | 29     | 28     | 29     | 29     | 29     | 31     |                                                                                           |  |
| 2                               | Dissolved Oxygen mg/l                        | 8.7    | 3.2    | 3.3    | 6.9    | 7.2    | 4.1    | 4.1    | 1.6    | 5.2    | 6.7    | 4.5    | 4.1    | 4 mg/l or more                                                                            |  |
| 3                               | pH                                           | 7.54   | 6.59   | 6.83   | 6.14   | 6.82   | 6.45   | 6.50   | 6.09   | 6.28   | 6.85   | 6.73   | 6.01   | 6-9                                                                                       |  |
| 4                               | Conductivity(µs/cm)                          | 169.0  | 214.62 | 189.90 | 16.71  | 62.27  | 116.63 | 115.31 | 111.85 | 110.66 | 195.14 | 191.27 | 191.52 | 3 mg/l or less                                                                            |  |
| 5                               | BOD(mg/l)                                    | 4.4    | 3.0    | 6.2    | 3.5    | 2.0    | 2.0    | 2.9    | 6.0    | 2.7    | BDL    | 2.9    | BDL    |                                                                                           |  |
| 6                               | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.13   | 1.25   | 1.95   | 1.02   | 0.86   | BDL    | BDL    | BDL    | 0.12   | BDL    | BDL    | BDL    |                                                                                           |  |
| 7                               | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | 0.138  | 0.01   | 0.05   | 0.05   | 0.006  | 0.01   | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |  |
| 8                               | Total Coliform(MPN/100ml)                    | 2300   | 2300   | 3300   | 3200   | 2600   | 2600   | 4600   | 4900   | 4600   | 170    | 490    | 3300   | 5000 or less MPN/100 ml                                                                   |  |
| 9                               | Fecal Coliform(MPN/100ml)                    | 1300   | 1300   | 2300   | 2200   | 1400   | 1100   | 2600   | 3300   | 3300   | 130    | 330    | 2300   |                                                                                           |  |
| 10                              | Fecal Streptococci(MPN/100ml)                | -      | -      | -      | 541    | >1601  | 351    | 431    | >1601  | 131    | 921    | 34     | 1601   |                                                                                           |  |
| 11                              | Turbidity(NTU)                               | 13.78  | 41.0   | 230    | 32.3   | 5.63   | 17.14  | 18.28  | 3.46   | 3.7    | 3.51   | 3.41   | 5.18   |                                                                                           |  |
| 12                              | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |  |
| 13                              | Total Alkalinity(mg/l)                       | 44.0   | 30.0   | 22.0   | 22.0   | 30.0   | 40.0   | 48.0   | 44.0   | 50.0   | 48.0   | 50.0   | 48.0   |                                                                                           |  |
| 14                              | Chloride mg/l                                | 23.0   | 26.1   | 31     | 6.0    | 8.0    | 11     | 12.0   | 10.0   | 12.0   | 7.0    | 15.0   | 34.4   |                                                                                           |  |
| 15                              | COD(mg/l)                                    | 6.0    | 13.0   | 12.0   | 8.0    | 10.0   | 8.0    | 6.16   | 18.0   | 6.0    | 10.0   | 8.0    | 4.0    |                                                                                           |  |
| 16                              | Total Kjeldhal Nitrogen(mg/l)                | 3.81   | -      | -      | -      | -      | -      | -      | -      | -      | -      | 64.0   | 28.0   |                                                                                           |  |
| 17                              | Ammonia mg/l                                 | 0.089  | 2.80   | 1.06   | BDL    | 0.05   | BDL    | 0.08   | BDL    | 0.06   | BDL    | 0.05   | BDL    |                                                                                           |  |
| 18                              | Hardness(mg/l)                               | 46.0   | 30.0   | 32.0   | 16.0   | 24.0   | 14.0   | 46.0   | 52.0   | 36.0   | 40.0   | 56.0   | 36.0   |                                                                                           |  |
| 19                              | Calcium(mg/l)                                | 9.0    | 4.0    | 7.0    | 3.0    | 6.0    | 5.0    | 9.0    | 6.0    | 11.0   | 7.21   | 8.0    | 7.2    |                                                                                           |  |
| 20                              | Magnesium(mg/l)                              | 6.0    | 6.3    | 3.0    | 2.0    | 2.0    | BDL    | 6.0    | 9.0    | BDL    | 5.3    | 9.0    | 4.4    |                                                                                           |  |
| 21                              | Sulphate(mg/l)                               | 14.0   | 17.6   | 44.0   | 11.0   | 7.0    | 6.0    | BDL    | BDL    | 4.0    | 3.46   | 3.0    | BDL    |                                                                                           |  |
| 22                              | Sodium(mg/l)                                 | 16.0   | -      | -      | -      | -      | -      | 10.1   | -      | -      | -      | -      | -      |                                                                                           |  |
| 23                              | Total Dissolved Solids(mg/l)                 | 106.0  | 127.0  | 120.0  | 12.0   | 30.0   | 70.0   | 72.0   | 72.0   | 67.0   | 123.0  | 115.0  | 115.0  |                                                                                           |  |
| 24                              | Total Fixed Solids(mg/l)                     | 77.0   | 64.0   | 54.0   | 5.0    | 13.0   | 29.0   | 40.0   | 28.0   | 28.0   | 116.0  | 48.0   | 75.0   |                                                                                           |  |
| 25                              | Total Suspended Solid (mg/l)                 | 41.0   | 50.0   | 112.0  | 78.0   | 39.0   | 20.0   | 22.0   | 31.0   | 24.0   | 14.0   | 33.0   | 10.0   |                                                                                           |  |
| 26                              | Phosphate(mg/l)                              | 0.07   | 0.32   | 0.13   | 0.44   | 0.06   | 0.05   | 0.06   | 0.08   | 0.07   | 0.03   | 0.06   | 0.03   |                                                                                           |  |
| 27                              | Boron(mg/l)                                  | 0.84   | -      | -      | -      | -      | -      | 0.72   | -      | -      | -      | -      | -      |                                                                                           |  |
| 28                              | Potassium(mg/l)                              | 4.1    | -      | -      | -      | -      | -      | 2.7    | -      | -      | -      | -      | -      |                                                                                           |  |
| 29                              | Fluoride(mg/l)                               | 0.08   | BDL    | 0.65   | 0.29   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |  |
| 30                              | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 31                              | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 32                              | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 33                              | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | 0.094  | -      | -      | -      | -      | -      |                                                                                           |  |
| 34                              | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 35                              | Nickel(mg/l)                                 | 0.242  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 36                              | Zinc(mg/l)                                   | 0.095  | -      | -      | -      | -      | -      | 0.017  | -      | -      | -      | -      | -      |                                                                                           |  |
| 37                              | IronTotal(mg/l)                              | 0.256  | -      | -      | -      | -      | -      | 0.059  | -      | -      | -      | -      | -      |                                                                                           |  |
| 38                              | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 39                              | DDT-1-o,p' (mg/L)                            | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 40                              | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 41                              | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 42                              | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 43                              | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 44                              | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 45                              | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 46                              | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 47                              | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 48                              | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 49                              | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 50                              | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 51                              | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |

| RIVER ZUARI AT MADKAI JETTY 2020-2021 |                                              |         |         |         |        |        |        |         |         |         |         |         |         |                                                                                         |
|---------------------------------------|----------------------------------------------|---------|---------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                     | Temperature°C                                | 30      | 30      | 29      | 29     | 27     | 29     | 27      | 31      | 31      | 30      | 30      | 29      |                                                                                         |
| 2                                     | Dissolved Oxygen(mg/l)                       | 5.8     | 5.0     | 4.0     | 6.2    | 7.5    | 7.0    | 4.8     | 6.1     | 5.5     | 5.0     | 5.0     | 5.3     | 4 mg/l or more                                                                          |
| 3                                     | pH                                           | 7.56    | 7.80    | 6.70    | 6.50   | 6.58   | 6.48   | 7.50    | 7.20    | 6.59    | 6.59    | 7.16    | 6.61    | 6.5 - 8.5                                                                               |
| 4                                     | Conductivity(µs/cm)                          | 60000.0 | 16420.0 | 18960.0 | 244.04 | 83.62  | 740.0  | 44500.0 | 36050.0 | 35140.0 | 35140.0 | 47790.0 | 30850.0 |                                                                                         |
| 5                                     | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL     | 2.5     | 2.8     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.1     | 0.24    | 0.818   | 0.48   | BDL    | 0.25   | 0.17    | 0.16    | 0.28    | 0.10    | 0.17    | 0.28    |                                                                                         |
| 7                                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.012   | 0.059   | 0.097   | 0.0497 | BDL    | 0.010  | BDL     | 0.024   | 0.02    | BDL     | 0.046   | 0.06    |                                                                                         |
| 8                                     | Total Coliform(MPN/100ml)                    | 1700    | 1100    | 1700    | 1400   | 1400   | 1400   | 2200    | 2300    | 2300    | 1700    | 1700    | 1100    |                                                                                         |
| 9                                     | Fecal Coliform(MPN/100ml)                    | 1100    | 790     | 1100    | 1300   | 780    | 680    | 1300    | 1300    | 1300    | 490     | 1700    | 680     | 100 or less MPN/100 ml                                                                  |
| 10                                    | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | >1601  | 44     | >1601  | 541     | 921     | 431     | 541     | 141     | 171     |                                                                                         |
| 11                                    | Turbidity(NTU)                               | 19.3    | 8.19    | 3.06    | 12.78  | 41.7   | 14.07  | 6.21    | 5.49    | 5.37    | 5.37    | 7.28    | 1.55    | 30 NTU                                                                                  |
| 12                                    | Phenolphthalein Alkalinity(mg/l)             | 4.0     | BDL     | BDL     | BDL    | BDL    | BDL    | 2.0     | BDL     | 6.0     | BDL     | BDL     | BDL     |                                                                                         |
| 13                                    | Total Alkalinity(mg/l)                       | 106.0   | 60.0    | 60.0    | 30.0   | 16.0   | 44.0   | 106.0   | 84.0    | 96      | 50.0    | 120     | 76.0    |                                                                                         |
| 14                                    | Chlorides(mg/l)                              | 18834.6 | 5498    | 6920.73 | 64.58  | 15.65  | 391.37 | 15177   | 11049.0 | 16721.2 | 3180    | 17856.1 | 5998.0  |                                                                                         |
| 15                                    | COD(mg/l)                                    | -       | -       | -       | 10.0   | 8.0    | 8.0    | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                                    | Total Kjeldahl Nitrogen(mg/l)                | 11.76   | -       | -       | -      | -      | -      | 14      | -       | -       | -       | 61.6    | 28.0    |                                                                                         |
| 17                                    | Ammonia (mg/l)                               | 0.05    | 0.06    | BDL     | BDL    | BDL    | BDL    | BDL     | 0.16    | BDL     | 0.05    | BDL     | 0.05    |                                                                                         |
| 18                                    | Total Hardness(mg/l)                         | 5600    | 3980.0  | 2500.0  | 40.0   | 24.0   | 800.0  | 2800.0  | 3000.0  | 5000.0  | 6400    | 6800    | 2000.0  |                                                                                         |
| 19                                    | Calcium(mg/l)                                | 1603.2  | 240.5   | 1500.0  | 10     | 12.0   | 600.0  | 320.0   | 481.0   | 962.0   | 112.0   | 1202.4  | 240.5   |                                                                                         |
| 20                                    | Magnesium(mg/l)                              | 388.8   | 821.5   | 243.0   | 7.29   | 2.92   | 48.60  | 486.00  | 437.00  | 632.0   | 87.0    | 1360.22 | 340.2   |                                                                                         |
| 21                                    | Sulphate(mg/l)                               | 2279.6  | 840.5   | 1841.37 | 7.99   | 7.24   | 633.27 | 1439    | 926.0   | 1624.0  | 139.0   | 4796.87 | 171.0   |                                                                                         |
| 22                                    | Sodium(mg/l)                                 | 2900.0  | -       | -       | -      | -      | -      | 9440    | -       | -       | -       | -       | -       |                                                                                         |
| 23                                    | Total Dissolved Solids(mg/l)                 | 34055.0 | 9688.0  | 11376.0 | 146.4  | 52.0   | 469.0  | 31150.0 | 25228.0 | 23432.0 | 21084.0 | 27824.3 | 19688.0 |                                                                                         |
| 24                                    | Total Fixed Solids(mg/l)                     | 24995.0 | 8790.0  | 5316.0  | 111.0  | 35.0   | 219.0  | 18680.0 | 15136.0 | 20219.0 | 11584.0 | 14838.3 | 17691.0 |                                                                                         |
| 25                                    | Total Suspended Solids(mg/l)                 | 59.0    | 81.0    | 57.0    | 19.0   | 21.0   | 45.0   | 71.0    | 55.0    | 10.0    | 51.0    | 19.0    | 85.0    |                                                                                         |
| 26                                    | Phosphate(mg/l)                              | 0.303   | BDL     | 0.116   | 0.108  | 0.080  | 0.12   | 0.03    | 0.08    | 0.08    | 0.05    | 0.081   | 0.05    |                                                                                         |
| 27                                    | Boron(mg/l)                                  | 1.06    | -       | -       | -      | -      | -      | 1.14    | -       | -       | -       | -       | -       |                                                                                         |
| 28                                    | Potassium(mg/l)                              | 310.0   | -       | -       | -      | -      | -      | 27.7    | -       | -       | -       | -       | -       |                                                                                         |
| 29                                    | Flouride(mg/l)                               | 0.42    | 0.45    | 0.914   | BDL    | BDL    | BDL    | 0.85    | 0.92    | 0.51    | 0.25    | BDL     | 0.46    |                                                                                         |
| 30                                    | Arsenic(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                                    | Cadmium(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 32                                    | Copper(mg/l)                                 | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 33                                    | Lead(mg/l)                                   | BDL     | -       | -       | -      | -      | -      | 0.062   | -       | -       | -       | -       | -       |                                                                                         |
| 34                                    | Chromium(mg/l)                               | BDL     | -       | -       | -      | -      | -      | 0.029   | -       | -       | -       | -       | -       |                                                                                         |
| 35                                    | Nickel(mg/l)                                 | 0.299   | -       | -       | -      | -      | -      | 0.129   | -       | -       | -       | -       | -       |                                                                                         |
| 36                                    | Zinc(mg/l)                                   | 0.074   | -       | -       | -      | -      | -      | 0.104   | -       | -       | -       | -       | -       |                                                                                         |
| 37                                    | Iron Total(mg/l)                             | 0.136   | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 38                                    | Carbaryl (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                                    | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                                    | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                                    | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                                    | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                                    | Anilofos (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                                    | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                                    | Alpha HCH (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                                    | Beta HCH (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                                    | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                                    | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                                    | Malathion (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                                    | Methyl parathion(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |



| RIVER ZUARI AT BORIM BRIDGE 2020-2021 |                                              |         |         |         |        |        |        |         |         |         |         |          |         |                                                                                         |
|---------------------------------------|----------------------------------------------|---------|---------|---------|--------|--------|--------|---------|---------|---------|---------|----------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21   | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                     | Temperature°C                                | 30      | 30      | 30      | 28     | 28     | 29     | 28      | 28      | 29      | 29      | 30       | 29      |                                                                                         |
| 2                                     | Dissolved Oxygen(mg/l)                       | 4.8     | 3.8     | 4.5     | 6.3    | 7.0    | 6.5    | 6.1     | 5.5     | 5.7     | 6.7     | 5.0      | 5.4     | 4 mg/l or more                                                                          |
| 3                                     | pH                                           | 6.90    | 7.10    | 6.71    | 6.32   | 6.50   | 6.30   | 6.74    | 6.90    | 6.71    | 6.71    | 6.76     | 6.87    | 6.5 - 8.5                                                                               |
| 4                                     | Conductivity(µs/cm)                          | 27940.0 | 37180.0 | 18590.0 | 295.01 | 196.39 | 735.5  | 11990.0 | 22030.0 | 21910.0 | 21910.0 | 24490.0  | 28650.0 |                                                                                         |
| 5                                     | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL     | BDL     | 2.7     | BDL     | BDL      | BDL     | 3 mg/l or less                                                                          |
| 6                                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.14    | 0.34    | 0.541   | 0.498  | BDL    | 0.31   | 0.171   | 0.14    | BDL     | BDL     | 0.13     | 0.52    |                                                                                         |
| 7                                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.055   | 0.176   | 0.107   | 0.0194 | BDL    | 0.007  | BDL     | BDL     | 0.02    | BDL     | 0.068    | 0.07    |                                                                                         |
| 8                                     | Total Coliform(MPN/100ml)                    | 220     | 490     | 490     | 920    | 680    | 780    | 1700    | 1700    | 2700    | 330     | 230      | 1700    | 100 or less MPN/100 ml                                                                  |
| 9                                     | Fecal Coliform(MPN/100ml)                    | 140     | 130     | 230     | 450    | 400    | 450    | 1100    | 1200    | 1700    | 170     | 130      | 1100    |                                                                                         |
| 10                                    | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | >1601  | >1601  | 24     | 59      | 47      | 41      | 48      | 211      | 39      |                                                                                         |
| 11                                    | Turbidity(NTU)                               | 3.51    | 17.70   | 3.11    | 44.00  | 13.63  | 14.18  | 3.63    | 6.38    | 5.08    | 5.08    | 3.61     | 4.45    | 30 NTU                                                                                  |
| 12                                    | Phenolphthalein Alkalinity(mg/l)             | 4.0     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL     | BDL     | BDL     | BDL     | BDL      | BDL     |                                                                                         |
| 13                                    | Total Alkalinity(mg/l)                       | 102.0   | 110.0   | 60.0    | 26.0   | 28.0   | 38.0   | 42.0    | 62.0    | 76.0    | 86.0    | 70.0     | 76.0    |                                                                                         |
| 14                                    | Chlorides(mg/l)                              | 19587.0 | 12746.0 | 7042.14 | 49.90  | 40.12  | 244.61 | 5014.0  | 6192.0  | 10232.4 | 9882.0  | 10640.32 | 10497.0 |                                                                                         |
| 15                                    | COD(mg/l)                                    | -       | -       | -       | 12.0   | 6.0    | 8.0    | -       | -       | -       | -       | -        | -       |                                                                                         |
| 16                                    | Total Kjeldahl Nitrogen(mg/l)                | 8.74    | -       | -       | -      | -      | BDL    | BDL     | -       | -       | -       | 11.2     | 28.0    |                                                                                         |
| 17                                    | Ammonia (mg/l)                               | 0.07    | BDL     | BDL     | BDL    | BDL    | BDL    | BDL     | 0.18    | BDL     | BDL     | BDL      | 0.05    |                                                                                         |
| 18                                    | Total Hardness(mg/l)                         | 10500.0 | 1200.0  | 3000.0  | 40.0   | 22.0   | 600.0  | 680.0   | 1980.0  | 17000.0 | 2800.0  | 2200.0   | 2400.0  |                                                                                         |
| 19                                    | Calcium(mg/l)                                | 1500.0  | 56.11   | 1000.0  | 16.0   | 10.0   | 400.0  | 20.0    | 320.0   | 4649.0  | 273.0   | 561.1    | 272.5   |                                                                                         |
| 20                                    | Magnesium(mg/l)                              | 2187.0  | 257.6   | 486.0   | 5.83   | 2.92   | 48.60  | 48.60   | 287.0   | 1312.0  | 515.0   | 398.25   | 418.0   |                                                                                         |
| 21                                    | Sulphate(mg/l)                               | 7037.0  | 128.2   | 2618.29 | 18.92  | 11.10  | 558.03 | 81.17   | 323.00  | 1045.40 | 804.00  | 2297.6   | 185.2   |                                                                                         |
| 22                                    | Sodium(mg/l)                                 | 890.0   | -       | -       | -      | -      | -      | 2020.0  | -       | -       | -       | -        | -       |                                                                                         |
| 23                                    | Total Dissolved Solids(mg/l)                 | 17323.0 | 21937.0 | 11154.0 | 177.0  | 122.0  | 452.0  | 7170.0  | 15421.0 | 12998.0 | 13416.0 | 12047.0  | 16855.0 |                                                                                         |
| 24                                    | Total Fixed Solids(mg/l)                     | 11276.0 | 20922.0 | 5018.0  | 122.0  | 92.0   | 212.0  | 3595.0  | 9252.0  | 11000.0 | 7489.0  | 3042.0   | 14848.0 |                                                                                         |
| 25                                    | Total Suspended Solids(mg/l)                 | 43.0    | 65.0    | 55.0    | 24.0   | 35.0   | 41.0   | 27.0    | 45.00   | 12.00   | 44.00   | 12.00    | 60.00   |                                                                                         |
| 26                                    | Phosphate(mg/l)                              | 0.43    | 0.12    | 0.253   | 0.047  | 0.03   | 0.097  | BDL     | 0.04    | 0.07    | 0.05    | 0.407    | 0.04    |                                                                                         |
| 27                                    | Boron(mg/l)                                  | 0.97    | -       | -       | -      | -      | -      | 1.08    | -       | -       | -       | -        | -       |                                                                                         |
| 28                                    | Potassium(mg/l)                              | 20.0    | -       | -       | -      | -      | -      | 54.6    | -       | -       | -       | -        | -       |                                                                                         |
| 29                                    | Fluoride(mg/l)                               | BDL     | 0.73    | 0.764   | BDL    | BDL    | BDL    | BDL     | 0.87    | 0.90    | 0.25    | BDL      | 0.73    |                                                                                         |
| 30                                    | Arsenic(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 31                                    | Cadmium(mg/l)                                | BDL     | -       | -       | -      | -      | -      | 0.011   | -       | -       | -       | -        | -       |                                                                                         |
| 32                                    | Copper(mg/l)                                 | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 33                                    | Lead(mg/l)                                   | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 34                                    | Chromium(mg/l)                               | BDL     | -       | -       | -      | -      | -      | 0.020   | -       | -       | -       | -        | -       |                                                                                         |
| 35                                    | Nickel(mg/l)                                 | 0.245   | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 36                                    | Zinc(mg/l)                                   | 0.076   | -       | -       | -      | -      | -      | 0.034   | -       | -       | -       | -        | -       |                                                                                         |
| 37                                    | IronTotal(mg/l)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 38                                    | Carbaryl (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 39                                    | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 40                                    | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 41                                    | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 42                                    | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 43                                    | Anilofos (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 44                                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 45                                    | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 46                                    | Alpha HCH (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 47                                    | Beta HCH (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 48                                    | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 49                                    | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 50                                    | Malathion (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |
| 51                                    | Methyl parathion(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -        | -       |                                                                                         |

| CARAMBOLIM LAKE 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        | Limit for class C river as per CPCB classification based on designated best use of rivers |  |
|---------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|--|
| Sr. No                    | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 |                                                                                           |  |
| 1                         | Temperature°C                                | 30     | 30     | 28     | 28     | 26     | 28     | 28     | 30     | 28     | 29     | 29     | 30     |                                                                                           |  |
| 2                         | Dissolved Oxygen mg/l                        | 6.5    | 6.4    | 7.0    | 5.5    | 7.0    | 8.0    | 7.0    | 7.0    | 4.8    | 7.8    | 8.3    | 6.5    | 4 mg/l or more                                                                            |  |
| 3                         | pH                                           | 7.60   | 8.10   | 7.78   | 6.69   | 6.93   | 6.86   | 6.37   | 7.38   | 7.96   | 7.92   | 7.78   | 7.88   | 6-9                                                                                       |  |
| 4                         | Conductivity(µs/cm)                          | 238.85 | 395.11 | 220.58 | 34.10  | 104.55 | 120.31 | 131.10 | 155.00 | 224.00 | 234.26 | 220.00 | 232.26 |                                                                                           |  |
| 5                         | BOD(mg/l)                                    | BDL    | 3.6    | 2.5    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.16   | 0.198  | BDL    | BDL    | 3 mg/l or less                                                                            |  |
| 6                         | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | 0.14   | 0.21   | 0.483  | 0.47   | BDL    | 0.021  | 0.008  | 0.008  | 0.006  | BDL    | BDL    |                                                                                           |  |
| 7                         | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | 0.364  | 0.006  | 0.0293 | BDL    | BDL    | 0.021  | 0.008  | 0.008  | 0.006  | BDL    | BDL    |                                                                                           |  |
| 8                         | Total Coliform(MPN/100ml)                    | 790    | 1300   | 2300   | 2300   | 1300   | 1400   | 2700   | 2500   | 2200   | 110    | 680    | 1400   | 5000 or less MPN/100 ml                                                                   |  |
| 9                         | Fecal Coliform(MPN/100ml)                    | 490    | 780    | 1300   | 1300   | 1100   | 1100   | 1700   | 1700   | 1300   | 78     | 450    | 1100   |                                                                                           |  |
| 10                        | Fecal Streptococci(MPN/100ml)                | -      | -      | 541    | 7.8    | 14     | 14     | 26     | 41     | 18     | 64     | 47     | 131    |                                                                                           |  |
| 11                        | Turbidity(NTU)                               | 3.82   | 6.63   | 5.55   | 7.03   | 11.76  | 3.69   | 4.66   | 5.02   | 6.78   | 4.68   | 6.48   | 4.83   |                                                                                           |  |
| 12                        | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |  |
| 13                        | Total Alkalinity(mg/l)                       | 66.0   | 60.0   | 68.0   | 30.0   | 30.0   | 34.0   | 50.0   | 68.0   | 58.0   | 6.0    | 62.0   | 70.0   |                                                                                           |  |
| 14                        | Chloride mg/l                                | 48.92  | 49.0   | 58.50  | 10.76  | 10.76  | 9.78   | 10.76  | 12.00  | 29.50  | 29.00  | 650.0  | 11.25  |                                                                                           |  |
| 15                        | COD(mg/l)                                    | 12     | 10     | 10.0   | 8.0    | 8.0    | 6.0    | 4.0    | 8.0    | 8.0    | 8.0    | 8.0    | 8.0    |                                                                                           |  |
| 16                        | Total Kjeldhal Nitrogen(mg/l)                | 6.1    | -      | -      | -      | -      | -      | 8.4    | -      | -      | -      | 56.0   | 3.92   |                                                                                           |  |
| 17                        | Ammonia mg/l                                 | BDL    | BDL    | 0.274  | 0.06   | 0.14   | BDL    | BDL    | 0.13   | 0.07   | BDL    | 0.19   | BDL    |                                                                                           |  |
| 18                        | Hardness(mg/l)                               | 130.0  | 68.0   | 90     | 30     | 32.0   | 34     | 66.0   | 92.0   | 48.0   | 50     | 58     | 68     |                                                                                           |  |
| 19                        | Calcium(mg/l)                                | 16.8   | 18.0   | 24.0   | 26.0   | 9.6    | 18.0   | 16.0   | 17.6   | 13.6   | 17.0   | 17.64  | 8.30   |                                                                                           |  |
| 20                        | Magnesium(mg/l)                              | 21.4   | 6.0    | 16.0   | BDL    | 5.44   | 5.92   | 12.15  | 11.7   | 3.4    | 2.0    | 3.4    | 14.58  |                                                                                           |  |
| 21                        | Sulphate(mg/l)                               | 5.6    | 4.0    | 461.54 | 6.67   | 6.24   | 6.21   | 31.35  | 2.3    | 3.65   | 12.00  | 8.83   | 2.27   |                                                                                           |  |
| 22                        | Sodium(mg/l)                                 | 255.0  | -      | 132.0  | -      | -      | -      | 10.9   | -      | -      | -      | -      | -      |                                                                                           |  |
| 23                        | Total Dissolved Solids(mg/l)                 | 157.0  | 276.0  | 48.8   | 20.46  | 67.0   | 72.0   | 80.0   | 85.0   | 128.0  | 140.0  | 132.0  | 137.0  |                                                                                           |  |
| 24                        | Total Fixed Solids(mg/l)                     | 110.0  | 110.0  | 18.0   | 10.0   | 31.0   | 42.0   | 36.0   | 79.0   | 122.0  | 60.0   | 124.0  | 50.0   |                                                                                           |  |
| 25                        | Total Suspended Solid (mg/l)                 | 21.0   | 14.0   | 14.0   | 14.0   | 21.0   | 18.0   | 19.0   | 12.0   | 26.0   | 10.0   | 13.0   | 12.0   |                                                                                           |  |
| 26                        | Phosphate(mg/l)                              | 0.05   | 0.10   | 0.09   | 0.05   | 0.09   | 0.02   | 0.065  | 0.33   | 0.03   | BDL    | 0.02   | 0.035  |                                                                                           |  |
| 27                        | Boron(mg/l)                                  | 0.8    | -      | -      | -      | -      | -      | 0.52   | -      | -      | -      | -      | -      |                                                                                           |  |
| 28                        | Potassium(mg/l)                              | 2.2    | -      | -      | -      | -      | -      | 1.5    | -      | -      | -      | -      | -      |                                                                                           |  |
| 29                        | Fluoride(mg/l)                               | 0.68   | BDL    | 0.184  | BDL    | BDL    | BDL    | 0.49   | BDL    | 0.20   | 0.295  | 0.9    | BDL    |                                                                                           |  |
| 30                        | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 31                        | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 32                        | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.158  | -      | -      | -      | -      | -      |                                                                                           |  |
| 33                        | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 34                        | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 35                        | Nickel(mg/l)                                 | 0.247  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 36                        | Zinc(mg/l)                                   | 0.091  | -      | -      | -      | -      | -      | 0.020  | -      | -      | -      | -      | -      |                                                                                           |  |
| 37                        | IronTotal(mg/l)                              | 0.893  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 38                        | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 39                        | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 40                        | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 41                        | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 42                        | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 43                        | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 44                        | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 45                        | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 46                        | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 47                        | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 48                        | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 49                        | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 50                        | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |
| 51                        | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |  |

| ANJUNEM LAKE 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                 | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                      | Temperature°C                                | 30     | 30     | 29     | 28     | 27     | 28     | 29     | 27     | 28     | 28     | 29     | 32     | 4 mg/l or more<br>6-9                                                                     |
| 2                      | Dissolved Oxygen mg/l                        | 7.2    | 3.9    | 5.9    | 6.0    | 6.0    | 7.1    | 5.1    | 5.7    | 5.8    | 7.9    | 6.2    | 7.4    |                                                                                           |
| 3                      | pH                                           | 6.89   | 6.31   | 6.95   | 6.58   | 6.98   | 5.88   | 6.23   | 6.20   | 6.77   | 6.69   | 6.37   | 5.74   |                                                                                           |
| 4                      | Conductivity(µs/cm)                          | 60.49  | 58.91  | 61.75  | 49.08  | 47.79  | 53.20  | 41.38  | 45.67  | 65.61  | 51.64  | 56.97  | 56.29  | 3 mg/l or less                                                                            |
| 5                      | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | 2.0    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 6                      | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    | BDL    | 0.28   | 0.11   | 0.10   | BDL    | 0.12   | BDL    | 0.1    | 0.59   | BDL    |                                                                                           |
| 7                      | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | BDL    | 0.007  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.045  | BDL    | 5000 or less MPN/100 ml                                                                   |
| 8                      | Total Coliform(MPN/100ml)                    | 17     | 13     | 110    | 33     | 79     | 70     | 130    | 240    | 33     | 13     | 2      | 540    |                                                                                           |
| 9                      | Fecal Coliform(MPN/100ml)                    | 7.8    | 7.8    | 33     | 13     | 33     | 23     | 33     | 130    | 23     | 7.8    | Nil    | 240    |                                                                                           |
| 10                     | Fecal Streptococci MPN/100ml                 | -      | -      | -      | 351    | 71     | 23     | 151    | 221    | 64     | 64     | 10.2   | 10.3   |                                                                                           |
| 11                     | Turbidity(NTU)                               | 2.22   | 3.92   | 1.41   | 3.39   | BDL    | 7.88   | 3.35   | 11.24  | 3.45   | 3.83   | 6.37   | 3.18   |                                                                                           |
| 12                     | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                     | Total Alkalinity(mg/l)                       | 24.0   | 18.0   | 22.0   | 18.0   | 22.0   | 24.0   | 22.0   | 22.0   | 22.0   | 22.0   | 14.0   | 26.0   |                                                                                           |
| 14                     | Chloride mg/l                                | 5.38   | 6.4    | 7.5    | 7.0    | 8.1    | 6.5    | 5.5    | 7.0    | 16.2   | 8.8    | 2.5    | 5.0    |                                                                                           |
| 15                     | COD(mg/l) mg/l                               | 8.0    | 4.0    | 4.0    | 8.0    | 4.0    | 6.0    | 6.0    | 6.0    | 10.0   | 4.0    | 8.0    | 8.0    |                                                                                           |
| 16                     | Total Kjeldhal Nitrogen(mg/l)                | 5.48   | -      | -      | -      | -      | -      | 10.08  | -      | -      | -      | 42.0   | 9.8    |                                                                                           |
| 17                     | Ammonia mg/l                                 | 0.11   | 0.11   | BDL    | 0.15   | 0.06   | BDL    | BDL    | BDL    | BDL    | BDL    | 0.07   | BDL    |                                                                                           |
| 18                     | Hardness(mg/l)                               | 12.0   | 18.0   | 32.0   | 8.0    | 14.0   | 8.0    | 20.0   | 18.0   | 8.0    | 22.0   | 6.0    | 14.0   |                                                                                           |
| 19                     | Calcium(mg/l)                                | BDL    | 2.4    | 3.21   | 2.4    | 4.81   | BDL    | 4.01   | 4.01   | BDL    | 3.2    | BDL    | 4.0    |                                                                                           |
| 20                     | Magnesium(mg/l)                              | BDL    | 2.9    | 5.8    | BDL    | BDL    | BDL    | 2.4    | BDL    | BDL    | 3.4    | BDL    | BDL    |                                                                                           |
| 21                     | Sulphate(mg/l)                               | 4.95   | 2.3    | BDL    | 3.6    | BDL    | BDL    | 2.22   | 2.08   | 3.02   | 2.7    | 2.57   | BDL    |                                                                                           |
| 22                     | Sodium(mg/l)                                 | 17.0   | -      | -      | -      | -      | -      | 6.1    | -      | -      | -      | -      | -      |                                                                                           |
| 23                     | Total Dissolved Solids(mg/l)                 | 35.0   | 37.0   | 36.0   | 30.0   | 28.0   | 32.0   | 25.0   | 25.0   | 39.0   | 33.0   | 38.0   | 33.0   |                                                                                           |
| 24                     | Total Fixed Solids(mg/l)                     | 18.0   | 25.0   | 33.0   | 25.0   | 24.0   | 29.0   | 21.0   | 17.0   | 35.0   | 20.0   | 20.0   | 13.0   |                                                                                           |
| 25                     | Total Suspended Solid (mg/l)                 | 25.0   | 11.0   | 12.0   | 5.0    | 5.0    | 7.0    | 9.0    | 10.0   | 11.0   | 12.0   | 10.0   | 10.0   |                                                                                           |
| 26                     | Phosphate(mg/l)                              | 0.035  | BDL    | BDL    | 0.17   | 0.02   | BDL    | BDL    | 0.02   | 0.02   | 0.02   | 0.05   | 0.02   |                                                                                           |
| 27                     | Boron(mg/l)                                  | 0.82   | -      | -      | -      | -      | -      | 0.68   | -      | -      | -      | -      | -      |                                                                                           |
| 28                     | Potassium(mg/l)                              | 0.42   | -      | -      | -      | -      | -      | 0.58   | -      | -      | -      | -      | -      |                                                                                           |
| 29                     | Fluoride(mg/l)                               | BDL    | BDL    | BDL    | BDL    | 0.88   | 0.2    | 0.09   | 0.28   | BDL    | BDL    | 1.33   | BDL    |                                                                                           |
| 30                     | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                     | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 32                     | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 33                     | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 34                     | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                     | Nickel(mg/l)                                 | 0.262  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                     | Zinc(mg/l)                                   | 0.089  | -      | -      | -      | -      | -      | 0.143  | -      | -      | -      | -      | -      |                                                                                           |
| 37                     | IronTotal(mg/l)                              | 0.209  | -      | -      | -      | -      | -      | 0.089  | -      | -      | -      | -      | -      |                                                                                           |
| 38                     | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                     | DDT- <i>o,p'</i> (mg/L)                      | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                     | DDT- <i>p,p'</i> (mg/L)                      | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                     | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                     | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                     | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                     | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                     | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                     | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                     | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                     | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                     | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                     | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                     | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

| BOREWELL/TUBE WELL/OPEN WELL AT SANCOALE INDUSTRIAL ESTATE 2020-2021 |                                              |                                                 |        |                                                                           |
|----------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------|--------|---------------------------------------------------------------------------|
| Sr. No                                                               | Parameters                                   | Apr-20                                          | Oct-20 | Limit for class A as per CPCB classification based on designated best use |
| 1                                                                    | Temperature°C                                | Sample not collected as Borewell was dismantled | 27     |                                                                           |
| 2                                                                    | Dissolved Oxygen(mg/l)                       |                                                 | 4.2    | 6 mg/l or more                                                            |
| 3                                                                    | pH                                           |                                                 | 6.65   | 6.5-8.5                                                                   |
| 4                                                                    | Conductivity (µs/cm)                         |                                                 | 256.11 |                                                                           |
| 5                                                                    | BOD(mg/l)(mg/l)                              |                                                 | BDL    | 2 mg/l or less                                                            |
| 6                                                                    | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) |                                                 | BDL    |                                                                           |
| 7                                                                    | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  |                                                 | BDL    |                                                                           |
| 8                                                                    | Total Coliform(MPN/100ml)                    |                                                 | <1.8   | 50 or less MPN/100ml                                                      |
| 9                                                                    | Fecal Coliform(MPN/100ml)                    |                                                 | NIL    |                                                                           |
| 10                                                                   | Fecal Streptococci MPN/100ml                 |                                                 | 431    |                                                                           |
| 11                                                                   | Turbidity(NTU)                               |                                                 | 1.31   |                                                                           |
| 12                                                                   | Phenolphthalein Alkalinity(mg/l)             |                                                 | BDL    |                                                                           |
| 13                                                                   | Total Alkalinity(mg/l)                       |                                                 | 34.0   |                                                                           |
| 14                                                                   | Chlorides(mg/l)                              |                                                 | 40.0   |                                                                           |
| 15                                                                   | COD(mg/l)                                    |                                                 | 4.0    |                                                                           |
| 16                                                                   | Total Kjeldahl Nitrogen(mg/l)                |                                                 | 6.72   |                                                                           |
| 17                                                                   | Ammonia (mg/l)                               |                                                 | BDL    |                                                                           |
| 18                                                                   | Total Hardness(mg/l)                         |                                                 | 40.0   |                                                                           |
| 19                                                                   | Calcium(mg/l)                                |                                                 | 14.0   |                                                                           |
| 20                                                                   | Magnesium(mg/l)                              |                                                 | BDL    |                                                                           |
| 21                                                                   | Sulphate(mg/l)                               |                                                 | BDL    |                                                                           |
| 22                                                                   | Sodium(mg/l)                                 |                                                 | 22.7   |                                                                           |
| 23                                                                   | Total Dissolved Solids(mg/l)                 |                                                 | 146.0  |                                                                           |
| 24                                                                   | Total Fixed Solids(mg/l)                     |                                                 | 90.0   |                                                                           |
| 25                                                                   | Total Suspended Solids(mg/l)                 |                                                 | 9.0    |                                                                           |
| 26                                                                   | Phosphate(mg/l)                              |                                                 | BDL    |                                                                           |
| 27                                                                   | Boron(mg/l)                                  |                                                 | 0.48   |                                                                           |
| 28                                                                   | Potassium(mg/l)                              |                                                 | 2.9    |                                                                           |
| 29                                                                   | Flouride(mg/l)                               |                                                 | BDL    |                                                                           |
| 30                                                                   | Arsenic(mg/l)                                |                                                 | BDL    |                                                                           |
| 31                                                                   | Cadmium(mg/l)                                |                                                 | BDL    |                                                                           |
| 32                                                                   | Copper(mg/l)                                 |                                                 | 1.251  |                                                                           |
| 33                                                                   | Lead(mg/l)                                   |                                                 | 0.084  |                                                                           |
| 34                                                                   | Chromium(mg/l)                               |                                                 | BDL    |                                                                           |
| 35                                                                   | Nickel(mg/l)                                 |                                                 | BDL    |                                                                           |
| 36                                                                   | Zinc(mg/l)                                   |                                                 | 0.056  |                                                                           |
| 37                                                                   | IronTotal(mg/l)                              |                                                 | 0.108  |                                                                           |
| 38                                                                   | Carbaryl (mg/L)                              |                                                 | BDL    |                                                                           |
| 39                                                                   | DDT-o,p' (mg/L)                              |                                                 | BDL    |                                                                           |
| 40                                                                   | DDT-p,p' (mg/L)                              |                                                 | BDL    |                                                                           |
| 41                                                                   | alpha Endosulfan(mg/L)                       |                                                 | BDL    |                                                                           |
| 42                                                                   | beta Endosulfan(mg/L)                        |                                                 | BDL    |                                                                           |
| 43                                                                   | Anilofos (mg/L)                              |                                                 | BDL    |                                                                           |
| 44                                                                   | 2,4-Dichlorophenoxyacetic acid(mg/L)         |                                                 | BDL    |                                                                           |
| 45                                                                   | Aldrin/Dieldrin (mg/L)                       |                                                 | BDL    |                                                                           |
| 46                                                                   | Alpha HCH (mg/L)                             |                                                 | BDL    |                                                                           |
| 47                                                                   | Beta HCH (mg/L)                              |                                                 | BDL    |                                                                           |
| 48                                                                   | Chlorpyrifos (mg/L)                          |                                                 | BDL    |                                                                           |
| 49                                                                   | Gamma-HCH (Lindane) (mg/L)                   |                                                 | BDL    |                                                                           |
| 50                                                                   | Malathion (mg/L)                             |                                                 | BDL    |                                                                           |
| 51                                                                   | Methyl parathion(mg/L)                       |                                                 | BDL    |                                                                           |

| BOREWELL/TUBE WELL/ OPEN WELL AT VERNA INDUSTRIAL ESTATE 2020-2021 |                                              |        |        |                                                                           |
|--------------------------------------------------------------------|----------------------------------------------|--------|--------|---------------------------------------------------------------------------|
| Sr. No                                                             | Parameters                                   | Apr-20 | Oct-20 | Limit for class A as per CPCB classification based on designated best use |
| 1                                                                  | Temperature°C                                | 29     | 29     |                                                                           |
| 2                                                                  | Dissolved Oxygen(mg/l)                       | 7.0    | 6.8    | 6 mg/l or more                                                            |
| 3                                                                  | pH                                           | 7.41   | 6.22   | 6.5-8.5                                                                   |
| 4                                                                  | Conductivity(μs/cm)                          | 394.99 | 382.96 |                                                                           |
| 5                                                                  | BOD(mg/l)                                    | BDL    | BDL    | 2 mg/l or less                                                            |
| 6                                                                  | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 3.66   | 0.17   |                                                                           |
| 7                                                                  | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    |                                                                           |
| 8                                                                  | Total Coliform(MPN/100ml)                    | <1.8   | <1.8   | 50 or less MPN/100ml                                                      |
| 9                                                                  | Fecal Coliform(MPN/100ml)                    | NIL    | NIL    |                                                                           |
| 10                                                                 | Fecal Streptococci MPN/100ml                 | -      | 131    |                                                                           |
| 11                                                                 | Turbidity(NTU)                               | BDL    | 1.45   |                                                                           |
| 12                                                                 | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    |                                                                           |
| 13                                                                 | Total Alkalinity(mg/l)                       | 56.0   | 20.0   |                                                                           |
| 14                                                                 | Chlorides(mg/l)                              | 49.0   | 48.0   |                                                                           |
| 15                                                                 | COD(mg/l)                                    | 4.0    | BDL    |                                                                           |
| 16                                                                 | Total Kjeldahl Nitrogen(mg/l)                | 5.94   | 7.84   |                                                                           |
| 17                                                                 | Ammonia (mg/l)                               | BDL    | 0.05   |                                                                           |
| 18                                                                 | Total Hardness(mg/l)                         | 86.0   | 90.0   |                                                                           |
| 19                                                                 | Calcium(mg/l)                                | 22.0   | 23.0   |                                                                           |
| 20                                                                 | Magnesium(mg/l)                              | 7.0    | 8.0    |                                                                           |
| 21                                                                 | Sulphate(mg/l)                               | 17.0   | 15.0   |                                                                           |
| 22                                                                 | Sodium(mg/l)                                 | 7.5    | 32.2   |                                                                           |
| 23                                                                 | Total Dissolved Solids(mg/l)                 | 245.0  | 264.0  |                                                                           |
| 24                                                                 | Total Fixed Solids(mg/l)                     | 99.0   | 109.0  |                                                                           |
| 25                                                                 | Total Suspended Solids(mg/l)                 | 13.0   | 10.0   |                                                                           |
| 26                                                                 | Phosphate(mg/l)                              | 0.08   | 0.04   |                                                                           |
| 27                                                                 | Boron(mg/l)                                  | 0.53   | 0.66   |                                                                           |
| 28                                                                 | Potassium(mg/l)                              | 1.3    | 2.7    |                                                                           |
| 29                                                                 | Flouride(mg/l)                               | BDL    | 0.2    |                                                                           |
| 30                                                                 | Arsenic(mg/l)                                | BDL    | BDL    |                                                                           |
| 31                                                                 | Cadmium(mg/l)                                | BDL    | BDL    |                                                                           |
| 32                                                                 | Copper(mg/l)                                 | BDL    | BDL    |                                                                           |
| 33                                                                 | Lead(mg/l)                                   | BDL    | BDL    |                                                                           |
| 34                                                                 | Chromium(mg/l)                               | BDL    | BDL    |                                                                           |
| 35                                                                 | Nickel(mg/l)                                 | 0.269  | BDL    |                                                                           |
| 36                                                                 | Zinc(mg/l)                                   | 0.075  | 0.015  |                                                                           |
| 37                                                                 | IronTotal(mg/l)                              | BDL    | BDL    |                                                                           |
| 38                                                                 | Carbaryl (mg/L)                              | BDL    | BDL    |                                                                           |
| 39                                                                 | DDT-o,p' (mg/L)                              | BDL    | BDL    |                                                                           |
| 40                                                                 | DDT-p,p' (mg/L)                              | BDL    | BDL    |                                                                           |
| 41                                                                 | alpha Endosulfan(mg/L)                       | BDL    | BDL    |                                                                           |
| 42                                                                 | beta Endosulfan(mg/L)                        | BDL    | BDL    |                                                                           |
| 43                                                                 | Anilofos (mg/L)                              | BDL    | BDL    |                                                                           |
| 44                                                                 | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | BDL    |                                                                           |
| 45                                                                 | Aldrin/Dieldrin (mg/L)                       | BDL    | BDL    |                                                                           |
| 46                                                                 | Alpha HCH (mg/L)                             | BDL    | BDL    |                                                                           |
| 47                                                                 | Beta HCH (mg/L)                              | BDL    | BDL    |                                                                           |
| 48                                                                 | Chlorpyrifos (mg/L)                          | BDL    | BDL    |                                                                           |
| 49                                                                 | Gamma-HCH (Lindane) (mg/L)                   | BDL    | BDL    |                                                                           |
| 50                                                                 | Malathion (mg/L)                             | BDL    | BDL    |                                                                           |
| 51                                                                 | Methyl parathion(mg/L)                       | BDL    | BDL    |                                                                           |

| BOREWELL/ TUBE WELL/ OPEN WELL KUNDAIM INDUSTRIAL ESTATE 2020-2021 |                                              |        |        |                                                                           |        |
|--------------------------------------------------------------------|----------------------------------------------|--------|--------|---------------------------------------------------------------------------|--------|
| Sr. No                                                             | Parameters                                   | Apr-20 | Oct-20 | Limit for class A as per CPCB classification based on designated best use |        |
| 1                                                                  | Temperature°C                                | 30     | 28     |                                                                           | 29.00  |
| 2                                                                  | Dissolved Oxygen(mg/l)                       | 7.5    | 2.9    | 6 mg/l or more                                                            | 5.20   |
| 3                                                                  | pH                                           | 7.51   | 5.40   | 6.5-8.5                                                                   | 6.46   |
| 4                                                                  | Conductivity(µs/cm)                          | 107.06 | 114.10 |                                                                           | 110.58 |
| 5                                                                  | BOD(mg/l)                                    | BDL    | BDL    | 2 mg/l or less                                                            | 0.00   |
| 6                                                                  | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    |                                                                           | 0.00   |
| 7                                                                  | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    |                                                                           | 0.00   |
| 8                                                                  | Total Coliform(MPN/100ml)                    | <1.8   | <1.8   | 50 or less MPN/100ml                                                      | 0.00   |
| 9                                                                  | Fecal Coliform(MPN/100ml)                    | NIL    | NIL    |                                                                           |        |
| 10                                                                 | Fecal Streptococci MPN/100ml                 | -      | 141    |                                                                           |        |
| 11                                                                 | Turbidity(NTU)                               | BDL    | 1.90   |                                                                           |        |
| 12                                                                 | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    |                                                                           |        |
| 13                                                                 | Total Alkalinity(mg/l)                       | 44.0   | 28.0   |                                                                           |        |
| 14                                                                 | Chlorides(mg/l)                              | 7.3    | 19.57  |                                                                           |        |
| 15                                                                 | COD(mg/l)                                    | BDL    | BDL    |                                                                           |        |
| 16                                                                 | Total Kjeldahl Nitrogen(mg/l)                | 4.93   | 5.6    |                                                                           |        |
| 17                                                                 | Ammonia (mg/l)                               | BDL    | BDL    |                                                                           |        |
| 18                                                                 | Total Hardness(mg/l)                         | 46.0   | 38.0   |                                                                           |        |
| 19                                                                 | Calcium(mg/l)                                | 12.8   | 4.0    |                                                                           |        |
| 20                                                                 | Magnesium(mg/l)                              | 3.4    | 8.26   |                                                                           |        |
| 21                                                                 | Sulphate(mg/l)                               | BDL    | BDL    |                                                                           |        |
| 22                                                                 | Sodium(mg/l)                                 | 142.0  | 12.7   |                                                                           |        |
| 23                                                                 | Total Dissolved Solids(mg/l)                 | 71.0   | 61.0   |                                                                           |        |
| 24                                                                 | Total Fixed Solids(mg/l)                     | 50.0   | 31.0   |                                                                           |        |
| 25                                                                 | Total Suspended Solids(mg/l)                 | 24.0   | 12.0   |                                                                           |        |
| 26                                                                 | Phosphate(mg/l)                              | 0.20   | 0.026  |                                                                           |        |
| 27                                                                 | Boron(mg/l)                                  | 0.74   | 0.46   |                                                                           |        |
| 28                                                                 | Potassium(mg/l)                              | 4.6    | 3.2    |                                                                           |        |
| 29                                                                 | Flouride(mg/l)                               | BDL    | 0.47   |                                                                           |        |
| 30                                                                 | Arsenic(mg/l)                                | BDL    | BDL    |                                                                           |        |
| 31                                                                 | Cadmium(mg/l)                                | BDL    | 0.016  |                                                                           |        |
| 32                                                                 | Copper(mg/l)                                 | BDL    | 1.282  |                                                                           |        |
| 33                                                                 | Lead(mg/l)                                   | 0.129  | 0.039  |                                                                           |        |
| 34                                                                 | Chromium(mg/l)                               | BDL    | BDL    |                                                                           |        |
| 35                                                                 | Nickel(mg/l)                                 | 0.241  | BDL    |                                                                           |        |
| 36                                                                 | Zinc(mg/l)                                   | 0.09   | 0.079  |                                                                           |        |
| 37                                                                 | IronTotal(mg/l)                              | 0.206  | 0.148  |                                                                           |        |
| 38                                                                 | Carbaryl (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 39                                                                 | DDT-o,p' (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 40                                                                 | DDT-p,p' (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 41                                                                 | alpha Endosulfan(mg/L)                       | BDL    | BDL    |                                                                           |        |
| 42                                                                 | beta Endosulfan(mg/L)                        | BDL    | BDL    |                                                                           |        |
| 43                                                                 | Anilofos (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 44                                                                 | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | BDL    |                                                                           |        |
| 45                                                                 | Aldrin/Dieldrin (mg/L)                       | BDL    | BDL    |                                                                           |        |
| 46                                                                 | Alpha HCH (mg/L)                             | BDL    | BDL    |                                                                           |        |
| 47                                                                 | Beta HCH (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 48                                                                 | Chlorpyrifos (mg/L)                          | BDL    | 0.014  |                                                                           |        |
| 49                                                                 | Gamma-HCH (Lindane) (mg/L)                   | BDL    | BDL    |                                                                           |        |
| 50                                                                 | Malathion (mg/L)                             | BDL    | BDL    |                                                                           |        |
| 51                                                                 | Methyl parathion(mg/L)                       | BDL    | BDL    |                                                                           |        |

| <b>BORE WELL/ TUBE WELL / OPENWELL IN CORLIM INDUSTRIAL ESTATE 2020-2021</b> |                                              |                                                                         |               |                                                                                  |
|------------------------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------|---------------|----------------------------------------------------------------------------------|
| <b>Sr. No</b>                                                                | <b>Parameters</b>                            | <b>Apr-20</b>                                                           | <b>Oct-20</b> | <b>Limit for class A as per CPCB classification based on designated best use</b> |
| 1                                                                            | Temperature°C                                | <b>Sample not collected because of restricted entry due to lockdown</b> | 28            |                                                                                  |
| 2                                                                            | Dissolved Oxygen(mg/l)                       |                                                                         | 6.0           | 6 mg/l or more                                                                   |
| 3                                                                            | pH                                           |                                                                         | 4.70          | 6.5-8.5                                                                          |
| 4                                                                            | Conductivity(µs/cm)                          |                                                                         | 46.13         |                                                                                  |
| 5                                                                            | BOD(mg/l)                                    |                                                                         | BDL           | 2 mg/l or less                                                                   |
| 6                                                                            | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) |                                                                         | BDL           |                                                                                  |
| 7                                                                            | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  |                                                                         | BDL           |                                                                                  |
| 8                                                                            | Total Coliform(MPN/100ml)                    |                                                                         | 7.8           | 50 or less MPN/100ml                                                             |
| 9                                                                            | Fecal Coliform(MPN/100ml)                    |                                                                         | NIL           |                                                                                  |
| 10                                                                           | Fecal Streptococci MPN/100ml                 |                                                                         | 221           |                                                                                  |
| 11                                                                           | Turbidity(NTU)                               |                                                                         | BDL           |                                                                                  |
| 12                                                                           | Phenolphthalein Alkalinity(mg/l)             |                                                                         | BDL           |                                                                                  |
| 13                                                                           | Total Alkalinity(mg/l)                       |                                                                         | 20.0          |                                                                                  |
| 14                                                                           | Chlorides(mg/l)                              |                                                                         | 7.83          |                                                                                  |
| 15                                                                           | COD(mg/l)                                    |                                                                         | 4.0           |                                                                                  |
| 16                                                                           | Total Kjeldahl Nitrogen(mg/l)                |                                                                         | 6.72          |                                                                                  |
| 17                                                                           | Ammonia (mg/l)                               |                                                                         | BDL           |                                                                                  |
| 18                                                                           | Total Hardness(mg/l)                         |                                                                         | 18.0          |                                                                                  |
| 19                                                                           | Calcium(mg/l)                                |                                                                         | 2.4           |                                                                                  |
| 20                                                                           | Magnesium(mg/l)                              |                                                                         | 3.79          |                                                                                  |
| 21                                                                           | Sulphate(mg/l)                               |                                                                         | BDL           |                                                                                  |
| 22                                                                           | Sodium(mg/l)                                 |                                                                         | 9.2           |                                                                                  |
| 23                                                                           | Total Dissolved Solids(mg/l)                 |                                                                         | 25.0          |                                                                                  |
| 24                                                                           | Total Fixed Solids(mg/l)                     |                                                                         | 15.0          |                                                                                  |
| 25                                                                           | Total Suspended Solids(mg/l)                 |                                                                         | 10.0          |                                                                                  |
| 26                                                                           | Phosphate(mg/l)                              |                                                                         | BDL           |                                                                                  |
| 27                                                                           | Boron(mg/l)                                  |                                                                         | 0.36          |                                                                                  |
| 28                                                                           | Potassium(mg/l)                              |                                                                         | 0.55          |                                                                                  |
| 29                                                                           | Flouride(mg/l)                               |                                                                         | BDL           |                                                                                  |
| 30                                                                           | Arsenic(mg/l)                                |                                                                         | BDL           |                                                                                  |
| 31                                                                           | Cadmium(mg/l)                                |                                                                         | BDL           |                                                                                  |
| 32                                                                           | Copper(mg/l)                                 |                                                                         | 0.857         |                                                                                  |
| 33                                                                           | Lead(mg/l)                                   |                                                                         | BDL           |                                                                                  |
| 34                                                                           | Chromium(mg/l)                               |                                                                         | BDL           |                                                                                  |
| 35                                                                           | Nickel(mg/l)                                 |                                                                         | 0.081         |                                                                                  |
| 36                                                                           | Zinc(mg/l)                                   |                                                                         | 0.039         |                                                                                  |
| 37                                                                           | IronTotal(mg/l)                              |                                                                         | BDL           |                                                                                  |
| 38                                                                           | Carbaryl (mg/L)                              |                                                                         | BDL           |                                                                                  |
| 39                                                                           | DDT-o,p' (mg/L)                              |                                                                         | BDL           |                                                                                  |
| 40                                                                           | DDT-p,p' (mg/L)                              |                                                                         | BDL           |                                                                                  |
| 41                                                                           | alpha Endosulfan(mg/L)                       |                                                                         | BDL           |                                                                                  |
| 42                                                                           | beta Endosulfan(mg/L)                        |                                                                         | BDL           |                                                                                  |
| 43                                                                           | Anilofos (mg/L)                              |                                                                         | BDL           |                                                                                  |
| 44                                                                           | 2,4-Dichlorophenoxyacetic acid(mg/L)         |                                                                         | BDL           |                                                                                  |
| 45                                                                           | Aldrin/Dieldrin (mg/L)                       |                                                                         | BDL           |                                                                                  |
| 46                                                                           | Alpha HCH (mg/L)                             |                                                                         | BDL           |                                                                                  |
| 47                                                                           | Beta HCH (mg/L)                              |                                                                         | BDL           |                                                                                  |
| 48                                                                           | Chlorpyrifos (mg/L)                          |                                                                         | BDL           |                                                                                  |
| 49                                                                           | Gamma-HCH (Lindane) (mg/L)                   |                                                                         | BDL           |                                                                                  |
| 50                                                                           | Malathion (mg/L)                             |                                                                         | BDL           |                                                                                  |
| 51                                                                           | Methyl parathion(mg/L)                       |                                                                         | BDL           |                                                                                  |

| <b>BOREWELL/TUBE WELL/OPEN WELL IN PILERNE INDUSTRIAL ESTATE 2020-2021</b> |                                              |               |               |                                                                                  |               |
|----------------------------------------------------------------------------|----------------------------------------------|---------------|---------------|----------------------------------------------------------------------------------|---------------|
| <b>Sr. No</b>                                                              | <b>Parameters</b>                            | <b>Apr-20</b> | <b>Oct-20</b> | <b>Limit for class A as per CPCB classification based on designated best use</b> |               |
| 1                                                                          | Temperature°C                                | 29            | 29            |                                                                                  | <b>29.00</b>  |
| 2                                                                          | Dissolved Oxygen(mg/l)                       | 7.0           | 7.5           | 6 mg/l or more                                                                   | <b>7.25</b>   |
| 3                                                                          | pH                                           | 6.45          | 7.20          | 6.5-8.5                                                                          | <b>6.83</b>   |
| 4                                                                          | Conductivity(μs/cm)                          | 131.0         | 250.4         |                                                                                  | <b>190.70</b> |
| 5                                                                          | BOD(mg/l)                                    | BDL           | BDL           | 2 mg/l or less                                                                   | <b>0.00</b>   |
| 6                                                                          | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.7           | 0.09          |                                                                                  | <b>0.40</b>   |
| 7                                                                          | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL           | BDL           |                                                                                  | <b>0.00</b>   |
| 8                                                                          | Total Coliform(MPN/100ml)                    | <1.8          | <1.8          | 50 or less MPN/100ml                                                             | <b>0.00</b>   |
| 9                                                                          | Fecal Coliform(MPN/100ml)                    | NIL           | NIL           |                                                                                  |               |
| 10                                                                         | Fecal Streptococci(MPN/100ml)                | -             | 241           |                                                                                  |               |
| 11                                                                         | Turbidity(NTU)                               | BDL           | 3.26          |                                                                                  |               |
| 12                                                                         | Phenolphthalein Alkalinity(mg/l)             | BDL           | BDL           |                                                                                  |               |
| 13                                                                         | Total Alkalinity(mg/l)                       | 20.0          | 4.0           |                                                                                  |               |
| 14                                                                         | Chlorides(mg/l)                              | 24.5          | 100.0         |                                                                                  |               |
| 15                                                                         | COD(mg/l)                                    | 6.0           | 6.8           |                                                                                  |               |
| 16                                                                         | Total Kjeldahl Nitrogen(mg/l)                | 3.98          | 7.28          |                                                                                  |               |
| 17                                                                         | Ammonia (mg/l)                               | BDL           | BDL           |                                                                                  |               |
| 18                                                                         | Total Hardness(mg/l)                         | 18.0          | 82.0          |                                                                                  |               |
| 19                                                                         | Calcium(mg/l)                                | 4.01          | 22.0          |                                                                                  |               |
| 20                                                                         | Magnesium(mg/l)                              | BDL           | 7.0           |                                                                                  |               |
| 21                                                                         | Sulphate(mg/l)                               | 6.41          | 8.0           |                                                                                  |               |
| 22                                                                         | Sodium(mg/l)                                 | 9.6           | 16.4          |                                                                                  |               |
| 23                                                                         | Total Dissolved Solids(mg/l)                 | 77.0          | 172.0         |                                                                                  |               |
| 24                                                                         | Total Fixed Solids(mg/l)                     | 65.0          | 103.0         |                                                                                  |               |
| 25                                                                         | Total Suspended Solids(mg/l)                 | 6.0           | 12.0          |                                                                                  |               |
| 26                                                                         | Phosphate(mg/l)                              | 0.048         | 0.04          |                                                                                  |               |
| 27                                                                         | Boron(mg/l)                                  | 0.54          | 0.42          |                                                                                  |               |
| 28                                                                         | Potassium(mg/l)                              | 3.2           | 3.1           |                                                                                  |               |
| 29                                                                         | Flouride(mg/l)                               | 0.92          | 0.46          |                                                                                  |               |
| 30                                                                         | Arsenic(mg/l)                                | BDL           | BDL           |                                                                                  |               |
| 31                                                                         | Cadmium(mg/l)                                | BDL           | 0.017         |                                                                                  |               |
| 32                                                                         | Copper(mg/l)                                 | BDL           | 0.270         |                                                                                  |               |
| 33                                                                         | Lead(mg/l)                                   | 0.083         | BDL           |                                                                                  |               |
| 34                                                                         | Chromium(mg/l)                               | BDL           | BDL           |                                                                                  |               |
| 35                                                                         | Nickel(mg/l)                                 | 0.173         | BDL           |                                                                                  |               |
| 36                                                                         | Zinc(mg/l)                                   | 0.071         | 0.058         |                                                                                  |               |
| 37                                                                         | IronTotal(mg/l)                              | 0.171         | 0.070         |                                                                                  |               |
| 38                                                                         | Carbaryl (mg/L)                              | BDL           | BDL           |                                                                                  |               |
| 39                                                                         | DDT-o,p' (mg/L)                              | BDL           | BDL           |                                                                                  |               |
| 40                                                                         | DDT-p,p' (mg/L)                              | BDL           | BDL           |                                                                                  |               |
| 41                                                                         | alpha Endosulfan(mg/L)                       | BDL           | BDL           |                                                                                  |               |
| 42                                                                         | beta Endosulfan(mg/L)                        | BDL           | BDL           |                                                                                  |               |
| 43                                                                         | Anilofos (mg/L)                              | BDL           | BDL           |                                                                                  |               |
| 44                                                                         | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL           | BDL           |                                                                                  |               |
| 45                                                                         | Aldrin/Dieldrin (mg/L)                       | BDL           | BDL           |                                                                                  |               |
| 46                                                                         | Alpha HCH (mg/L)                             | BDL           | BDL           |                                                                                  |               |
| 47                                                                         | Beta HCH (mg/L)                              | BDL           | BDL           |                                                                                  |               |
| 48                                                                         | Chlorpyrifos (mg/L)                          | BDL           | BDL           |                                                                                  |               |
| 49                                                                         | Gamma-HCH (Lindane) (mg/L)                   | BDL           | BDL           |                                                                                  |               |
| 50                                                                         | Malathion (mg/L)                             | BDL           | BDL           |                                                                                  |               |
| 51                                                                         | Methyl parathion(mg/L)                       | BDL           | BDL           |                                                                                  |               |



| BORE WELL/TUBE WELL/ OPEN WELL IN CUNCOLIM INDUSTRIAL ESTATE 2020-2021 |                                              |        |        |                                                                           |         |
|------------------------------------------------------------------------|----------------------------------------------|--------|--------|---------------------------------------------------------------------------|---------|
| Sr. No                                                                 | Parameters                                   | Apr-20 | Oct-20 | Limit for class A as per CPCB classification based on designated best use |         |
| 1                                                                      | Temperature°C                                | 30     | 27     |                                                                           | 28.50   |
| 2                                                                      | Dissolved Oxygen(mg/l)                       | 4.3    | 2.0    | 6 mg/l or more                                                            | 3.15    |
| 3                                                                      | pH                                           | 7.18   | 6.58   | 6.5-8.5                                                                   | 6.88    |
| 4                                                                      | Conductivity(µs/cm)                          | 475.44 | 403.58 |                                                                           | 439.51  |
| 5                                                                      | BOD(mg/l)                                    | 2.2    | BDL    | 2 mg/l or less                                                            | 1.10    |
| 6                                                                      | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    |                                                                           | 0.00    |
| 7                                                                      | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.013  | BDL    |                                                                           | 0.01    |
| 8                                                                      | Total Coliform(MPN/100ml)                    | 9      | 2200   | 50 or less MPN/100ml                                                      | 1104.50 |
| 9                                                                      | Fecal Coliform(MPN/100ml)                    | 2      | 1300   |                                                                           |         |
| 10                                                                     | Fecal Streptococci(MPN/100ml)                | -      | 95     |                                                                           |         |
| 11                                                                     | Turbidity(NTU)                               | 120.0  | 4.28   |                                                                           |         |
| 12                                                                     | Phenolphthalein Alkalinity(mg/l)             | BDL    | 20.0   |                                                                           |         |
| 13                                                                     | Total Alkalinity(mg/l)                       | 158.0  | 140.0  |                                                                           |         |
| 14                                                                     | Chlorides(mg/l)                              | 34.24  | 30.33  |                                                                           |         |
| 15                                                                     | COD(mg/l)                                    | 6.0    | 6.0    |                                                                           |         |
| 16                                                                     | Total Kjeldahl Nitrogen(mg/l)                | 3.42   | 5.04   |                                                                           |         |
| 17                                                                     | Ammonia (mg/l)                               | 0.10   | 0.05   |                                                                           |         |
| 18                                                                     | Total Hardness(mg/l)                         | 172.0  | 138.0  |                                                                           |         |
| 19                                                                     | Calcium(mg/l)                                | 40.9   | 36.1   |                                                                           |         |
| 20                                                                     | Magnesium(mg/l)                              | 17.0   | 24.76  |                                                                           |         |
| 21                                                                     | Sulphate(mg/l)                               | 6.53   | 3.38   |                                                                           |         |
| 22                                                                     | Sodium(mg/l)                                 | 67.0   | 14.0   |                                                                           |         |
| 23                                                                     | Total Dissolved Solids(mg/l)                 | 310.0  | 247.0  |                                                                           |         |
| 24                                                                     | Total Fixed Solids(mg/l)                     | 215.0  | 117.0  |                                                                           |         |
| 25                                                                     | Total Suspended Solids(mg/l)                 | 48.0   | 13.0   |                                                                           |         |
| 26                                                                     | Phosphate(mg/l)                              | 0.67   | 0.043  |                                                                           |         |
| 27                                                                     | Boron(mg/l)                                  | 0.72   | 0.4    |                                                                           |         |
| 28                                                                     | Potassium(mg/l)                              | 3.5    | 2.5    |                                                                           |         |
| 29                                                                     | Flouride(mg/l)                               | BDL    | 0.28   |                                                                           |         |
| 30                                                                     | Arsenic(mg/l)                                | BDL    | BDL    |                                                                           |         |
| 31                                                                     | Cadmium(mg/l)                                | 0.001  | BDL    |                                                                           |         |
| 32                                                                     | Copper(mg/l)                                 | BDL    | BDL    |                                                                           |         |
| 33                                                                     | Lead(mg/l)                                   | BDL    | BDL    |                                                                           |         |
| 34                                                                     | Chromium(mg/l)                               | BDL    | BDL    |                                                                           |         |
| 35                                                                     | Nickel(mg/l)                                 | 0.298  | BDL    |                                                                           |         |
| 36                                                                     | Zinc(mg/l)                                   | 0.059  | 0.016  |                                                                           |         |
| 37                                                                     | IronTotal(mg/l)                              | BDL    | BDL    |                                                                           |         |
| 38                                                                     | Carbaryl (mg/L)                              | BDL    | BDL    |                                                                           |         |
| 39                                                                     | DDT-o,p' (mg/L)                              | BDL    | BDL    |                                                                           |         |
| 40                                                                     | DDT-p,p' (mg/L)                              | BDL    | BDL    |                                                                           |         |
| 41                                                                     | alpha Endosulfan(mg/L)                       | BDL    | BDL    |                                                                           |         |
| 42                                                                     | beta Endosulfan(mg/L)                        | BDL    | BDL    |                                                                           |         |
| 43                                                                     | Anilofos (mg/L)                              | BDL    | BDL    |                                                                           |         |
| 44                                                                     | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | BDL    |                                                                           |         |
| 45                                                                     | Aldrin/Dieldrin (mg/L)                       | BDL    | BDL    |                                                                           |         |
| 46                                                                     | Alpha HCH (mg/L)                             | BDL    | BDL    |                                                                           |         |
| 47                                                                     | Beta HCH (mg/L)                              | BDL    | BDL    |                                                                           |         |
| 48                                                                     | Chlorpyrifos (mg/L)                          | BDL    | BDL    |                                                                           |         |
| 49                                                                     | Gamma-HCH (Lindane) (mg/L)                   | BDL    | BDL    |                                                                           |         |
| 50                                                                     | Malathion (mg/L)                             | BDL    | BDL    |                                                                           |         |
| 51                                                                     | Methyl parathion(mg/L)                       | BDL    | BDL    |                                                                           |         |

| BOREWELL/TUBE WELL/OPEN WELL IN BETHORA INDUSTRIAL ESTATE 2020-2021 |                                              |        |        |                                                                           |        |
|---------------------------------------------------------------------|----------------------------------------------|--------|--------|---------------------------------------------------------------------------|--------|
| Sr. No                                                              | Parameters                                   | Apr-20 | Oct-20 | Limit for class A as per CPCB classification based on designated best use |        |
| 1                                                                   | Temperature°C                                | 29     | 27     |                                                                           | 28.00  |
| 2                                                                   | Dissolved Oxygen(mg/l)                       | 5.7    | 5.5    | 6 mg/l or more                                                            | 5.60   |
| 3                                                                   | pH                                           | 6.26   | 6.30   | 6.5-8.5                                                                   | 6.28   |
| 4                                                                   | Conductivity(µs/cm)                          | 140.89 | 110.67 |                                                                           | 125.78 |
| 5                                                                   | BOD(mg/l)                                    | BDL    | BDL    | 2 mg/l or less                                                            | 0.00   |
| 6                                                                   | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.48   | 1.72   |                                                                           | 1.10   |
| 7                                                                   | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    |                                                                           | 0.00   |
| 8                                                                   | Total Coliform(MPN/100ml)                    | <1.8   | <1.8   | 50 or less MPN/100ml                                                      | 0.00   |
| 9                                                                   | Fecal Coliform(MPN/100ml)                    | NIL    | NIL    |                                                                           |        |
| 10                                                                  | Fecal Streptococci(MPN/100ml)                | -      | 351    |                                                                           |        |
| 11                                                                  | Turbidity(NTU)                               | 1.28   | BDL    |                                                                           |        |
| 12                                                                  | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    |                                                                           |        |
| 13                                                                  | Total Alkalinity(mg/l)                       | 28.0   | 18.0   |                                                                           |        |
| 14                                                                  | Chlorides(mg/l)                              | 17.12  | 20.0   |                                                                           |        |
| 15                                                                  | COD(mg/l)                                    | 8.0    | BDL    |                                                                           |        |
| 16                                                                  | Total Kjeldahl Nitrogen(mg/l)                | 7.5    | 4.48   |                                                                           |        |
| 17                                                                  | Ammonia (mg/l)                               | BDL    | BDL    |                                                                           |        |
| 18                                                                  | Total Hardness(mg/l)                         | 40.0   | 38.0   |                                                                           |        |
| 19                                                                  | Calcium(mg/l)                                | 9.6    | 3.0    |                                                                           |        |
| 20                                                                  | Magnesium(mg/l)                              | 3.89   | 7.0    |                                                                           |        |
| 21                                                                  | Sulphate(mg/l)                               | 6.33   | 0.20   |                                                                           |        |
| 22                                                                  | Sodium(mg/l)                                 | 24     | 16.4   |                                                                           |        |
| 23                                                                  | Total Dissolved Solids(mg/l)                 | 79.0   | 77.0   |                                                                           |        |
| 24                                                                  | Total Fixed Solids(mg/l)                     | 63.0   | 45.0   |                                                                           |        |
| 25                                                                  | Total Suspended Solids(mg/l)                 | 17.0   | 5.0    |                                                                           |        |
| 26                                                                  | Phosphate(mg/l)                              | 0.143  | BDL    |                                                                           |        |
| 27                                                                  | Boron(mg/l)                                  | 0.85   | 0.30   |                                                                           |        |
| 28                                                                  | Potassium(mg/l)                              | 0.26   | 0.94   |                                                                           |        |
| 29                                                                  | Flouride(mg/l)                               | BDL    | 0.24   |                                                                           |        |
| 30                                                                  | Arsenic(mg/l)                                | BDL    | BDL    |                                                                           |        |
| 31                                                                  | Cadmium(mg/l)                                | BDL    | BDL    |                                                                           |        |
| 32                                                                  | Copper(mg/l)                                 | BDL    | 1.53   |                                                                           |        |
| 33                                                                  | Lead(mg/l)                                   | BDL    | BDL    |                                                                           |        |
| 34                                                                  | Chromium(mg/l)                               | BDL    | 0.083  |                                                                           |        |
| 35                                                                  | Nickel(mg/l)                                 | BDL    | BDL    |                                                                           |        |
| 36                                                                  | Zinc(mg/l)                                   | 0.507  | 0.079  |                                                                           |        |
| 37                                                                  | IronTotal(mg/l)                              | BDL    | 0.054  |                                                                           |        |
| 38                                                                  | Carbaryl (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 39                                                                  | DDT-o,p' (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 40                                                                  | DDT-p,p' (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 41                                                                  | alpha Endosulfan(mg/L)                       | BDL    | BDL    |                                                                           |        |
| 42                                                                  | beta Endosulfan(mg/L)                        | BDL    | BDL    |                                                                           |        |
| 43                                                                  | Anilofos (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 44                                                                  | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | BDL    |                                                                           |        |
| 45                                                                  | Aldrin/Dieldrin (mg/L)                       | BDL    | BDL    |                                                                           |        |
| 46                                                                  | Alpha HCH (mg/L)                             | BDL    | BDL    |                                                                           |        |
| 47                                                                  | Beta HCH (mg/L)                              | BDL    | BDL    |                                                                           |        |
| 48                                                                  | Chlorpyrifos (mg/L)                          | BDL    | BDL    |                                                                           |        |
| 49                                                                  | Gamma-HCH (Lindane) (mg/L)                   | BDL    | BDL    |                                                                           |        |
| 50                                                                  | Malathion (mg/L)                             | BDL    | BDL    |                                                                           |        |
| 51                                                                  | Methyl parathion(mg/L)                       | BDL    | BDL    |                                                                           |        |

| <b>BOREWELL/ TUBEWELL/OPENWELL IN MADKAI INDUSTRIAL ESTATE 2020-2021</b> |                                              |               |               |                                                                                  |              |
|--------------------------------------------------------------------------|----------------------------------------------|---------------|---------------|----------------------------------------------------------------------------------|--------------|
| <b>Sr. No</b>                                                            | <b>Parameters</b>                            | <b>Apr-20</b> | <b>Oct-20</b> | <b>Limit for class A as per CPCB classification based on designated best use</b> |              |
| 1                                                                        | Temperature°C                                | 30            | 27            |                                                                                  | <b>28.50</b> |
| 2                                                                        | Dissolved Oxygen(mg/l)                       | 6.4           | 6.9           | 6 mg/l or more                                                                   | <b>6.65</b>  |
| 3                                                                        | pH                                           | 5.77          | 6.10          | 6.5-8.5                                                                          | <b>5.94</b>  |
| 4                                                                        | Conductivity(µs/cm)                          | 80.84         | 85.15         |                                                                                  | <b>83.00</b> |
| 5                                                                        | BOD(mg/l)                                    | BDL           | BDL           | 2 mg/l or less                                                                   | <b>0.00</b>  |
| 6                                                                        | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.81          | 1.06          |                                                                                  | <b>0.94</b>  |
| 7                                                                        | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL           | BDL           |                                                                                  | <b>0.00</b>  |
| 8                                                                        | Fecal Coliform(MPN/100ml)                    | NIL           | <1.8          | 50 or less MPN/100ml                                                             | <b>0.00</b>  |
| 9                                                                        | Total Coliform(MPN/100ml)                    | 2.0           | NIL           |                                                                                  |              |
| 10                                                                       | Fecal Streptococci(MPN/100ml)                | -             | 151           |                                                                                  |              |
| 11                                                                       | Turbidity(NTU)                               | 1.63          | BDL           |                                                                                  |              |
| 12                                                                       | Phenolphthalein Alkalinity(mg/l)             | BDL           | BDL           |                                                                                  |              |
| 13                                                                       | Total Alkalinity(mg/l)                       | 12.0          | 18.0          |                                                                                  |              |
| 14                                                                       | Chlorides(mg/l)                              | 29.35         | 17.0          |                                                                                  |              |
| 15                                                                       | COD(mg/l)                                    | 10.0          | 6.0           |                                                                                  |              |
| 16                                                                       | Total Kjeldahl Nitrogen(mg/l)                | 8.85          | 5.04          |                                                                                  |              |
| 17                                                                       | Ammonia (mg/l)                               | BDL           | BDL           |                                                                                  |              |
| 18                                                                       | Total Hardness(mg/l)                         | 18.0          | 4.0           |                                                                                  |              |
| 19                                                                       | Calcium(mg/l)                                | 3.2           | 3.0           |                                                                                  |              |
| 20                                                                       | Magnesium(mg/l)                              | 2.43          | BDL           |                                                                                  |              |
| 21                                                                       | Sulphate(mg/l)                               | 7.77          | 0.13          |                                                                                  |              |
| 22                                                                       | Sodium(mg/l)                                 | 12.5          | 12.2          |                                                                                  |              |
| 23                                                                       | Total Dissolved Solids(mg/l)                 | 48.0          | 58.0          |                                                                                  |              |
| 24                                                                       | Total Fixed Solids(mg/l)                     | 20.0          | 32.0          |                                                                                  |              |
| 25                                                                       | Total Suspended Solids(mg/l)                 | 16.0          | 3.0           |                                                                                  |              |
| 26                                                                       | Phosphate(mg/l)                              | 0.198         | BDL           |                                                                                  |              |
| 27                                                                       | Boron(mg/l)                                  | 0.64          | 0.32          |                                                                                  |              |
| 28                                                                       | Potassium(mg/l)                              | 0.35          | 0.65          |                                                                                  |              |
| 29                                                                       | Flouride(mg/l)                               | BDL           | 0.46          |                                                                                  |              |
| 30                                                                       | Arsenic(mg/l)                                | BDL           | BDL           |                                                                                  |              |
| 31                                                                       | Cadmium(mg/l)                                | BDL           | BDL           |                                                                                  |              |
| 32                                                                       | Copper(mg/l)                                 | BDL           | 0.013         |                                                                                  |              |
| 33                                                                       | Lead(mg/l)                                   | BDL           | BDL           |                                                                                  |              |
| 34                                                                       | Chromium(mg/l)                               | BDL           | 0.063         |                                                                                  |              |
| 35                                                                       | Nickel(mg/l)                                 | 0.174         | BDL           |                                                                                  |              |
| 36                                                                       | Zinc(mg/l)                                   | 0.056         | 0.011         |                                                                                  |              |
| 37                                                                       | IronTotal(mg/l)                              | BDL           | BDL           |                                                                                  |              |
| 38                                                                       | Carbaryl (mg/L)                              | BDL           | BDL           |                                                                                  |              |
| 39                                                                       | DDT-o,p' (mg/L)                              | BDL           | BDL           |                                                                                  |              |
| 40                                                                       | DDT-p,p' (mg/L)                              | BDL           | BDL           |                                                                                  |              |
| 41                                                                       | alpha Endosulfan(mg/L)                       | BDL           | BDL           |                                                                                  |              |
| 42                                                                       | beta Endosulfan(mg/L)                        | BDL           | BDL           |                                                                                  |              |
| 43                                                                       | Anilofos (mg/L)                              | BDL           | BDL           |                                                                                  |              |
| 44                                                                       | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL           | BDL           |                                                                                  |              |
| 45                                                                       | Aldrin/Dieldrin (mg/L)                       | BDL           | BDL           |                                                                                  |              |
| 46                                                                       | Alpha HCH (mg/L)                             | BDL           | BDL           |                                                                                  |              |
| 47                                                                       | Beta HCH (mg/L)                              | BDL           | BDL           |                                                                                  |              |
| 48                                                                       | Chlorpyrifos (mg/L)                          | BDL           | BDL           |                                                                                  |              |
| 49                                                                       | Gamma-HCH (Lindane) (mg/L)                   | BDL           | BDL           |                                                                                  |              |
| 50                                                                       | Malathion (mg/L)                             | BDL           | BDL           |                                                                                  |              |
| 51                                                                       | Methyl parathion(mg/L)                       | BDL           | BDL           |                                                                                  |              |

| TIRACOL BEACH 2020-2021 |                                              |         |          |         |         |        |         |         |         |         |         |         |         |                                                                                         |
|-------------------------|----------------------------------------------|---------|----------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                  | Parameters                                   | Apr-20  | May-20   | Jun-20  | Jul-20  | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                       | Temperature°C                                | 29      | 32       | 29      | 29      | 26     | 30      | 29      | 29      | 29      | 28      | 28      | 28      |                                                                                         |
| 2                       | Dissolved Oxygen(mg/l)                       | 5.9     | 6.1      | 5.6     | 7.0     | 6.3    | 8.2     | 6.5     | 7.1     | 6.8     | 6.8     | 6.0     | 6.2     | 4 mg/l or more                                                                          |
| 3                       | pH                                           | 7.89    | 7.95     | 7.86    | 7.88    | 6.88   | 6.50    | 7.09    | 7.42    | 7.88    | 7.80    | 7.71    | 7.74    | 6.5 - 8.5                                                                               |
| 4                       | Conductivity(µs/cm)                          | 61850.0 | 62070.0  | 58720.0 | 25790.0 | 207.2  | 59150.0 | 25640.0 | 31060.0 | 45770.0 | 47890.0 | 55640.0 | 57450.0 |                                                                                         |
| 5                       | BOD(mg/l)                                    | BDL     | 2.1      | BDL     | BDL     | BDL    | BDL     | BDL     | 2.0     | BDL     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                       | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.17    | BDL      | 0.21    | 0.19    | 0.1    | 0.1     | 0.10    | 0.10    | BDL     | BDL     | BDL     | BDL     | 0.53                                                                                    |
| 7                       | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.042    | 0.013   | 0.008   | 0.016  | BDL     | BDL     | 0.024   | BDL     | BDL     | BDL     | BDL     | 0.02                                                                                    |
| 8                       | Total Coliform(MPN/100ml)                    | 13      | 23       | 79      | 240     | 460    | 330     | 790     | 1100    | 270     | 270     | 1300    | 790     |                                                                                         |
| 9                       | Fecal Coliform(MPN/100ml)                    | 7.8     | 13       | 23      | 79      | 210    | 170     | 490     | 790     | 220     | 170     | 790     | 490     | 100 or less MPN/100 ml                                                                  |
| 10                      | Fecal Streptococci (MPN/100ml)               | -       | -        | -       | >1601   | >1601  | 211     | >1601   | 921     | 78      | 221     | 211     | 241     |                                                                                         |
| 11                      | Turbidity(NTU)                               | 2.44    | 14.36    | 39.2    | 45.0    | 60.4   | 19.53   | 6.11    | 3.11    | 3.09    | 3.37    | 3.90    | 6.91    | 30 NTU                                                                                  |
| 12                      | Phenolphthalein Alkalinity(mg/l)             | 18.0    | 10.0     | 14.0    | BDL     | BDL    | BDL     | BDL     | BDL     | 6.0     | 10.0    | 8.0     | 10.0    |                                                                                         |
| 13                      | Total Alkalinity(mg/l)                       | 106.0   | 120.0    | 114.0   | 70.0    | 32.0   | 14.0    | 76.0    | 86.0    | 100.0   | 112.0   | 122.0   | 112.0   |                                                                                         |
| 14                      | Chlorides(mg/l)                              | 18940.0 | 19426.60 | 18601.5 | 18847.9 | 36.5   | 1773.90 | 12515.9 | 10840.6 | 15571.1 | 16144.0 | 16744.8 | 17345.1 |                                                                                         |
| 15                      | COD(mg/l)                                    | -       | -        | -       | -       | 7.0    | 9.0     | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                      | Total Kjeldahl Nitrogen(mg/l)                | 12.76   | -        | -       | -       | BDL    | -       | 14.0    | -       | -       | -       | 42.0    | 98.1    |                                                                                         |
| 17                      | Ammonia (mg/l)                               | 0.08    | 0.126    | BDL     | 0.05    | BDL    | 0.22    | BDL     | 0.30    | 0.07    | BDL     | 0.05    | BDL     |                                                                                         |
| 18                      | Total Hardness(mg/l)                         | 7400.0  | 11500.0  | 8800.0  | 9000.0  | 32.0   | 504.0   | 13200.0 | 600.0   | 3200.0  | 5400.0  | 5800.0  | 6000.0  |                                                                                         |
| 19                      | Calcium(mg/l)                                | 481.0   | 5000.0   | 600.0   | 2404.8  | 3.2    | 38.5    | 320.6   | 160.3   | 481.0   | 401.0   | 400.8   | 400.8   |                                                                                         |
| 20                      | Magnesium(mg/l)                              | 1507.0  | 1579.5   | 1992.6  | 729.0   | 5.8    | 99.1    | 3031.2  | 48.6    | 486.0   | 1069.0  | 1166.4  | 607.5   |                                                                                         |
| 21                      | Sulphate(mg/l)                               | 3583.0  | 6132.47  | 5567.8  | 5002.0  | 9.35   | 19.90   | 3286.50 | 650.70  | 2042.20 | 1623.00 | 1649.70 | 79.4    |                                                                                         |
| 22                      | Sodium(mg/l)                                 | 4100.0  | -        | -       | -       | -      | -       | 10050.0 | -       | -       | -       | -       | -       |                                                                                         |
| 23                      | Total Dissolved Solids(mg/l)                 | 43295.0 | 36025.0  | 35232.0 | 15732.0 | 131.0  | 36673.0 | 15640.0 | 19257.0 | 28835.0 | 28734.0 | 33896.0 | 32172.0 |                                                                                         |
| 24                      | Total Fixed Solids(mg/l)                     | 17318.0 | 29404.0  | 20367.0 | 10731.0 | 73.0   | 25167.0 | 10148.0 | 11902.0 | 19031.0 | 11246.0 | 20850.0 | 29652.0 |                                                                                         |
| 25                      | Total Suspended Solids(mg/l)                 | 68.0    | 70.0     | 53.0    | 49.0    | 21.0   | 42.0    | 45.0    | 36.0    | 37.0    | 26.0    | 86.0    | 10.0    |                                                                                         |
| 26                      | Phosphate(mg/l)                              | 0.106   | 0.076    | 1.07    | 0.32    | BDL    | 0.03    | 0.05    | 0.04    | 0.02    | 0.03    | BDL     | 0.03    |                                                                                         |
| 27                      | Boron(mg/l)                                  | 1.2     | -        | -       | -       | -      | -       | 1.32    | -       | -       | -       | -       | -       |                                                                                         |
| 28                      | Potassium(mg/l)                              | 510.0   | -        | -       | -       | -      | -       | 240.0   | -       | -       | -       | -       | -       |                                                                                         |
| 29                      | Flouride(mg/l)                               | BDL     | 0.220    | 0.23    | 0.89    | 0.78   | 0.56    | 0.66    | 0.4     | 0.93    | BDL     | BDL     | 0.80    |                                                                                         |
| 30                      | Arsenic(mg/l)                                | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                      | Cadmium(mg/l)                                | BDL     | -        | -       | -       | -      | -       | 0.047   | -       | -       | -       | -       | -       |                                                                                         |
| 32                      | Copper(mg/l)                                 | BDL     | -        | -       | -       | -      | -       | 0.040   | -       | -       | -       | -       | -       |                                                                                         |
| 33                      | Lead(mg/l)                                   | 0.056   | -        | -       | -       | -      | -       | 0.085   | -       | -       | -       | -       | -       |                                                                                         |
| 34                      | Chromium(mg/l)                               | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                      | Nickel(mg/l)                                 | 0.276   | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 36                      | Zinc(mg/l)                                   | 0.174   | -        | -       | -       | -      | -       | 0.027   | -       | -       | -       | -       | -       |                                                                                         |
| 37                      | IronTotal(mg/l)                              | 0.518   | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 38                      | Carbaryl (mg/L)                              | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                      | DDT-o,p' (mg/L)                              | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                      | DDT-p,p' (mg/L)                              | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                      | alpha Endosulfan(mg/L)                       | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                      | beta Endosulfan(mg/L)                        | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                      | Anilofos (mg/L)                              | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                      | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                      | Aldrin/Dieldrin (mg/L)                       | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                      | Alpha HCH (mg/L)                             | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                      | Beta HCH (mg/L)                              | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                      | Chlorpyrifos (mg/L)                          | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                      | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                      | Malathion (mg/L)                             | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                      | Methyl parathion(mg/L)                       | BDL     | -        | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| MIRAMAR BEACH 2020-2021 |                                              |         |         |         |         |        |         |         |         |         |         |         |         |                                                                                         |
|-------------------------|----------------------------------------------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                  | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20 | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                       | Temperature°C                                | 30      | 31      | 30      | 28      | 26     | 28      | 27      | 29      | 29      | 29      | 29      | 29      |                                                                                         |
| 2                       | Dissolved Oxygen(mg/l)                       | 6.0     | 6.7     | 6.4     | 6.9     | 7.5    | 7.6     | 6.3     | 6.2     | 6.4     | 6.5     | 6.6     | 6.4     | 4 mg/l or more                                                                          |
| 3                       | pH                                           | 8.02    | 7.96    | 7.75    | 7.38    | 6.81   | 7.69    | 7.60    | 7.85    | 7.75    | 7.86    | 7.75    | 7.51    | 6.5 - 8.5                                                                               |
| 4                       | Conductivity(µs/cm)                          | 64350.0 | 60740.0 | 55080.0 | 4323.0  | 5390.0 | 26090.0 | 53460.0 | 55110.0 | 56020.0 | 54470.0 | 55600.0 | 57680.0 |                                                                                         |
| 5                       | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL     | BDL    | BDL     | BDL     | BDL     | 2.0     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                       | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.18    | BDL     | 0.3     | 0.08    | BDL    | 0.10    | 0.10    | 0.10    | BDL     | BDL     | 0.13    | 0.22    |                                                                                         |
| 7                       | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | BDL     | 0.045   | 0.005   | BDL    | 0.026   | 0.02    | BDL     | BDL     | BDL     | BDL     | BDL     |                                                                                         |
| 8                       | Total Coliform(MPN/100ml)                    | 49      | 79      | 130     | 170     | 140    | 220     | 350     | 280     | 79      | 49      | 33      | 170     |                                                                                         |
| 9                       | Fecal Coliform(MPN/100ml)                    | 23      | 33      | 49      | 79      | 70     | 79      | 130     | 110     | 49      | 33      | 23      | 110     | 100 or less MPN/100 ml                                                                  |
| 10                      | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 49      | 24     | 241     | 171     | 121     | 171     | 131     | 351     | 25      |                                                                                         |
| 11                      | Turbidity(NTU)                               | 2.4     | 6.67    | 17.1    | 27.5    | 21.5   | 15.99   | 5.50    | 3.31    | 3.28    | 5.90    | 6.48    | 5.5     | 30 NTU                                                                                  |
| 12                      | Phenolphthalein Alkalinity(mg/l)             | 22.0    | 14.0    | 10.0    | BDL     | BDL    | 12.0    | 8.0     | 4.0     | 8.0     | 12.0    | 10.0    | 14.0    |                                                                                         |
| 13                      | Total Alkalinity(mg/l)                       | 114.0   | 124.0   | 124.0   | 56.0    | 44.0   | 78.0    | 118.0   | 110.0   | 112.0   | 88.0    | 90.0    | 112.0   |                                                                                         |
| 14                      | Chlorides(mg/l)                              | 19710.2 | 18590   | 18223.0 | 15521.8 | 2094.2 | 10840.6 | 19340.0 | 18601.5 | 17862.4 | 17994.0 | 17745.0 | 17494.6 |                                                                                         |
| 15                      | COD(mg/l)                                    | -       | -       | -       | -       | -      | -       | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                      | Total Kjeldahl Nitrogen(mg/l)                | 10.36   | -       | -       | -       | -      | -       | 14.0    | -       | -       | -       | 42.0    | 2.8     |                                                                                         |
| 17                      | Ammonia (mg/l)                               | 0.14    | 0.08    | BDL     | 0.07    | BDL    | 0.41    | 0.08    | 0.37    | 0.19    | BDL     | BDL     | BDL     |                                                                                         |
| 18                      | Total Hardness(mg/l)                         | 19000.0 | 7800.0  | 7500.0  | 9000.0  | 1000.0 | 5600.0  | 3600.0  | 5800.0  | 4500.0  | 3480.0  | 4800.0  | 6600.0  |                                                                                         |
| 19                      | Calcium(mg/l)                                | 6000.0  | 882.0   | 601.2   | 2605.2  | 90.0   | 200.4   | 481.0   | 481.0   | 601.2   | 328.7   | 312.6   | 400.8   |                                                                                         |
| 20                      | Magnesium(mg/l)                              | 3159.0  | 1361.0  | 1458.0  | 607.5   | 221.1  | 1239.3  | 583.2   | 1117.8  | 729.0   | 646.4   | 977.0   | 1360.8  |                                                                                         |
| 21                      | Sulphate(mg/l)                               | 4957.3  | 1621.0  | 3370.2  | 1502.2  | 230.5  | 1067.4  | 4039.7  | 2582.2  | 1715.0  | 1023.0  | 648.23  | 97.80   |                                                                                         |
| 22                      | Sodium(mg/l)                                 | 150.0   | -       | -       | -       | -      | -       | 8630.0  | -       | -       | -       | -       | -       |                                                                                         |
| 23                      | Total Dissolved Solids(mg/l)                 | 39340.0 | 36812.0 | 37758.0 | 2680.0  | 3342.0 | 15914.0 | 33145.0 | 34168.0 | 35293.0 | 34314.0 | 35028.0 | 34684.0 |                                                                                         |
| 24                      | Total Fixed Solids(mg/l)                     | 24376.0 | 20498.0 | 24559.0 | 1469.0  | 1983.0 | 9707.0  | 21538.0 | 22076.0 | 23031.0 | 33106.0 | 34017.0 | 21893.0 |                                                                                         |
| 25                      | Total Suspended Solids(mg/l)                 | 45.0    | 40.0    | 34.0    | 58.0    | 41.0   | 41.0    | 62.0    | 33.0    | 34.0    | 125.0   | 135.0   | 80.0    |                                                                                         |
| 26                      | Phosphate(mg/l)                              | 0.17    | 0.02    | 0.15    | 0.04    | BDL    | 0.14    | 0.08    | 0.07    | 0.06    | 0.05    | 0.06    | 0.06    |                                                                                         |
| 27                      | Boron(mg/l)                                  | 1.64    | -       | -       | -       | -      | -       | 1.78    | -       | -       | -       | -       | -       |                                                                                         |
| 28                      | Potassium(mg/l)                              | 322.0   | -       | -       | -       | -      | -       | 264.0   | -       | -       | -       | -       | -       |                                                                                         |
| 29                      | Flouride(mg/l)                               | BDL     | 0.39    | 0.96    | BDL     | 0.61   | 0.96    | 0.88    | 0.56    | 1.0     | 0.63    | 0.93    | BDL     |                                                                                         |
| 30                      | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                      | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 32                      | Copper(mg/l)                                 | BDL     | -       | -       | -       | -      | -       | 0.884   | -       | -       | -       | -       | -       |                                                                                         |
| 33                      | Lead(mg/l)                                   | BDL     | -       | -       | -       | -      | -       | 0.046   | -       | -       | -       | -       | -       |                                                                                         |
| 34                      | Chromium(mg/l)                               | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                      | Nickel(mg/l)                                 | 0.211   | -       | -       | -       | -      | -       | 0.370   | -       | -       | -       | -       | -       |                                                                                         |
| 36                      | Zinc(mg/l)                                   | 0.146   | -       | -       | -       | -      | -       | 0.143   | -       | -       | -       | -       | -       |                                                                                         |
| 37                      | IronTotal(mg/l)                              | 0.456   | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 38                      | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                      | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                      | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                      | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                      | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                      | Anilofos (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                      | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                      | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                      | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                      | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                      | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                      | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                      | Malathion (mg/L)                             | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                      | Methyl parathion(mg/L)                       | BDL     | -       | -       | -       | -      | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| CALANGUTE BEACH 2020-2021 |                                              |         |         |         |         |         |         |         |         |         |          |         |          |                                                                                         |
|---------------------------|----------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                    | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20  | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21   | Feb-21  | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                         | Temperature°C                                | 29      | 30      | 30      | 29      | 26      | 30      | 30      | 30      | 30      | 29       | 29      | 30       |                                                                                         |
| 2                         | Dissolved Oxygen(mg/l)                       | 6.8     | 5.4     | 6.0     | 7.1     | 6.5     | 6.5     | 6.1     | 6.3     | 6.2     | 6.2      | 6.6     | 7.0      | 4 mg/l or more                                                                          |
| 3                         | pH                                           | 7.69    | 7.93    | 7.90    | 7.80    | 7.30    | 7.80    | 7.60    | 7.80    | 7.93    | 7.87     | 7.63    | 6.54     | 6.5 - 8.5                                                                               |
| 4                         | Conductivity(µs/cm)                          | 60910.0 | 63950.0 | 58360.0 | 34870.0 | 36350.0 | 56970.0 | 53510.0 | 54470.0 | 57380.0 | 53170.0  | 59400.0 | 56720.0  |                                                                                         |
| 5                         | BOD(mg/l)                                    | 2.0     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | 2.2     | BDL      | BDL     | BDL      | 3 mg/l or less                                                                          |
| 6                         | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.27    | 0.34    | 0.63    | 0.26    | 1.34    | 0.58    | 1.02    | 0.95    | BDL     | 0.325    | BDL     | 0.25     |                                                                                         |
| 7                         | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.005   | 0.05    | 0.008   | 0.019   | 0.009   | BDL     | BDL     | 0.006   | BDL     | 0.013    | BDL     | BDL      |                                                                                         |
| 8                         | Total Coliform(MPN/100ml)                    | 49      | 49      | 33      | 140     | 220     | 220     | 280     | 540     | 79      | 240      | 240     | 240      | 100 or less MPN/100 ml                                                                  |
| 9                         | Fecal Coliform(MPN/100ml)                    | 13      | 23      | 17      | 63      | 110     | 110     | 130     | 220     | 23      | 22       | 130     | 130      |                                                                                         |
| 10                        | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 431     | 351     | 241     | 151     | 50      | 41      | 351      | 921     | 85       |                                                                                         |
| 11                        | Turbidity(NTU)                               | 10.44   | 10.40   | 16.84   | 13.54   | 8.65    | 7.22    | 2.93    | 5.73    | 5.49    | 3.69     | 3.40    | 5.76     | 30 NTU                                                                                  |
| 12                        | Phenolphthalein Alkalinity(mg/l)             | 14.0    | 18.0    | 14.0    | 8.0     | BDL     | 10.0    | 10.0    | 12.0    | 12.0    | 10.0     | 14.0    | 12.0     |                                                                                         |
| 13                        | Total Alkalinity(mg/l)                       | 126.0   | 130.0   | 102.0   | 76.0    | 82.0    | 96.0    | 106.0   | 112.0   | 128.0   | 100.0    | 112.0   | 114.0    |                                                                                         |
| 14                        | Chlorides(mg/l)                              | 22243.0 | 19494.0 | 18941.0 | 11110.0 | 13890.0 | 18819.0 | 18577.0 | 17362.0 | 17969.0 | 18834.59 | 18244.0 | 17220.00 |                                                                                         |
| 15                        | COD(mg/l)                                    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -        | -       | -        |                                                                                         |
| 16                        | Total Kjeldahl Nitrogen(mg/l)                | 12.04   | -       | -       | -       | -       | -       | 15.68   | -       | -       | -        | 56.0    | 26.62    |                                                                                         |
| 17                        | Ammonia (mg/l)                               | 0.353   | 0.10    | BDL     | 0.06    | BDL     | 0.21    | 0.06    | 0.06    | 0.09    | 0.12     | 0.09    | BDL      |                                                                                         |
| 18                        | Total Hardness(mg/l)                         | 7800.0  | 8800.0  | 8400.0  | 3800.0  | 2900.0  | 5400.0  | 5800.0  | 5400.0  | 2500.0  | 4400.0   | 4200.0  | 6400.0   |                                                                                         |
| 19                        | Calcium(mg/l)                                | 480.96  | 801.6   | 481.0   | 441.0   | 120     | 561.0   | 481.0   | 761.0   | 400.8   | 1122.2   | 561.1   | 441.0    |                                                                                         |
| 20                        | Magnesium(mg/l)                              | 1603.8  | 1652.4  | 1750.0  | 656.0   | 632     | 972.0   | 1118.0  | 850.0   | 364.5   | 796.51   | 680.4   | 1288.0   |                                                                                         |
| 21                        | Sulphate(mg/l)                               | 1695.2  | 1852.0  | 1426.0  | 916.0   | 1669.0  | 3652.0  | 1737.0  | 2464.0  | 1015.0  | 2346.98  | 1674.1  | 2386.0   |                                                                                         |
| 22                        | Sodium(mg/l)                                 | 2350.0  | -       | -       | -       | -       | -       | 9980.0  | -       | -       | -        | -       | -        |                                                                                         |
| 23                        | Total Dissolved Solids(mg/l)                 | 35934.0 | 37731.0 | 40852.0 | 24409.0 | 25444.0 | 39879.0 | 37457.0 | 38129.0 | 36149.0 | 31871.0  | 35712.0 | 33745.0  |                                                                                         |
| 24                        | Total Fixed Solids(mg/l)                     | 33927.0 | 36436.0 | 24511.0 | 9764.0  | 15266.0 | 23927.0 | 22474.0 | 22877.0 | 29143.0 | 18023.0  | 22589.0 | 16523.0  |                                                                                         |
| 25                        | Total Suspended Solids(mg/l)                 | 93.0    | 146.0   | 88.0    | 53.0    | 72.0    | 86.0    | 73.0    | 95.0    | 11.0    | 51.0     | 73.0    | 28.0     |                                                                                         |
| 26                        | Phosphate(mg/l)                              | 0.192   | 0.15    | 0.04    | 0.15    | 0.1     | 0.245   | BDL     | 0.03    | 0.095   | 0.02     | 0.02    | 0.02     |                                                                                         |
| 27                        | Boron(mg/l)                                  | 1.62    | -       | -       | -       | -       | -       | 1.4     | -       | -       | -        | -       | -        |                                                                                         |
| 28                        | Potassium(mg/l)                              | 340.0   | -       | -       | -       | -       | -       | 242.0   | -       | -       | -        | -       | -        |                                                                                         |
| 29                        | Flouride(mg/l)                               | BDL     | 0.9     | 1.42    | 1.17    | 1.16    | 1.64    | 2.91    | 1.13    | 0.57    | 1.12     | BDL     | BDL      |                                                                                         |
| 30                        | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 31                        | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -       | -       | 0.044   | -       | -       | -        | -       | -        |                                                                                         |
| 32                        | Copper(mg/l)                                 | BDL     | -       | -       | -       | -       | -       | 0.045   | -       | -       | -        | -       | -        |                                                                                         |
| 33                        | Lead(mg/l)                                   | BDL     | -       | -       | -       | -       | -       | 0.084   | -       | -       | -        | -       | -        |                                                                                         |
| 34                        | Chromium(mg/l)                               | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 35                        | Nickel(mg/l)                                 | 0.208   | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 36                        | Zinc(mg/l)                                   | 0.13    | -       | -       | -       | -       | -       | 0.123   | -       | -       | -        | -       | -        |                                                                                         |
| 37                        | IronTotal(mg/l)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 38                        | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 39                        | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 40                        | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 41                        | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 42                        | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 43                        | Anilofos (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 44                        | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 45                        | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 46                        | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 47                        | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 48                        | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 49                        | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 50                        | Malathion (mg/L)                             | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |
| 51                        | Methyl parathion(mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -       | -        |                                                                                         |

| MORJIM BEACH 2020-2021 |                                              |         |          |         |         |         |         |         |         |         |         |         |         |                                                                                         |
|------------------------|----------------------------------------------|---------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                 | Parameters                                   | Apr-20  | May-20   | Jun-20  | Jul-20  | Aug-20  | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                      | Temperature°C                                | 29      | 32       | 28      | 29      | 26      | 30      | 29      | 30      | 29      | 29      | 29      | 28      |                                                                                         |
| 2                      | Dissolved Oxygen(mg/l)                       | 6.1     | 6.5      | 6.2     | 6.5     | 7.4     | 6.3     | 6.4     | 7.1     | 6.2     | 6.5     | 6.5     | 6.4     | 4 mg/l or more                                                                          |
| 3                      | pH                                           | 7.87    | 7.94     | 7.89    | 7.90    | 7.25    | 7.56    | 7.72    | 7.74    | 7.72    | 7.86    | 7.92    | 7.86    | 6.5 - 8.5                                                                               |
| 4                      | Conductivity(µs/cm)                          | 58520.0 | 62650.0  | 57820.0 | 43500.0 | 14840.0 | 55270.0 | 52430.0 | 54370.0 | 64650.0 | 54840.0 | 56570.0 | 55970.0 |                                                                                         |
| 5                      | BOD(mg/l)                                    | BDL     | 2.2      | BDL     | BDL     | BDL     | BDL     | BDL     | 2.0     | BDL     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                      | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.1     | BDL      | 0.24    | 0.21    | 0.16    | 0.1     | 0.10    | 0.10    | BDL     | BDL     | BDL     | 0.51    |                                                                                         |
| 7                      | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.017    | 0.018   | 0.009   | 0.013   | 0.01    | BDL     | 0.036   | BDL     | BDL     | BDL     | BDL     |                                                                                         |
| 8                      | Total Coliform(MPN/100ml)                    | 33      | 49       | 130     | 79      | 220     | 210     | 220     | 240     | 540     | 350     | 920     | 540     |                                                                                         |
| 9                      | Fecal Coliform(MPN/100ml)                    | 13      | 23       | 33      | 33      | 70      | 79      | 110     | 130     | 110     | 140     | 350     | 110     | 100 or less MPN/100 ml                                                                  |
| 10                     | Fecal Streptococci (MPN/100ml)               | -       | -        | -       | 47      | 211     | 22      | 111     | 351     | 14      | 431     | 141     | 47      |                                                                                         |
| 11                     | Turbidity(NTU)                               | 2.04    | 3.56     | 13.18   | 65      | 44.39   | 17.96   | 3.36    | 2.53    | 2.7     | 4.63    | 2.80    | 4.20    | 30 NTU                                                                                  |
| 12                     | Phenolphthalein Alkalinity(mg/l)             | 16.0    | BDL      | 12.0    | BDL     | 4.0     | 6.0     | 18.0    | 14.0    | 12.0    | 20.0    | 14.0    | 14.0    |                                                                                         |
| 13                     | Total Alkalinity(mg/l)                       | 106.0   | 116.0    | 118.0   | 100.0   | 52.0    | 112.0   | 102.0   | 110.0   | 106.0   | 108.0   | 116.0   | 104.0   |                                                                                         |
| 14                     | Chlorides(mg/l)                              | 19184   | 19426.60 | 19094.3 | 19340.6 | 5173.9  | 18231.9 | 18971.1 | 18108.8 | 17985.6 | 17856.0 | 17744.5 | 17719.5 |                                                                                         |
| 15                     | COD(mg/l)                                    | 12.6    | -        | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                     | Total Kjeldahl Nitrogen(mg/l)                | 0.097   | 0.103    | BDL     | 0.11    | 0.05    | 0.31    | 0.09    | 0.12    | 0.06    | BDL     | 0.12    | BDL     |                                                                                         |
| 17                     | Ammonia (mg/l)                               | 5400.0  | 10000.0  | 8800.0  | 20500.0 | 4500.0  | 7500.0  | 20200.0 | 3800.0  | 4500.0  | 5560.0  | 5800.0  | 6000.0  |                                                                                         |
| 18                     | Total Hardness(mg/l)                         | 481.0   | 2500.0   | 1800.0  | 1603.2  | 1000.0  | 801.6   | 1202.4  | 320.6   | 400.8   | 449.0   | 641.3   | 1002.0  |                                                                                         |
| 19                     | Calcium(mg/l)                                | 1021.0  | 1822.5   | 1701.0  | 4009.5  | 850.5   | 1336.5  | 4179.6  | 729.0   | 850.5   | 1079.0  | 1020.6  | 850.0   |                                                                                         |
| 20                     | Magnesium(mg/l)                              | 3364.0  | 7452.98  | 6043.4  | 5338.2  | 713.3   | 2885.1  | 3439.6  | 2120.6  | 2339.6  | 2407.0  | 1955.2  | 354.4   |                                                                                         |
| 21                     | Sulphate(mg/l)                               | 7210.0  | -        | -       | -       | -       | -       | 9040.0  | -       | -       | -       | -       | -       |                                                                                         |
| 22                     | Sodium(mg/l)                                 | 40964.0 | 37280.0  | 34113.0 | 26100.0 | 8904.0  | 35372.0 | 31458.0 | 32078.0 | 39437.0 | 32355.0 | 33994.0 | 36380.0 |                                                                                         |
| 23                     | Total Dissolved Solids(mg/l)                 | 16386.0 | 30916.0  | 22794.0 | 17086.0 | 5061.0  | 24052.0 | 20706.0 | 20462.0 | 25531.0 | 15847.0 | 19266.0 | 32129.0 |                                                                                         |
| 24                     | Total Fixed Solids(mg/l)                     | 83.0    | 96.0     | 49.0    | 54.0    | 47.0    | 50.0    | 52.0    | 47.0    | 38.0    | 40.0    | 57.0    | 9.0     |                                                                                         |
| 25                     | Total Suspended Solids(mg/l)                 | 0.134   | 0.377    | 0.41    | 0.18    | 0.02    | 0.11    | 0.08    | 0.05    | BDL     | 0.03    | BDL     | 0.05    |                                                                                         |
| 26                     | Phosphate(mg/l)                              | 1.62    | -        | -       | -       | -       | -       | 1.54    | -       | -       | -       | -       | -       |                                                                                         |
| 27                     | Boron(mg/l)                                  | -       | -        | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       |                                                                                         |
| 28                     | Potassium(mg/l)                              | 310.0   | -        | -       | -       | -       | -       | 310.0   | -       | -       | -       | -       | -       |                                                                                         |
| 29                     | Fluoride(mg/l)                               | BDL     | 0.277    | 0.77    | BDL     | 1.04    | 1.5     | 0.91    | 0.52    | 1.10    | BDL     | 0.22    | 0.81    |                                                                                         |
| 30                     | Arsenic(mg/l)                                | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                     | Cadmium(mg/l)                                | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 32                     | Copper(mg/l)                                 | BDL     | -        | -       | -       | -       | -       | 0.220   | -       | -       | -       | -       | -       |                                                                                         |
| 33                     | Lead(mg/l)                                   | 0.08    | -        | -       | -       | -       | -       | 0.054   | -       | -       | -       | -       | -       |                                                                                         |
| 34                     | Chromium(mg/l)                               | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                     | Nickel(mg/l)                                 | 0.191   | -        | -       | -       | -       | -       | 0.315   | -       | -       | -       | -       | -       |                                                                                         |
| 36                     | Zinc(mg/l)                                   | 0.172   | -        | -       | -       | -       | -       | 0.107   | -       | -       | -       | -       | -       |                                                                                         |
| 37                     | Iron Total(mg/l)                             | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 38                     | Carbaryl (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                     | DDT-o,p' (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                     | DDT-p,p' (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                     | alpha Endosulfan(mg/L)                       | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                     | beta Endosulfan(mg/L)                        | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                     | Amblofix (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                     | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                     | Aldrin/Dieldrin (mg/L)                       | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                     | Alpha HCH (mg/L)                             | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                     | Beta HCH (mg/L)                              | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                     | Chlorpyrifos (mg/L)                          | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                     | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                     | Malathion (mg/L)                             | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                     | Methyl parathion(mg/L)                       | BDL     | -        | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| MOBOR BEACH 2020-2021 |                                              |         |          |          |         |         |         |          |         |          |          |          |          |                                                                                         |
|-----------------------|----------------------------------------------|---------|----------|----------|---------|---------|---------|----------|---------|----------|----------|----------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                | Parameters                                   | Apr-20  | May-20   | Jun-20   | Jul-20  | Aug-20  | Sep-20  | Oct-20   | Nov-20  | Dec-20   | Jan-21   | Feb-21   | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                     | Temperature°C                                | 30      | 29       | 29       | 29      | 28      | 30      | 29       | 30      | 30       | 31       | 30       | 31       |                                                                                         |
| 2                     | Dissolved Oxygen(mg/l)                       | 6.5     | 6.0      | 6.0      | 6.7     | 4.7     | 6.7     | 6.6      | 5.0     | 6.0      | 5.8      | 7.1      | 6.7      | 4 mg/l or more                                                                          |
| 3                     | pH                                           | 7.96    | 7.93     | 7.87     | 7.70    | 7.89    | 7.67    | 7.53     | 7.78    | 7.80     | 7.78     | 7.81     | 7.70     | 6.5 - 8.5                                                                               |
| 4                     | Conductivity(µs/cm)                          | 63880.0 | 65300.0  | 53030.0  | 42200.0 | 47010.0 | 53250.0 | 52310.0  | 55180.0 | 56710.0  | 54100.0  | 52070.0  | 26000.0  |                                                                                         |
| 5                     | BOD(mg/l)                                    | BDL     | BDL      | BDL      | 2.3     | BDL     | BDL     | BDL      | BDL     | BDL      | BDL      | BDL      | BDL      | 3 mg/l or less                                                                          |
| 6                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.463   | BDL      | 0.27     | 0.34    | 0.42    | BDL     | 0.06     | 0.10    | BDL      | BDL      | BDL      | 0.45     |                                                                                         |
| 7                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.015    | 0.022    | 0.03    | 0.29    | 0.006   | 0.012    | 0.016   | BDL      | BDL      | 0.01     | 0.005    |                                                                                         |
| 8                     | Total Coliform(MPN/100ml)                    | 17      | 23       | 110      | 150     | 170     | 170     | 220      | 280     | 2300     | 540      | 33       | 170      |                                                                                         |
| 9                     | Fecal Coliform(MPN/100ml)                    | 11      | 13       | 33       | 84      | 70      | 79      | 110      | 220     | 1300     | 22       | 23       | 79       | 100 or less MPN/100 ml                                                                  |
| 10                    | Fecal Streptococci (MPN/100ml)               | -       | -        | -        | 131     | 921     | 7.8     | 351      | 431     | 27       | 141      | 171      | 18       |                                                                                         |
| 11                    | Turbidity(NTU)                               | 2.5     | 32.2     | 38.7     | 43.4    | 36.5    | 14.54   | 4.45     | 3.13    | 3.69     | 3.87     | 3.99     | 2.85     | 30 NTU                                                                                  |
| 12                    | Phenolphthalein Alkalinity(mg/l)             | 34.0    | BDL      | 10       | 10      | 10.0    | 4.0     | 8        | 10.0    | 30.0     | 20.0     | 8        | 12.0     |                                                                                         |
| 13                    | Total Alkalinity(mg/l)                       | 214.0   | 120.0    | 102.0    | 102.0   | 120.0   | 114.0   | 110.0    | 106.0   | 200.0    | 104.0    | 116.0    | 104.0    |                                                                                         |
| 14                    | Chlorides(mg/l)                              | 19813.0 | 19426.60 | 20244.00 | 13846.0 | 14449.0 | 19244.0 | 18244.00 | 17745.0 | 17978.47 | 17856.00 | 16501.90 | 17807.00 |                                                                                         |
| 15                    | COD(mg/l)                                    | -       | -        | -        | -       | -       | -       | -        | -       | -        | -        | -        | -        |                                                                                         |
| 16                    | Total Kjeldahl Nitrogen(mg/l)                | 10.3    | -        | -        | -       | -       | -       | 14.0     | -       | -        | -        | 42.0     | 14.01    |                                                                                         |
| 17                    | Ammonia (mg/l)                               | BDL     | 0.086    | 0.11     | 0.21    | 1.02    | 0.82    | 0.80     | 0.66    | BDL      | BDL      | 0.15     | BDL      |                                                                                         |
| 18                    | Total Hardness(mg/l)                         | 9000.0  | 8500.0   | 4400.0   | 4660.0  | 3640.0  | 7400.0  | 8200.0   | 8800.0  | 14500.0  | 5360.0   | 4600.0   | 6300.0   |                                                                                         |
| 19                    | Calcium(mg/l)                                | 408.8   | 1500.0   | 481.0    | 248.5   | 240.5   | 641.3   | 881.8    | 962.0   | 5000.0   | 481.0    | 521.7    | 601.0    |                                                                                         |
| 20                    | Magnesium(mg/l)                              | 1939.0  | 1701.0   | 777.0    | 981.7   | 738.7   | 1409.0  | 1458.0   | 1555.0  | 2308.50  | 1011.00  | 801.9    | 1166.0   |                                                                                         |
| 21                    | Sulphate(mg/l)                               | 3965.5  | 1982.90  | 1510.0   | 776.4   | 3248.0  | 1577.0  | 1079.0   | 2083.3  | 1426.08  | 2121.00  | 3079.4   | 2250.0   |                                                                                         |
| 22                    | Sodium(mg/l)                                 | 5400.0  | -        | -        | -       | -       | -       | 9800.0   | -       | -        | -        | -        | -        |                                                                                         |
| 23                    | Total Dissolved Solids(mg/l)                 | 42800.0 | 37081.0  | 31291.0  | 24908.0 | 27748.0 | 31417.0 | 30862.0  | 30707.0 | 34075.0  | 31919.0  | 32283.0  | 16325.0  |                                                                                         |
| 24                    | Total Fixed Solids(mg/l)                     | 27820.0 | 28304.0  | 29285.0  | 23906.0 | 27547.0 | 29419.0 | 29857.0  | 29407.0 | 18562.0  | 14681.0  | 24196.0  | 9513.0   |                                                                                         |
| 25                    | Total Suspended Solids(mg/l)                 | 40      | 71.0     | 131.0    | 187.0   | 135.0   | 152.0   | 160.0    | 161.0   | 67.0     | 39.0     | 46.0     | 23.0     |                                                                                         |
| 26                    | Phosphate(mg/l)                              | BDL     | 0.098    | 0.65     | 0.62    | 3.10    | 0.03    | 0.04     | 0.05    | 0.063    | 0.03     | 0.46     | 0.02     |                                                                                         |
| 27                    | Boron(mg/l)                                  | 1.58    | -        | -        | -       | -       | -       | 1.38     | -       | -        | -        | -        | -        |                                                                                         |
| 28                    | Potassium(mg/l)                              | 180.0   | -        | -        | -       | -       | -       | 263.0    | -       | -        | -        | -        | -        |                                                                                         |
| 29                    | Flouride(mg/l)                               | 0.24    | BDL      | 0.76     | 0.30    | 1.38    | 1.67    | 0.96     | 1.42    | 1.0      | BDL      | BDL      | BDL      |                                                                                         |
| 30                    | Arsenic(mg/l)                                | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 31                    | Cadmium(mg/l)                                | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 32                    | Copper(mg/l)                                 | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 33                    | Lead(mg/l)                                   | BDL     | -        | -        | -       | -       | -       | 0.048    | -       | -        | -        | -        | -        |                                                                                         |
| 34                    | Chromium(mg/l)                               | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 35                    | Nickel(mg/l)                                 | 0.138   | -        | -        | -       | -       | -       | 0.231    | -       | -        | -        | -        | -        |                                                                                         |
| 36                    | Zinc(mg/l)                                   | 0.175   | -        | -        | -       | -       | -       | 0.092    | -       | -        | -        | -        | -        |                                                                                         |
| 37                    | IronTotal(mg/l)                              | 0.29    | -        | -        | -       | -       | -       | 0.100    | -       | -        | -        | -        | -        |                                                                                         |
| 38                    | Carbaryl (mg/L)                              | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 39                    | DDT-α-p (mg/L)                               | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 40                    | DDT-β-p (mg/L)                               | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 41                    | alpha Endosulfan(mg/L)                       | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 42                    | beta Endosulfan(mg/L)                        | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 43                    | Anilofos (mg/L)                              | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 44                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 45                    | Aldrin/Dieldrin (mg/L)                       | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 46                    | Alpha HCH (mg/L)                             | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 47                    | Beta HCH (mg/L)                              | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 48                    | Chlorpyrifos (mg/L)                          | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 49                    | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 50                    | Malathion (mg/L)                             | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 51                    | Methyl parathion(mg/L)                       | BDL     | -        | -        | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |



| BAINA BEACH 2020-2021 |                                              |         |         |         |                                                                       |         |         |         |         |          |         |          |          |                                                                                         |  |
|-----------------------|----------------------------------------------|---------|---------|---------|-----------------------------------------------------------------------|---------|---------|---------|---------|----------|---------|----------|----------|-----------------------------------------------------------------------------------------|--|
| Sr. No                | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20                                                                | Aug-20  | Sep-20  | Oct-20  | Nov-20  | Dec-20   | Jan-21  | Feb-21   | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |  |
| 1                     | Temperature°C                                | 30      | 32      | 29      |                                                                       | 26      | 26      | 29      | 30      | 30       | 30      | 31       | 33       |                                                                                         |  |
| 2                     | Dissolved Oxygen(mg/l)                       | 6.2     | 6.4     | 6.3     |                                                                       | 7.0     | 4.3     | 6.6     | 6.4     | 6.5      | 5.9     | 6.7      | 6.5      | 4 mg/l or more                                                                          |  |
| 3                     | pH                                           | 7.70    | 8.07    | 7.50    |                                                                       | 7.40    | 7.70    | 7.64    | 7.82    | 7.93     | 7.66    | 7.91     | 7.68     | 6.5 - 8.5                                                                               |  |
| 4                     | Conductivity(µs/cm)                          | 63650.0 | 62920.0 | 59270.0 |                                                                       | 37530.0 | 49270.0 | 53900.0 | 54560.0 | 54710.0  | 54880.0 | 52960.0  | 52820.0  |                                                                                         |  |
| 5                     | BOD(mg/l)                                    | BDL     | 2.0     | BDL     |                                                                       | BDL     | BDL     | BDL     | BDL     | BDL      | BDL     | BDL      | 2.0      | 3 mg/l or less                                                                          |  |
| 6                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.21    | 0.14    | 0.16    |                                                                       | 0.38    | 0.24    | 0.17    | 0.08    | 0.441    | BDL     | BDL      | BDL      |                                                                                         |  |
| 7                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | BDL     | BDL     |                                                                       | 0.043   | BDL     | BDL     | 0.009   | BDL      | BDL     | BDL      | BDL      |                                                                                         |  |
| 8                     | Total Coliform(MPN/100ml)                    | 240     | 240     | 70      |                                                                       | 170     | 170     | 220     | 210     | 140      | 170     | 23       | 140      |                                                                                         |  |
| 9                     | Fecal Coliform(MPN/100ml)                    | 79      | 79      | 49      |                                                                       | 63      | 70      | 110     | 120     | 110      | 70      | 13       | 110      | 100 or less MPN/100 ml                                                                  |  |
| 10                    | Fecal Streptococci (MPN/100ml)               | -       | -       | -       |                                                                       | 5.0     | 351     | 241     | 241     | 921      | 95      | 141      | 64       |                                                                                         |  |
| 11                    | Turbidity(NTU)                               | 7.99    | 3.58    | 5.07    |                                                                       | 20.5    | 13.79   | 2.91    | 3.34    | 4.05     | 4.08    | 8.76     | 8.43     | 30 NTU                                                                                  |  |
| 12                    | Phenolphthalein Alkalinity(mg/l)             | 16.0    | 14.0    | 16.0    |                                                                       | 8.0     | 6.0     | BDL     | 18.0    | 20.0     | 16.0    | 10.0     | 10.0     |                                                                                         |  |
| 13                    | Total Alkalinity(mg/l)                       | 110.0   | 118.0   | 108.0   |                                                                       | 90.0    | 96.0    | 90.0    | 100.0   | 120.0    | 108.0   | 120.0    | 120.0    |                                                                                         |  |
| 14                    | Chlorides(mg/l)                              | 19062.0 | 19568.4 | 19305.0 |                                                                       | 12506.0 | 14570.0 | 19177.0 | 18330.5 | 17978.47 | 17985.6 | 18223.07 | 17978.47 |                                                                                         |  |
| 15                    | COD(mg/l)                                    | -       | -       | -       |                                                                       | -       | -       | -       | -       | -        | -       | -        | -        |                                                                                         |  |
| 16                    | Total Kjeldahl Nitrogen(mg/l)                | 14.45   | -       | -       |                                                                       | -       | -       | 14.56   | -       | -        | -       | 11.2     | 1.68     |                                                                                         |  |
| 17                    | Ammonia (mg/l)                               | 0.07    | 0.10    | 0.12    |                                                                       | BDL     | 0.27    | BDL     | 0.14    | BDL      | BDL     | BDL      | 0.30     |                                                                                         |  |
| 18                    | Total Hardness(mg/l)                         | 8000.0  | 8000.0  | 6320.0  |                                                                       | 4000.0  | 5800.0  | 5440.0  | 6400.0  | 7000.0   | 1400.0  | 4200.0   | 12000.0  |                                                                                         |  |
| 19                    | Calcium(mg/l)                                | 721.0   | 801.6   | 401.0   |                                                                       | 321.0   | 401.0   | 385.0   | 1122.2  | 2500.0   | 481.0   | 3000.0   | 2204.4   |                                                                                         |  |
| 20                    | Magnesium(mg/l)                              | 1507.0  | 1458.0  | 1293.0  |                                                                       | 778.0   | 1166.0  | 1089.0  | 874.8   | 1093.5   | 48.6    | 291.0    | 2380.3   |                                                                                         |  |
| 21                    | Sulphate(mg/l)                               | 3851.0  | 2666.6  | 1678.0  |                                                                       | 1852.0  | 1089.0  | 1998.0  | 3718.9  | 2172.1   | 4501.6  | 8431.8   | 4992.2   |                                                                                         |  |
| 22                    | Sodium(mg/l)                                 | 1150.0  | -       | -       |                                                                       | -       | -       | 10300.0 | -       | -        | -       | -        | -        |                                                                                         |  |
| 23                    | Total Dissolved Solids(mg/l)                 | 44555.0 | 40268.0 | 41489.0 | Sampling is not done as the location was inaccessible due to lockdown | 26271.0 | 34435.0 | 32174.0 | 32461.0 | 32324.0  | 33477.0 | 28681.0  | 28999.0  |                                                                                         |  |
| 24                    | Total Fixed Solids(mg/l)                     | 17822.0 | 27784.0 | 16596.0 |                                                                       | 15762.0 | 20661.0 | 19297.0 | 20584.0 | 16261.0  | 16261.0 | 22437.0  | 14723.0  | 14369.0                                                                                 |  |
| 25                    | Total Suspended Solids(mg/l)                 | 70.0    | 36.0    | 86.0    |                                                                       | 72.0    | 73.0    | 43.0    | 18.0    | 63.0     | 63.0    | 55.0     | 29.0     | 17.0                                                                                    |  |
| 26                    | Phosphate(mg/l)                              | 0.11    | 0.09    | 0.19    |                                                                       | 0.07    | 0.21    | 0.09    | 0.09    | 0.07     | 0.64    | 0.03     | 0.043    | 0.146                                                                                   |  |
| 27                    | Boron(mg/l)                                  | 1.64    | -       | -       |                                                                       | -       | -       | -       | 1.06    | -        | -       | -        | -        | -                                                                                       |  |
| 28                    | Potassium(mg/l)                              | 2.8     | -       | -       |                                                                       | -       | -       | -       | 373.0   | -        | -       | -        | -        | -                                                                                       |  |
| 29                    | Flouride(mg/l)                               | BDL     | 0.85    | 1.26    |                                                                       | 1.14    | 1.41    | 1.08    | 1.08    | 1.02     | 0.037   | 1.5      | 0.20     | BDL                                                                                     |  |
| 30                    | Arsenic(mg/l)                                | BDL     | -       | -       |                                                                       | -       | -       | -       | BDL     | -        | -       | -        | -        | -                                                                                       |  |
| 31                    | Cadmium(mg/l)                                | BDL     | -       | -       |                                                                       | -       | -       | -       | 0.016   | -        | -       | -        | -        | -                                                                                       |  |
| 32                    | Copper(mg/l)                                 | BDL     | -       | -       |                                                                       | -       | -       | -       | 0.961   | -        | -       | -        | -        | -                                                                                       |  |
| 33                    | Lead(mg/l)                                   | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 34                    | Chromium(mg/l)                               | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 35                    | Nickel(mg/l)                                 | 0.261   | -       | -       | -                                                                     | -       | -       | 0.271   | -       | -        | -       | -        | -        |                                                                                         |  |
| 36                    | Zinc(mg/l)                                   | 0.184   | -       | -       | -                                                                     | -       | -       | 0.099   | -       | -        | -       | -        | -        |                                                                                         |  |
| 37                    | Iron Total(mg/l)                             | 0.249   | -       | -       | -                                                                     | -       | -       | 0.099   | -       | -        | -       | -        | -        |                                                                                         |  |
| 38                    | Carbaryl (mg/L)                              | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 39                    | DDT-α,p' (mg/L)                              | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 40                    | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 41                    | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 42                    | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 43                    | Anilofos (mg/L)                              | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 44                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 45                    | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 46                    | Alpha HCH (mg/L)                             | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 47                    | Beta HCH (mg/L)                              | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 48                    | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 49                    | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 50                    | Malathion (mg/L)                             | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |
| 51                    | Methyl parathion(mg/L)                       | BDL     | -       | -       | -                                                                     | -       | -       | BDL     | -       | -        | -       | -        | -        |                                                                                         |  |

| GALGIBAG BEACH 2020-2021 |                                              |         |         |         |         |          |         |         |         |          |          |         |          |                                                                                         |
|--------------------------|----------------------------------------------|---------|---------|---------|---------|----------|---------|---------|---------|----------|----------|---------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                   | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20   | Sep-20  | Oct-20  | Nov-20  | Dec-20   | Jan-21   | Feb-21  | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                        | Temperature°C                                | 30      | 31      | 29      | 29      | 28       | 29      | 28      | 29      | 31       | 30       | 32      | 34       |                                                                                         |
| 2                        | Dissolved Oxygen(mg/l)                       | 5.3     | 6.0     | 6.3     | 6.3     | 6.5      | 6.4     | 6.9     | 5.9     | 4.8      | 6.5      | 7.2     | 6.0      | 4 mg/l or more                                                                          |
| 3                        | pH                                           | 7.93    | 7.92    | 7.61    | 6.71    | 7.49     | 7.75    | 7.40    | 7.82    | 7.45     | 7.64     | 7.83    | 7.89     | 6.5 - 8.5                                                                               |
| 4                        | Conductivity(µs/cm)                          | 61940.0 | 62020.0 | 55320.0 | 43120.0 | 34880.0  | 50840.0 | 53330.0 | 55480.0 | 56450.0  | 54160.0  | 55150.0 | 56090.0  |                                                                                         |
| 5                        | BOD(mg/l)                                    | 2.8     | 2.5     | BDL     | BDL     | BDL      | BDL     | BDL     | BDL     | 2.5      | BDL      | BDL     | BDL      | BDL                                                                                     |
| 6                        | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL     | BDL     | BDL     | 0.11    | 0.622    | 0.14    | 0.11    | 0.45    | BDL      | 0.11     | BDL     | BDL      | 3 mg/l or less                                                                          |
| 7                        | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | BDL     | BDL     | 0.01    | 0.056    | 0.01    | 0.01    | BDL     | BDL      | BDL      | 0.05    | BDL      |                                                                                         |
| 8                        | Total Coliform(MPN/100ml)                    | 23      | 23      | 130     | 220     | 350      | 350     | 170     | 130     | 240      | 49       | 13      | 140      |                                                                                         |
| 9                        | Fecal Coliform(MPN/100ml)                    | 13      | 13      | 33      | 70      | 84       | 94      | 110     | 78      | 130      | 22       | 7.8     | 110      | 100 or less MPN/100 ml                                                                  |
| 10                       | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 431     | 24       | 541     | 33      | 281     | 921      | 85       | 171     | 40       |                                                                                         |
| 11                       | Turbidity(NTU)                               | 1.19    | 5.22    | 19.54   | 54.7    | 57.6     | 14.80   | 2.20    | 2.50    | 4.13     | 11.39    | 11.49   | 10.96    |                                                                                         |
| 12                       | Phenolphthalein Alkalinity(mg/l)             | 20.0    | 18.0    | BDL     | 10.0    | BDL      | 10.0    | 10.0    | 12.0    | 8.0      | 10.0     | 10.0    | 12.0     |                                                                                         |
| 13                       | Total Alkalinity(mg/l)                       | 120.0   | 114.0   | 114.0   | 94.0    | 80.0     | 118.0   | 122.0   | 112.0   | 120.0    | 110.0    | 46.0    | 110.0    |                                                                                         |
| 14                       | Chlorides(mg/l)                              | 28991.0 | 25492.0 | 19494.0 | 15495.0 | 12034.57 | 16143.0 | 19868.8 | 18884.0 | 17744.05 | 17978.47 | 17969.0 | 18611.30 |                                                                                         |
| 15                       | COD(mg/l)                                    | -       | -       | -       | -       | -        | -       | -       | -       | -        | -        | -       | -        |                                                                                         |
| 16                       | Total Kjeldahl Nitrogen(mg/l)                | 6.44    | -       | -       | -       | -        | -       | 17.36   | -       | -        | -        | 28.0    | 14.0     |                                                                                         |
| 17                       | Ammonia (mg/l)                               | BDL     | 0.10    | 0.08    | 0.10    | 0.128    | BDL     | 0.1     | 0.16    | 0.32     | BDL      | 0.08    | 0.11     |                                                                                         |
| 18                       | Total Hardness(mg/l)                         | 6800.0  | 8000.0  | 7200.0  | 5200.0  | 5500.0   | 8400.0  | 8000.0  | 6800.0  | 5400.0   | 9500.0   | 3400.0  | 6000.0   |                                                                                         |
| 19                       | Calcium(mg/l)                                | 481.0   | 480.9   | 481.0   | 401.0   | 1500.0   | 481.0   | 561.1   | 481.0   | 561.1    | 5000.0   | 641.3   | 801.6    |                                                                                         |
| 20                       | Magnesium(mg/l)                              | 1361.0  | 1652.4  | 1458.0  | 1020.6  | 972.0    | 1750.0  | 1603.8  | 1361.0  | 972.0    | 1093.5   | 437.4   | 972.0    |                                                                                         |
| 21                       | Sulphate(mg/l)                               | 3127.0  | 5008.0  | 4624.8  | 1968.0  | 3613.80  | 1985.0  | 1763.7  | 1976.8  | 1365.7   | 1821.15  | 2338.9  | 3042.7   |                                                                                         |
| 22                       | Sodium(mg/l)                                 | 65.0    | -       | -       | -       | -        | -       | 10940.0 | -       | -        | -        | -       | -        |                                                                                         |
| 23                       | Total Dissolved Solids(mg/l)                 | 33072.0 | 37254.0 | 33170.0 | 24669.0 | 21000.0  | 28382.0 | 31820.0 | 33220.0 | 33563.0  | 32301.0  | 34193.0 | 34214.0  |                                                                                         |
| 24                       | Total Fixed Solids(mg/l)                     | 17559.0 | 18266.0 | 16301.0 | 11031.0 | 11353.0  | 18980.0 | 15301.0 | 16101.0 | 16647.0  | 16131.0  | 27000.0 | 24587.0  |                                                                                         |
| 25                       | Total Suspended Solids(mg/l)                 | 92.0    | 129.0   | 88.0    | 98.0    | 88.0     | 42.0    | 70.0    | 83.0    | 70.0     | 59.0     | 18.0    | 51.0     |                                                                                         |
| 26                       | Phosphate(mg/l)                              | 0.12    | 1.47    | 0.14    | 0.18    | 0.321    | 0.098   | 0.06    | 0.04    | 0.24     | 0.267    | 0.02    | 0.40     |                                                                                         |
| 27                       | Boron(mg/l)                                  | 0.58    | -       | -       | -       | -        | -       | 0.82    | -       | -        | -        | -       | -        |                                                                                         |
| 28                       | Potassium(mg/l)                              | 3.2     | -       | -       | -       | -        | -       | 344.0   | -       | -        | -        | -       | -        |                                                                                         |
| 29                       | Flouride(mg/l)                               | 2.73    | 0.71    | 0.8     | 0.28    | BDL      | 0.74    | 0.68    | 0.87    | 1.0      | 1.0      | 1.04    | 1.32     |                                                                                         |
| 30                       | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 31                       | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 32                       | Copper(mg/l)                                 | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 33                       | Lead(mg/l)                                   | BDL     | -       | -       | -       | -        | -       | 0.064   | -       | -        | -        | -       | -        |                                                                                         |
| 34                       | Chromium(mg/l)                               | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 35                       | Nickel(mg/l)                                 | 0.254   | -       | -       | -       | -        | -       | 0.191   | -       | -        | -        | -       | -        |                                                                                         |
| 36                       | Zinc(mg/l)                                   | 0.128   | -       | -       | -       | -        | -       | 0.106   | -       | -        | -        | -       | -        |                                                                                         |
| 37                       | Iron Total(mg/l)                             | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 38                       | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 39                       | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 40                       | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 41                       | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 42                       | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 43                       | Aniloles (mg/L)                              | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 44                       | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 45                       | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 46                       | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 47                       | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 48                       | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 49                       | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 50                       | Malathion (mg/L)                             | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |
| 51                       | Methyl parathion(mg/L)                       | BDL     | -       | -       | -       | -        | -       | BDL     | -       | -        | -        | -       | -        |                                                                                         |

| COLVA BEACH 2020-2021 |                                              |         |         |         |         |         |         |          |         |          |          |          |          |                                                                                         |
|-----------------------|----------------------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|----------|----------|----------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20  | Sep-20  | Oct-20   | Nov-20  | Dec-20   | Jan-21   | Feb-21   | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                     | Temperature°C                                | 31      | 33      | 30      | 28      | 28      | 28      | 28       | 30      | 30       | 30       | 30       | 31       | 4 mg/l or more<br>6.5 - 8.5                                                             |
| 2                     | Dissolved Oxygen(mg/l)                       | 6.7     | 6.2     | 6.5     | 6.9     | 6.7     | 7.2     | 7.0      | 6.6     | 7.0      | 6.6      | 7.0      | 6.2      |                                                                                         |
| 3                     | pH                                           | 8.10    | 7.90    | 7.80    | 7.70    | 7.35    | 7.73    | 7.46     | 7.73    | 7.87     | 7.84     | 7.86     | 7.75     |                                                                                         |
| 4                     | Conductivity(µs/cm)                          | 64670.0 | 62570.0 | 56340.0 | 34330.0 | 37330.0 | 43130.0 | 55640.0  | 56530.0 | 56670.0  | 52660.0  | 52570.0  | 54840.0  |                                                                                         |
| 5                     | BOD(mg/l)                                    | BDL     | 2.2     | BDL     | BDL     | BDL     | BDL     | BDL      | 2.0     | BDL      | BDL      | BDL      | BDL      |                                                                                         |
| 6                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.41    | 0.1     | 0.14    | 0.1     | BDL     | 0.60    | 0.11     | 0.08    | 0.10     | BDL      | 0.17     | 0.22     | 100 or less MPN/100 ml                                                                  |
| 7                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | BDL     | BDL     | 0.016   | 0.03    | BDL     | 0.018    | BDL     | 0.008    | BDL      | BDL      | BDL      |                                                                                         |
| 8                     | Total Coliform(MPN/100ml)                    | 130     | 49      | 130     | 350     | 220     | 280     | 240      | 33      | 240      | 79       | 130      | 110      |                                                                                         |
| 9                     | Fecal Coliform(MPN/100ml)                    | 33      | 23      | 49      | 240     | 94      | 110     | 130      | 23      | 130      | 23       | 33       | 79       |                                                                                         |
| 10                    | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 23      | 24      | 541     | 351      | 18      | 32       | 50       | 111      | 171      |                                                                                         |
| 11                    | Turbidity(NTU)                               | 2.52    | 3.85    | 15.61   | 4.16    | 8.97    | 40.5    | 7.49     | 3.50    | 2.95     | 6.30     | 4.47     | 3.84     | 30 NTU                                                                                  |
| 12                    | Phenolphthalein Alkalinity(mg/l)             | 20.0    | 18.0    | 12.0    | 6.0     | 8.0     | 4.0     | 10.0     | 12.0    | 20.0     | BDL      | 6.0      | 14.0     |                                                                                         |
| 13                    | Total Alkalinity(mg/l)                       | 124.0   | 110.0   | 112.0   | 90.0    | 90.0    | 106.0   | 124.0    | 120.0   | 120.0    | 120.0    | 122.0    | 114.0    |                                                                                         |
| 14                    | Chlorides(mg/l)                              | 18468.0 | 19427.0 | 18847.9 | 15768.2 | 13621.0 | 18345.0 | 19201.49 | 18468.0 | 17978.47 | 17612.00 | 18119.40 | 18494.30 |                                                                                         |
| 15                    | COD(mg/l)                                    | 12.2    | -       | -       | -       | -       | -       | -        | -       | -        | -        | -        | -        |                                                                                         |
| 16                    | Total Kjeldahl Nitrogen(mg/l)                | 12.2    | -       | -       | -       | -       | BDL     | 15.12    | -       | -        | -        | 28.02    | 11.2     | -                                                                                       |
| 17                    | Ammonia (mg/l)                               | 0.09    | 0.17    | BDL     | 0.20    | 0.106   | BDL     | BDL      | 0.20    | BDL      | BDL      | 0.14     | BDL      |                                                                                         |
| 18                    | Total Hardness(mg/l)                         | 12000.0 | 8000.0  | 8800.0  | 25500.0 | 4000.0  | 13000.0 | 7000.0   | 7000.0  | 7000.0   | 8000.0   | 4000.0   | 6200.0   |                                                                                         |
| 19                    | Calcium(mg/l)                                | 433.0   | 401.0   | 1400.0  | 1402.8  | 601.20  | 1202.0  | 1603.2   | 561.1   | 1603.2   | 1803.0   | 480.9    | 641.3    |                                                                                         |
| 20                    | Magnesium(mg/l)                              | 2654.0  | 1701.0  | 1798.2  | 5346.0  | 607.50  | 2430.0  | 1311.42  | 1360.8  | 1311.42  | 851.00   | 680.40   | 1117.80  |                                                                                         |
| 21                    | Sulphate(mg/l)                               | 4401.0  | 1976.0  | 5084.0  | 2840.5  | 1495.0  | 2411.0  | 2965.3   | 1365.6  | 4062.2   | 3654.0   | 2175.2   | 1613.0   | -                                                                                       |
| 22                    | Sodium(mg/l)                                 | 2700.0  | -       | -       | -       | -       | -       | 10390.0  | -       | -        | -        | -        | -        |                                                                                         |
| 23                    | Total Dissolved Solids(mg/l)                 | 38802.0 | 43799.0 | 34931.0 | 21640.0 | 22000.0 | 25878.0 | 33442.0  | 33513.0 | 33932.0  | 31564.0  | 31702.0  | 32616.0  |                                                                                         |
| 24                    | Total Fixed Solids(mg/l)                     | 21963.0 | 17520.0 | 21794.0 | 14285.0 | 20330.0 | 18956.0 | 17153.0  | 16513.0 | 15000.0  | 15180.0  | 19400.0  | 18770.0  |                                                                                         |
| 25                    | Total Suspended Solids(mg/l)                 | 31.0    | 42.0    | 47.0    | 47.0    | 111.0   | 33.0    | 42.0     | 89.0    | 74.0     | 60.0     | 69.0     | 73.0     |                                                                                         |
| 26                    | Phosphate(mg/l)                              | 0.24    | 0.05    | 0.19    | 0.08    | 0.18    | 0.06    | 0.124    | 0.12    | 0.065    | 0.047    | BDL      | 0.05     | -                                                                                       |
| 27                    | Boron(mg/l)                                  | 1.6     | -       | -       | -       | -       | -       | 1.12     | -       | -        | -        | -        | -        |                                                                                         |
| 28                    | Potassium(mg/l)                              | 170.0   | -       | -       | -       | -       | -       | 354.0    | -       | -        | -        | -        | -        |                                                                                         |
| 29                    | Flouride(mg/l)                               | BDL     | BDL     | 0.52    | BDL     | 1.06    | 0.58    | 0.34     | 2.21    | 0.29     | 0.222    | BDL      | 0.86     |                                                                                         |
| 30                    | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 31                    | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        | -                                                                                       |
| 32                    | Copper(mg/l)                                 | BDL     | -       | -       | -       | -       | -       | 0.016    | -       | -        | -        | -        | -        |                                                                                         |
| 33                    | Lead(mg/l)                                   | BDL     | -       | -       | -       | -       | -       | 0.053    | -       | -        | -        | -        | -        |                                                                                         |
| 34                    | Chromium(mg/l)                               | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 35                    | Nickel(mg/l)                                 | 0.301   | -       | -       | -       | -       | -       | 0.298    | -       | -        | -        | -        | -        |                                                                                         |
| 36                    | Zinc(mg/l)                                   | 0.181   | -       | -       | -       | -       | -       | 0.112    | -       | -        | -        | -        | -        | -                                                                                       |
| 37                    | IronTotal(mg/l)                              | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 38                    | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 39                    | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 40                    | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 41                    | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        | -                                                                                       |
| 42                    | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 43                    | Anilofos (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 44                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 45                    | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 46                    | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        | -                                                                                       |
| 47                    | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 48                    | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 49                    | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 50                    | Malathion (mg/L)                             | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        |                                                                                         |
| 51                    | Methyl parathion(mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL      | -       | -        | -        | -        | -        | -                                                                                       |

| VAGATOR BEACH 2020-2021 |                                              |         |         |         |         |         |         |         |         |         |          |          |          |                                                                                         |
|-------------------------|----------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                  | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20  | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21   | Feb-21   | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                       | Temperature°C                                | 29      | 30      | 30      | 29      | 26      | 30      | 30      | 29      | 30      | 29       | 29       | 30       | 4 mg/l or more<br>6.5 – 8.5                                                             |
| 2                       | Dissolved Oxygen(mg/l)                       | 5.7     | 4.6     | 5.7     | 7.1     | 6.8     | 6.8     | 6.0     | 6.3     | 6.1     | 6.4      | 6.6      | 6.7      |                                                                                         |
| 3                       | pH                                           | 7.73    | 7.91    | 7.80    | 7.80    | 6.70    | 7.80    | 7.65    | 7.70    | 7.83    | 7.34     | 7.98     | 6.56     |                                                                                         |
| 4                       | Conductivity(µs/cm)                          | 60420.0 | 63850.0 | 57630.0 | 33260.0 | 25590.0 | 55380.0 | 44740.0 | 53520.0 | 57650.0 | 49050.0  | 58700.0  | 57500.0  |                                                                                         |
| 5                       | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | 2.1     | BDL     | BDL      | BDL      | BDL      |                                                                                         |
| 6                       | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.21    | 0.40    | 0.59    | 0.34    | 1.50    | 0.31    | 0.74    | 0.84    | BDL     | 0.251    | BDL      | 0.320    | 100 or less MPN/100 ml<br>30 NTU                                                        |
| 7                       | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.04    | 0.012   | 0.01    | 0.009   | 0.011   | 0.008   | 0.005   | BDL     | BDL      | BDL      | 0.009    |                                                                                         |
| 8                       | Total Coliform(MPN/100ml)                    | 33      | 33      | 23      | 280     | 170     | 170     | 170     | 280     | 33      | 350      | 240      | 220      |                                                                                         |
| 9                       | Fecal Coliform(MPN/100ml)                    | 13      | 13      | 13      | 130     | 79      | 70      | 140     | 170     | 13      | 17       | 130      | 110      |                                                                                         |
| 10                      | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 281     | >1601   | >1601   | >1601   | 351     | 50      | 921      | 47       | 42       |                                                                                         |
| 11                      | Turbidity(NTU)                               | 4.73    | 11.90   | 17.83   | 34.4    | 6.91    | 22.20   | 5.18    | 5.20    | 2.20    | 3.41     | 4.40     | 7.26     | 30 NTU                                                                                  |
| 12                      | Phenolphthalein Alkalinity(mg/l)             | 14.0    | 16.0    | 14.0    | 12.0    | BDL     | 16.0    | 6.0     | 12.0    | 10.0    | 14.0     | 20.0     | 12.0     |                                                                                         |
| 13                      | Total Alkalinity(mg/l)                       | 110.0   | 120.0   | 102.0   | 68.0    | 84.0    | 98.0    | 112.0   | 110.0   | 116.0   | 94.0     | 112.0    | 106.0    |                                                                                         |
| 14                      | Chlorides(mg/l)                              | 22743.0 | 19244.0 | 18455.0 | 10745.0 | 13477.0 | 17120.0 | 16513.0 | 16877.0 | 17345.0 | 18712.28 | 17994.40 | 17122.00 |                                                                                         |
| 15                      | COD(mg/l)                                    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -        | -        | -        |                                                                                         |
| 16                      | Total Kjeldahl Nitrogen(mg/l)                | 13.16   | -       | -       | -       | -       | -       | 11.76   | -       | -       | -        | 70.0     | 25.22    | BDL                                                                                     |
| 17                      | Ammonia (mg/l)                               | 0.125   | 0.13    | BDL     | BDL     | 0.10    | 0.03    | 0.07    | 0.06    | 0.06    | BDL      | 0.09     | BDL      |                                                                                         |
| 18                      | Total Hardness(mg/l)                         | 7200.0  | 7800.0  | 8000.0  | 3400.0  | 2100.0  | 6000.0  | 4800.0  | 5320.0  | 5000.0  | 4800.0   | 5000.0   | 6500.0   |                                                                                         |
| 19                      | Calcium(mg/l)                                | 480.96  | 881.8   | 401.0   | 321     | 240     | 401.0   | 240.0   | 561.0   | 802.0   | 1282.6   | 561.1    | 561.0    |                                                                                         |
| 20                      | Magnesium(mg/l)                              | 145.96  | 1361.0  | 1701.0  | 632.0   | 364.0   | 1215.0  | 594.0   | 953.0   | 729.0   | 854.73   | 874.8    | 1239.0   |                                                                                         |
| 21                      | Sulphate(mg/l)                               | 1595.4  | 1695.0  | 1764.0  | 979.0   | 1014.0  | 1026.0  | 1021.0  | 2060.0  | 5004.0  | 1654.43  | 1478.6   | 2431.0   | BDL                                                                                     |
| 22                      | Sodium(mg/l)                                 | 4160.0  | -       | -       | -       | -       | -       | 8140.0  | -       | -       | -        | -        | -        |                                                                                         |
| 23                      | Total Dissolved Solids(mg/l)                 | 35681.0 | 37672.0 | 40341.0 | 23282.0 | 17913.0 | 38766.0 | 31318.0 | 37464.0 | 33437.0 | 28476.0  | 34845.0  | 35687.0  |                                                                                         |
| 24                      | Total Fixed Solids(mg/l)                     | 33664.0 | 35665.0 | 24205.0 | 9310.0  | 10747.0 | 23250.0 | 18790.0 | 22478.0 | 25410.0 | 15466.0  | 20254.0  | 17428.0  |                                                                                         |
| 25                      | Total Suspended Solids(mg/l)                 | 125.0   | 114.0   | 94.0    | 49.0    | 66.0    | 83.0    | 69.0    | 98.0    | 5.0     | 52.0     | 72.0     | 34.0     |                                                                                         |
| 26                      | Phosphate(mg/l)                              | 0.132   | BDL     | 0.07    | 0.17    | 0.08    | 0.039   | 0.05    | 0.04    | 0.04    | 0.023    | 0.03     | BDL      | BDL                                                                                     |
| 27                      | Boron(mg/l)                                  | 1.84    | -       | -       | -       | -       | -       | 1.58    | -       | -       | -        | -        | -        |                                                                                         |
| 28                      | Potassium(mg/l)                              | 630.0   | -       | -       | -       | -       | -       | 211.0   | -       | -       | -        | -        | -        |                                                                                         |
| 29                      | Flouride(mg/l)                               | BDL     | 1.05    | 1.35    | 1.11    | 1.09    | 1.61    | 2.83    | 1.20    | 0.52    | 1.15     | 0.41     | BDL      |                                                                                         |
| 30                      | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 31                      | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -       | -       | 0.044   | -       | -       | -        | -        | -        | BDL                                                                                     |
| 32                      | Copper(mg/l)                                 | BDL     | -       | -       | -       | -       | -       | 0.021   | -       | -       | -        | -        | -        |                                                                                         |
| 33                      | Lead(mg/l)                                   | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 34                      | Chromium(mg/l)                               | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 35                      | Nickel(mg/l)                                 | 0.305   | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 36                      | Zinc(mg/l)                                   | 0.161   | -       | -       | -       | -       | -       | 0.094   | -       | -       | -        | -        | -        | BDL                                                                                     |
| 37                      | Iron Total(mg/l)                             | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 38                      | Carbaryl (mg/L)                              | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 39                      | DDT-o,p' (mg/L)                              | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 40                      | DDT-p,p' (mg/L)                              | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 41                      | alpha Endosulfan(mg/L)                       | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        | BDL                                                                                     |
| 42                      | beta Endosulfan(mg/L)                        | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 43                      | Anilofos (mg/L)                              | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 44                      | 2,4-Dichlorophenoxyacetic acid(mg/L)         | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 45                      | Aldrin/Dieldrin (mg/L)                       | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 46                      | Alpha HCH (mg/L)                             | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        | BDL                                                                                     |
| 47                      | Beta HCH (mg/L)                              | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 48                      | Chlorpyrifos (mg/L)                          | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 49                      | Gamma-HCH (Lindane) (mg/L)                   | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 50                      | Malathion (mg/L)                             | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        |                                                                                         |
| 51                      | Methyl parathion(mg/L)                       | -       | -       | -       | -       | -       | -       | BDL     | -       | -       | -        | -        | -        | -                                                                                       |

| VELSAO BEACH 2020-2021 |                                              |         |         |         |         |         |         |         |         |         |         |         |          |                                                                                         |
|------------------------|----------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|-----------------------------------------------------------------------------------------|
| Sr. No                 | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20  | Aug-20  | Sep-20  | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21   | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                      | Temperature°C                                | 30      | 32      | 29      | 29      | 26      | 26      | 29      | 30      | 29      | 30      | 32      | 32       |                                                                                         |
| 2                      | Dissolved Oxygen(mg/l)                       | 6.2     | 5.9     | 6.4     | 6.7     | 7.0     | 6.5     | 6.6     | 5.4     | 5.0     | 6.6     | 6.7     | 5.5      | 4 mg/l or more                                                                          |
| 3                      | pH                                           | 8.09    | 7.96    | 7.80    | 7.70    | 7.50    | 7.80    | 7.67    | 7.78    | 7.69    | 7.42    | 8.03    | 8.14     | 6.5 – 8.5                                                                               |
| 4                      | Conductivity(µs/cm)                          | 64720.0 | 63990.0 | 56970.0 | 33190.0 | 28350.0 | 48580.0 | 53820.0 | 55650.0 | 56650.0 | 57590.0 | 58590.0 | 59530.0  |                                                                                         |
| 5                      | BOD(mg/l)                                    | 3.5     | 2.0     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | BDL      | 3 mg/l or less                                                                          |
| 6                      | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.47    | 1.2     | 0.94    | 0.94    | 1.20    | 0.31    | 0.25    | 0.17    | 0.372   | BDL     | BDL     | BDL      |                                                                                         |
| 7                      | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL     | 0.042   | 0.04    | 0.053   | 0.123   | 0.006   | BDL     | 0.069   | BDL     | BDL     | BDL     | BDL      |                                                                                         |
| 8                      | Total Coliform(MPN/100ml)                    | 23      | 33      | 17      | 540     | 240     | 110     | 110     | 170     | 140     | 110     | 22      | 170      |                                                                                         |
| 9                      | Fecal Coliform(MPN/100ml)                    | 13      | 23      | 13      | 240     | 79      | 49      | 70      | 110     | 94      | 23      | 7.8     | 130      | 100 or less MPN/100 ml                                                                  |
| 10                     | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 7.8     | >1601   | 541     | 171     | 281     | 111     | 131     | 34      | 22       |                                                                                         |
| 11                     | Turbidity(NTU)                               | 3.1     | 4.65    | 10.48   | 6.55    | 12.31   | 12.10   | 2.75    | 4.18    | 4.19    | 4.23    | 4.31    | 4.27     | 30 NTU                                                                                  |
| 12                     | Phenolphthalein Alkalinity(mg/l)             | 8.0     | 8.0     | 14.0    | 4.0     | 6.0     | 10.0    | BDL     | 18.0    | BDL     | 16.0    | 20.0    | 10.0     |                                                                                         |
| 13                     | Total Alkalinity(mg/l)                       | 118     | 120.0   | 106.0   | 84.0    | 84.0    | 92.0    | 26.0    | 100.0   | 104.0   | 106.0   | 110.0   | 110.0    |                                                                                         |
| 14                     | Chlorides(mg/l)                              | 19305   | 19323.8 | 18577.0 | 10345.0 | 9713.0  | 13234.0 | 19764.0 | 17985.6 | 17856.2 | 17862.4 | 18345.4 | 17978.47 |                                                                                         |
| 15                     | COD(mg/l)                                    | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -       | -        |                                                                                         |
| 16                     | Total Kjeldahl Nitrogen(mg/l)                | 12.04   | -       | -       | -       | -       | -       | 15.12   | -       | -       | -       | 7.0     | 1.12     |                                                                                         |
| 17                     | Ammonia (mg/l)                               | 0.14    | 0.27    | 0.13    | 0.47    | 0.10    | 0.09    | 0.05    | 0.11    | BDL     | 0.11    | BDL     | 0.07     |                                                                                         |
| 18                     | Total Hardness(mg/l)                         | 7800    | 17500.0 | 57600.0 | 4200.0  | 3100.0  | 5600.0  | 5520.0  | 4500.0  | 4500.0  | 6500.0  | 6200.0  | 9500.0   |                                                                                         |
| 19                     | Calcium(mg/l)                                | 802     | 801.6   | 385.0   | 321     | 240.0   | 481.0   | 449.0   | 601.2   | 2500.0  | 360.7   | 3400.0  | 2004.0   |                                                                                         |
| 20                     | Magnesium(mg/l)                              | 1409    | 3766.5  | 1166.0  | 826     | 607.0   | 1069.0  | 1069.0  | 729.0   | 486.0   | 1360.0  | 680.04  | 1821.53  |                                                                                         |
| 21                     | Sulphate(mg/l)                               | 4977    | 3555.5  | 1526.0  | 1149.0  | 1150.0  | 1198.0  | 2170.0  | 3151.6  | 2441.0  | 3946.9  | 7246.46 | 3426.55  |                                                                                         |
| 22                     | Sodium(mg/l)                                 | 10200.0 | -       | -       | -       | -       | -       | 9800.0  | -       | -       | -       | -       | -        |                                                                                         |
| 23                     | Total Dissolved Solids(mg/l)                 | 45304   | 39673.0 | 39879.0 | 23233.0 | 19845.0 | 34006.0 | 32141.0 | 33947.0 | 33998.0 | 35705.0 | 32350.0 | 33752.0  |                                                                                         |
| 24                     | Total Fixed Solids(mg/l)                     | 18122   | 28961.0 | 15952.0 | 13940.0 | 11907.0 | 20403.0 | 18447.0 | 21471.0 | 15508.0 | 21564.0 | 16140.0 | 15337.0  |                                                                                         |
| 25                     | Total Suspended Solids(mg/l)                 | 65      | 34.0    | 84.0    | 52.0    | 76.0    | 87.0    | 44.0    | 22.0    | 63.0    | 64.0    | 12.0    | 12.0     |                                                                                         |
| 26                     | Phosphate(mg/l)                              | 0.15    | 0.58    | 1.21    | 0.52    | 0.25    | 0.08    | 0.05    | 0.09    | 0.69    | 0.11    | 0.121   | 0.184    |                                                                                         |
| 27                     | Boron(mg/l)                                  | 1.72    | -       | -       | -       | -       | -       | 1.50    | -       | -       | -       | -       | -        |                                                                                         |
| 28                     | Potassium(mg/l)                              | 570.0   | -       | -       | -       | -       | -       | 369.0   | -       | -       | -       | -       | -        |                                                                                         |
| 29                     | Flouride(mg/l)                               | BDL     | 0.63    | 1.37    | 1.35    | 1.10    | 1.64    | 1.05    | 1.06    | 0.098   | 1.4     | BDL     | BDL      |                                                                                         |
| 30                     | Arsenic(mg/l)                                | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 31                     | Cadmium(mg/l)                                | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 32                     | Copper(mg/l)                                 | BDL     | -       | -       | -       | -       | -       | 0.821   | -       | -       | -       | -       | -        |                                                                                         |
| 33                     | Lead(mg/l)                                   | BDL     | -       | -       | -       | -       | -       | 0.047   | -       | -       | -       | -       | -        |                                                                                         |
| 34                     | Chromium(mg/l)                               | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 35                     | Nickel(mg/l)                                 | 0.304   | -       | -       | -       | -       | -       | 0.349   | -       | -       | -       | -       | -        |                                                                                         |
| 36                     | Zinc(mg/l)                                   | 0.16    | -       | -       | -       | -       | -       | 0.15    | -       | -       | -       | -       | -        |                                                                                         |
| 37                     | IronTotal(mg/l)                              | BDL     | -       | -       | -       | -       | -       | 0.099   | -       | -       | -       | -       | -        |                                                                                         |
| 38                     | Carbaryl (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 39                     | DDT-o,p' (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 40                     | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 41                     | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 42                     | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 43                     | Amlofos (mg/L)                               | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 44                     | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 45                     | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 46                     | Alpha HCH (mg/L)                             | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 47                     | Beta HCH (mg/L)                              | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 48                     | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 49                     | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 50                     | Malathion (mg/L)                             | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |
| 51                     | Methyl parathion(mg/L)                       | BDL     | -       | -       | -       | -       | -       | BDL     | -       | -       | -       | -       | -        |                                                                                         |

| RIVER MANDOVIA AT RIBANDAR-CHODAN FERRY, PANAJI 2020-2021 |                                              |         |         |         |        |        |        |         |         |         |         |         |         |                                                                                         |
|-----------------------------------------------------------|----------------------------------------------|---------|---------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|-----------------------------------------------------------------------------------------|
| Sr. No                                                    | Parameters                                   | Apr-20  | May-20  | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20  | Nov-20  | Dec-20  | Jan-21  | Feb-21  | Mar-21  | Limit for SW II river as per CPCB classification based on designated best use of rivers |
| 1                                                         | Temperature°C                                | 29      | 32      | 30      | 29     | 29     | 30     | 30      | 29      | 28      | 29      | 30      | 30      |                                                                                         |
| 2                                                         | Dissolved Oxygen(mg/l)                       | 6.2     | 5.5     | 5.3     | 6.8    | 7.8    | 7.7    | 6.8     | 5.7     | 6.5     | 6.3     | 5.9     | 7.3     | 4 mg/l or more                                                                          |
| 3                                                         | pH                                           | 7.42    | 7.67    | 7.61    | 7.02   | 6.80   | 6.93   | 6.79    | 7.56    | 7.67    | 7.51    | 7.68    | 7.54    | 6.5 - 8.5                                                                               |
| 4                                                         | Conductivity(µs/cm)                          | 51560.0 | 56140.0 | 52740.0 | 312.2  | 87.17  | 7019.0 | 10600.0 | 46190.0 | 49130.0 | 53620.0 | 48530.0 | 54750.0 |                                                                                         |
| 5                                                         | BOD(mg/l)                                    | BDL     | BDL     | BDL     | BDL    | BDL    | BDL    | BDL     | BDL     | BDL     | BDL     | BDL     | BDL     | 3 mg/l or less                                                                          |
| 6                                                         | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.26    | 0.22    | 0.80    | 1.04   | 0.59   | BDL    | 0.14    | BDL     | 0.12    | 0.1     | 0.19    | BDL     |                                                                                         |
| 7                                                         | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.03    | 0.08    | BDL     | BDL    | BDL    | BDL    | BDL     | 0.007   | BDL     | 0.020   | 0.011   | 0.03    |                                                                                         |
| 8                                                         | Total Coliform(MPN/100ml)                    | 210     | 200     | 240     | 280    | 280    | 260    | 240     | 220     | 170     | 330     | 220     | 700     |                                                                                         |
| 9                                                         | Fecal Coliform(MPN/100ml)                    | 93      | 82      | 91      | 84     | 94     | 91     | 100     | 94      | 92      | 230     | 110     | 330     | 100 or less MPN/100 ml                                                                  |
| 10                                                        | Fecal Streptococci (MPN/100ml)               | -       | -       | -       | 64     | >1601  | 24     | 35      | 111     | 32      | 211     | 151     | 111     |                                                                                         |
| 11                                                        | Turbidity(NTU)                               | 10.06   | 4.57    | 18.56   | 2.94   | 7.17   | 5.4    | 7.15    | 3.40    | 6.52    | 4.17    | 3.49    | 4.16    | 30 NTU                                                                                  |
| 12                                                        | Phenolphthalein Alkalinity(mg/l)             | 4.0     | BDL     | BDL     | BDL    | BDL    | BDL    | 4.0     | 6.0     | 10.0    | 6.0     | BDL     | 6.0     |                                                                                         |
| 13                                                        | Total Alkalinity(mg/l)                       | 120.0   | 128.0   | 128.0   | 32.0   | 30.0   | 38.0   | 42.0    | 88.0    | 100.0   | 112.0   | 116.0   | 112.0   |                                                                                         |
| 14                                                        | Chlorides(mg/l)                              | 17220.0 | 19094.3 | 19324.0 | 734.0  | 16.0   | 685.0  | 5528.0  | 14799.0 | 17318.0 | 14043.5 | 16721.2 | 17495.0 |                                                                                         |
| 15                                                        | COD(mg/l)                                    | -       | -       | -       | 6.0    | 6.0    | 8.0    | -       | -       | -       | -       | -       | -       |                                                                                         |
| 16                                                        | Total Kjeldahl Nitrogen(mg/l)                | 3.08    | -       | -       | -      | -      | -      | 8.4     | -       | -       | -       | 14.0    | 3.4     |                                                                                         |
| 17                                                        | Ammonia (mg/l)                               | BDL     | 0.11    | BDL     | BDL    | BDL    | BDL    | 0.08    | 0.10    | 0.05    | 0.18    | 0.05    | 0.17    |                                                                                         |
| 18                                                        | Total Hardness(mg/l)                         | 7600.0  | 12500.0 | 10500.0 | 100.0  | 26.0   | 300.0  | 2000.0  | 3500.0  | 5400.0  | 3000.0  | 9400.0  | 7200.0  |                                                                                         |
| 19                                                        | Calcium(mg/l)                                | 481.0   | 3000.0  | 2004.0  | 6.0    | 4.0    | 18.0   | 441.0   | 337.0   | 365.0   | 641.3   | 2725.4  | 1283.0  |                                                                                         |
| 20                                                        | Magnesium(mg/l)                              | 1555.0  | 2308.5  | 1337.0  | 21.0   | 4.0    | 62.0   | 219.0   | 646.0   | 1091.0  | 340.2   | 631.8   | 972.0   |                                                                                         |
| 21                                                        | Sulphate(mg/l)                               | 1325.0  | 3829.4  | 1613.0  | 86.0   | 7.0    | 86.0   | 681.0   | 883.0   | 2059.0  | 2830.6  | 1850.11 | 2650.00 |                                                                                         |
| 22                                                        | Sodium(mg/l)                                 | 8.2     | -       | -       | -      | -      | -      | 1760.0  | -       | -       | -       | -       | -       |                                                                                         |
| 23                                                        | Total Dissolved Solids(mg/l)                 | 30936.0 | 35906.0 | 31189.0 | 189.0  | 52.0   | 4071.0 | 6257.0  | 27746.0 | 29478.0 | 32171.0 | 28147.0 | 32392.0 |                                                                                         |
| 24                                                        | Total Fixed Solids(mg/l)                     | 11689.0 | 27469.0 | 16423.0 | 86.0   | 29.0   | 1582.0 | 1245.0  | 15241.0 | 12435.0 | 23275.0 | 27121.0 | 30397.0 |                                                                                         |
| 25                                                        | Total Suspended Solids(mg/l)                 | 66.0    | 48.0    | 70.0    | 29.0   | 50.0   | 18.0   | 28.0    | 33.0    | 47.0    | 38.0    | 5.0     | 115.0   |                                                                                         |
| 26                                                        | Phosphate(mg/l)                              | 0.07    | 0.05    | 0.09    | 0.08   | 0.09   | 0.03   | 0.06    | 0.06    | 0.08    | 0.03    | BDL     | 0.11    |                                                                                         |
| 27                                                        | Boron(mg/l)                                  | 0.76    | -       | -       | -      | -      | -      | 0.94    | -       | -       | -       | -       | -       |                                                                                         |
| 28                                                        | Potassium(mg/l)                              | 3.6     | -       | -       | -      | -      | -      | 59.0    | -       | -       | -       | -       | -       |                                                                                         |
| 29                                                        | Flouride(mg/l)                               | BDL     | BDL     | 0.59    | 0.08   | BDL    | 0.46   | 0.36    | 0.88    | BDL     | 0.20    | 1.02    | 0.38    |                                                                                         |
| 30                                                        | Arsenic(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 31                                                        | Cadmium(mg/l)                                | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 32                                                        | Copper(mg/l)                                 | BDL     | -       | -       | -      | -      | -      | 0.183   | -       | -       | -       | -       | -       |                                                                                         |
| 33                                                        | Lead(mg/l)                                   | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 34                                                        | Chromium(mg/l)                               | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 35                                                        | Nickel(mg/l)                                 | 0.156   | -       | -       | -      | -      | -      | 0.085   | -       | -       | -       | -       | -       |                                                                                         |
| 36                                                        | Zinc(mg/l)                                   | 0.183   | -       | -       | -      | -      | -      | 0.046   | -       | -       | -       | -       | -       |                                                                                         |
| 37                                                        | IronTotal(mg/l)                              | 0.347   | -       | -       | -      | -      | -      | 0.119   | -       | -       | -       | -       | -       |                                                                                         |
| 38                                                        | Carbaryl (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 39                                                        | DDT-1-o,p' (mg/L)                            | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 40                                                        | DDT-p,p' (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 41                                                        | alpha Endosulfan(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 42                                                        | beta Endosulfan(mg/L)                        | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 43                                                        | Anilofos (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 44                                                        | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 45                                                        | Aldrin/Dieldrin (mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 46                                                        | Alpha HCH (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 47                                                        | Beta HCH (mg/L)                              | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 48                                                        | Chlorpyrifos (mg/L)                          | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 49                                                        | Gamma-HCH (Lindane) (mg/L)                   | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 50                                                        | Malathion (mg/L)                             | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |
| 51                                                        | Methyl parathion(mg/L)                       | BDL     | -       | -       | -      | -      | -      | BDL     | -       | -       | -       | -       | -       |                                                                                         |

| INLET SAMPLE TOSTPAT TONCA, PANAJI 2020-2021 |                                |        |        |        |        |        |          |          |        |        |          |         |         |       |
|----------------------------------------------|--------------------------------|--------|--------|--------|--------|--------|----------|----------|--------|--------|----------|---------|---------|-------|
| Sr. No                                       | Parameters                     | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20   | Oct-20   | Nov-20 | Dec-20 | Jan-21   | Feb-21  | Mar-21  | Limit |
| 1                                            | pH                             | 6.91   | 5.6    | 5.4    | 6.79   | 6.79   | 7.40     | 7.01     | 7.16   | 7.14   | 6.68     | 6.65    | 6.37    |       |
| 2                                            | BOD(mg/l)                      | 178.6  | 130.0  | 160.0  | 260.0  | 78.6   | 363.6    | 146.7    | 456.1  | 371.4  | 193.0    | 210.0   | 375     |       |
| 3                                            | Total Coliform(MPN/100ml)      | -      | -      | -      | -      | -      | 54000000 | 54000000 | -      | -      | 35000000 | 9200000 | 9200000 |       |
| 4                                            | Fecal Coliform(MPN/100ml)      | -      | -      | -      | -      | -      | 24000000 | 35000000 | -      | -      | 13000000 | 5400000 | 5400000 |       |
| 5                                            | Fecal Streptococci (MPN/100ml) | -      | -      | -      | -      | -      | >1601    | 221      | >1601  | 431    | >1601    | >1601   | >1601   |       |
| 6                                            | COD(mg/l)                      | 360.0  | 310.0  | 340.0  | 500.0  | 180.0  | 760.0    | 340.0    | 880.0  | 680.0  | 440.0    | 440.0   | 600.0   |       |
| 7                                            | Ammonical Nitrogen mg/l        | 0.95   | 545    | 40.7   | 0.17   | 1.91   | 49.5     | 12.61    | 64.8   | 42.3   | 3.15     | -       | 13.9    |       |
| 8                                            | Total Suspended Solids(mg/l)   | 132.0  | 80.0   | 53.0   | 138.0  | 62.0   | 1550.0   | 570.0    | 1815.0 | 341.0  | 220.0    | 238.0   | 222.0   |       |
| 9                                            | Phosphate(mg/l)                | 1.13   | 23.0   | 12.3   | 0.63   | 0.68   | 15.3     | 4.69     | 15.10  | 12.10  | 7.82     | -       | 8.84    |       |
| 10                                           | Residual Chlorine mg/l         | 0.18   | 0.9    | 0.18   | 0.35   | 0.18   | 0.35     | 0.18     | 0.53   | 0.35   | -        | -       | 0.35    |       |
| 11                                           | MLSS mg/l                      | 875.0  | 80.0   | 53.0   | 138.0  | 62.0   | 1550.0   | 570.0    | 1815.0 | 341.0  | -        | -       | 222     |       |
| 12                                           | MLVSS mg/l                     | 585.0  | 105    | 37.0   | 93.0   | 42.0   | 1055.0   | 389.0    | 1230.0 | 223.0  | -        | -       | -       |       |
| 13                                           | Oil & Grease mg/l              | -      | -      | -      | -      | -      | -        | -        | -      | -      | -        | <10.0   | <10     |       |
| 14                                           | Total Kjeldahl Nitrogen(mg/l)  | 11.31  | -      | -      | -      | -      | -        | 28.56    | -      | -      | -        | -       | -       |       |
| 15                                           | Sodium(mg/l)                   | 178    | -      | -      | -      | -      | -        | 32.3     | -      | -      | -        | -       | -       |       |
| 16                                           | Boron(mg/l)                    | 1.22   | -      | -      | -      | -      | -        | 1.08     | -      | -      | -        | -       | -       |       |
| 17                                           | Potassium(mg/l)                | 15.4   | -      | -      | -      | -      | -        | 7.0      | -      | -      | -        | -       | -       |       |
| 18                                           | Arsenic(mg/l)                  | BDL    | -      | -      | -      | -      | -        | BDL      | -      | -      | -        | -       | -       |       |
| 19                                           | Cadmium(mg/l)                  | BDL    | -      | -      | -      | -      | -        | BDL      | -      | -      | -        | -       | -       |       |
| 20                                           | Copper(mg/l)                   | BDL    | -      | -      | -      | -      | -        | 1.239    | -      | -      | -        | -       | -       |       |
| 21                                           | Lead(mg/l)                     | BDL    | -      | -      | -      | -      | -        | BDL      | -      | -      | -        | -       | -       |       |
| 22                                           | Chromium(mg/l)                 | BDL    | -      | -      | -      | -      | -        | BDL      | -      | -      | -        | -       | -       |       |
| 23                                           | Nickel(mg/l)                   | BDL    | -      | -      | -      | -      | -        | 0.098    | -      | -      | -        | -       | -       |       |
| 24                                           | Zinc(mg/l)                     | BDL    | -      | -      | -      | -      | -        | 0.065    | -      | -      | -        | -       | -       |       |
| 25                                           | Iron total(mg/l)               | BDL    | -      | -      | -      | -      | -        | 0.140    | -      | -      | -        | -       | -       |       |

OUTLET SAMPLE TO STP AT TONCA, PANAJI 2020-2021

| Sr. No | Parameters                     | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit |
|--------|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| 1      | pH                             | 6.96   | 5.75   | 8.07   | 7.44   | 6.26   | 6.95   | 6.83   | 7.25   | 7.22   | 6.05   | 6.80   | 6.73   | 5.5-9 |
| 2      | BOD(mg/l) mg/l                 | 8.4    | 16.0   | 12.0   | 7.6    | 8.4    | 12.57  | 11.37  | 11.38  | 15.2   | 6.0    | 8      | 2.8    | 30.0  |
| 3      | Total Coliform(MPN/100ml)      | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   | <1.8   |       |
| 4      | Fecal Coliform(MPN/100ml)      | Nil    | Nil    | Nil    | Nil    | Nil    | Nil    | Nil    | Nil    | Nil    | Nil    | Nil    | Nil    |       |
| 5      | Fecal Streptococci (MPN/100ml) | -      | -      | -      | 16     | 28     | 171    | 241    | 351    | 281    | 64     | 7.8    | -      |       |
| 6      | COD(mg/l) mg/l                 | 20.0   | 40.0   | 30.0   | 20.0   | 20.0   | 30.0   | 30.0   | 30.0   | 40     | 20     | 40     | 30     | 250.0 |
| 7      | Ammonical Nitrogen mg/l        | 0.15   | 3.0    | 0.06   | 0.07   | BDL    | 0.08   | 0.06   | 0.06   | 3      | 0.1    | -      | 0.29   | 50.0  |
| 8      | Total Suspended Solid (mg/l)   | 12.0   | 18.0   | 20.0   | 14.0   | 8.0    | 11.0   | 15.0   | 12.0   | 11.0   | 10.0   | 9.0    | 14.0   | 100.0 |
| 9      | Phosphate(mg/l) mg/l           | 0.03   | 0.7    | 4.1    | 0.08   | 0.08   | 0.50   | 0.25   | 0.28   | 0.13   | 0.92   | -      | 0.51   |       |
| 10     | Residual Chlorine mg/l         | BDL    | BDL    | <10.0  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | -      | -      | BDL    | 1.0   |
| 11     | Oil & Grease                   | BDL    | <10.0  |        | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | -      | <10.0  | <10    |       |
| 12     | MLSS mg/l                      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | 14     |       |
| 13     | Total Kjeldahl Nitrogen(mg/l)  | 15.68  | -      | -      | -      | -      | -      | 2.91   | -      | -      | -      | -      | -      |       |
| 14     | Sodium(mg/l)                   | 25.1   | -      | -      | -      | -      | -      | 102.0  | -      | -      | -      | -      | -      |       |
| 15     | Boron(mg/l)                    | 0.54   | -      | -      | -      | -      | -      | 0.64   | -      | -      | -      | -      | -      |       |
| 16     | Potassium(mg/l)                | 6.0    | -      | -      | -      | -      | -      | 9.6    | -      | -      | -      | -      | -      |       |
| 17     | Arsenic(mg/l)                  | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |       |
| 18     | Cadmium(mg/l)                  | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |       |
| 19     | Copper(mg/l)                   | BDL    | -      | -      | -      | -      | -      | 1.387  | -      | -      | -      | -      | -      |       |
| 20     | Lead(mg/l)                     | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |       |
| 21     | Chromium(mg/l)                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |       |
| 22     | Nickel(mg/l)                   | 0.252  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |       |
| 23     | Zinc(mg/l)                     | 0.101  | -      | -      | -      | -      | -      | 0.078  | -      | -      | -      | -      | -      |       |
| 24     | IronTotal(mg/l)                | 0.231  | -      | -      | -      | -      | -      | 0.129  | -      | -      | -      | -      | -      |       |



| SALMONA SPRING 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |         |        |                    |
|--------------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------------------|
| Sr. No                   | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21  | Mar-21 | Permissible Limits |
| 1                        | Temperature°C                                | 28     | 30     | 29     | 29     | 26     | 29     | 29     | 28     | 29     | 28     | 28      | 32     |                    |
| 2                        | Dissolved Oxygen(mg/l)                       | 6.9    | 7.6    | 6.8    | 7.3    | 7.2    | 6.8    | 6.8    | 7.0    | 7.6    | 6.8    | 7.5     | 7.7    |                    |
| 3                        | pH                                           | 8.45   | 7.84   | 6.80   | 6.50   | 6.01   | 6.50   | 6.00   | 6.20   | 6.48   | 8.26   | 7.06    | 7.02   | 6.5-8.5            |
| 4                        | Conductivity(µs/cm)                          | 103.74 | 101.5  | 123.0  | 99.2   | 85.79  | 124.67 | 105.55 | 141.43 | 99.58  | 131.52 | 82.03   | 107.60 |                    |
| 5                        | BOD(mg/l)                                    | BDL    | BDL    | 2.2    | BDL    | BDL    | 2.2    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    |                    |
| 6                        | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | 0.14   | BDL    | 1.99   | 2.77   | 10.61  | 2.13   | 1.89   | 1.98   | 1.09   | 0.11   | BDL     | BDL    |                    |
| 7                        | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    |                    |
| 8                        | Total Coliform(MPN/100ml)                    | 23     | 79     | 79     | 280    | 350    | 280    | 540    | 540    | 240    | 130    | 1600    | 540    |                    |
| 9                        | Fecal Coliform(MPN/100ml)                    | 13     | 23     | 33     | 220    | 240    | 170    | 220    | 240    | 130    | 22     | 540     | 350    |                    |
| 10                       | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 541    | 241    | >1601  | >1601  | >1601  | 921    | >1601  | 50      | 921    |                    |
| 11                       | Turbidity(NTU)                               | 1.66   | 1.30   | 1.39   | BDL    | BDL    | 1.45   | 2.07   | 2.68   | 2.32   | 4.28   | 2.69    | 8.38   | 1 NTU              |
| 12                       | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    |                    |
| 13                       | Total Alkalinity(mg/l)                       | 18.0   | 20.0   | 14.0   | 10.0   | 8.0    | 12.0   | 10.0   | 12.0   | 22.0   | 20.0   | 20.0    | 26.0   | 200 mg/l           |
| 14                       | Chlorides(mg/l)                              | 9.0    | 10.0   | 21.0   | 15.0   | 15.0   | 20.0   | 22.0   | 22.0   | 21.0   | 17.61  | 13.0    | 21.00  | 250 mg/l           |
| 15                       | COD(mg/l)                                    | 4.0    | 6.0    | 10.0   | 6.0    | 4.0    | 8.0    | 6.0    | BDL    | 4.0    | 4.0    | 6.0     | 4.0    |                    |
| 16                       | Total Kjeldahl Nitrogen(mg/l)                | 9.4    | -      | -      | -      | -      | -      | 11.2   | -      | -      | -      | 56.0    | 11.21  |                    |
| 17                       | Ammonia (mg/l)                               | 0.337  | BDL    | BDL    | BDL    | BDL    | 0.07   | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    | 0.5 mg/l           |
| 18                       | Total Hardness(mg/l)                         | 16.0   | 20.0   | 16.0   | 12.0   | 18.0   | 22.0   | 10.0   | 16.0   | 10.0   | 10.0   | 10.0    | 34.0   | 200 mg/l           |
| 19                       | Calcium(mg/l)                                | 4.01   | 2.40   | 4.0    | 2.00   | 3.00   | 6.0    | 3.0    | 5.0    | 2.4    | 2.4    | 3.21    | 6.00   | 75 mg/l            |
| 20                       | Magnesium(mg/l)                              | BDL    | 3.4    | BDL    | BDL    | 2.0    | 2.0    | BDL    | BDL    | BDL    | BDL    | 30 mg/l | 5.0    | 30 mg/l            |
| 21                       | Sulphate(mg/l)                               | 2.9    | 3.25   | BDL    | BDL    | 2.0    | 3.0    | BDL    | BDL    | 8.5    | BDL    | 3.74    | BDL    | 200 mg/l           |
| 22                       | Sodium(mg/l)                                 | 104.0  | -      | -      | -      | -      | -      | 69.1   | -      | -      | -      | -       | -      |                    |
| 23                       | Total Dissolved Solids(mg/l)                 | 61.0   | 60.0   | 72.0   | 63.0   | 60.0   | 87.0   | 73.0   | 99.0   | 65.0   | 72.0   | 50.0    | 60.0   | 500 mg/l           |
| 24                       | Total Fixed Solids(mg/l)                     | 53.0   | 50.0   | 42.0   | 22.0   | 36.0   | 52.0   | 43.0   | 59.0   | 42.0   | 22.0   | 32.0    | 21.0   |                    |
| 25                       | Total Suspended Solids(mg/l)                 | 18.0   | 12.0   | 18.0   | 13.0   | 18.0   | 8.0    | 6.0    | 4.0    | 5.0    | 22.0   | 26.0    |        |                    |
| 26                       | Phosphate(mg/l)                              | 0.048  | 0.02   | BDL    | 0.02   | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | 0.02   |                    |
| 27                       | Boron(mg/l)                                  | 0.24   | -      | -      | -      | -      | -      | 0.46   | -      | -      | -      | -       | -      |                    |
| 28                       | Potassium(mg/l)                              | 1.2    | -      | -      | -      | -      | -      | 3.1    | -      | -      | -      | -       | -      |                    |
| 29                       | Flouride(mg/l)                               | BDL    | BDL    | BDL    | 0.52   | 0.20   | BDL    | BDL    | BDL    | 0.88   | BDL    | BDL     | BDL    | 1 mg/l             |
| 30                       | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 31                       | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 32                       | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | 0.133  | -      | -      | -      | -       | -      |                    |
| 33                       | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 34                       | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 35                       | Nickel(mg/l)                                 | 0.177  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 36                       | Zinc(mg/l)                                   | 0.093  | -      | -      | -      | -      | -      | 0.281  | -      | -      | -      | -       | -      |                    |
| 37                       | Iron Total(mg/l)                             | 0.134  | -      | -      | -      | -      | -      | 0.216  | -      | -      | -      | -       | -      |                    |
| 38                       | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 39                       | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 40                       | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 41                       | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 42                       | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 43                       | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 44                       | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 45                       | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 46                       | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 47                       | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 48                       | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 49                       | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 50                       | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |
| 51                       | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -       | -      |                    |

| CHAPOLI DAM 2020-2021 |                                              |        |        |        |        |        |        |        |        |        |        |        |        |                                                                                           |
|-----------------------|----------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------------------------------------------------------------|
| Sr. No                | Parameters                                   | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit for class C river as per CPCB classification based on designated best use of rivers |
| 1                     | Temperature°C                                | 30     | 30     | 29     | 28     | 28     | 28     | 28     | 27     | 28     | 28     | 30     | 32     |                                                                                           |
| 2                     | Dissolved Oxygen(mg/l)                       | 8.1    | 7.4    | 7.1    | 6.7    | 6.2    | 7.8    | 8.1    | 7.3    | 7.3    | 7.0    | 7.2    | 8.2    | 4 mg/l or more                                                                            |
| 3                     | pH                                           | 8.51   | 7.83   | 6.72   | 6.53   | 6.65   | 6.93   | 6.67   | 7.02   | 6.87   | 7.08   | 7.07   | 7.12   | 6-9                                                                                       |
| 4                     | Conductivity(µs/cm)                          | 96.12  | 110.40 | 78.27  | 77.18  | 73.12  | 62.36  | 67.93  | 65.26  | 87.41  | 72.93  | 70.43  | 70.12  |                                                                                           |
| 5                     | BOD(mg/l)                                    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 6                     | Nitrate Nitrogen as NO <sub>3</sub> -N(mg/l) | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 0.69   | BDL    | BDL    | BDL    | BDL    | 3 mg/l or less                                                                            |
| 7                     | Nitrite Nitrogen as NO <sub>2</sub> -N mg/l  | 0.005  | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 8                     | Total Coliform(MPN/100ml)                    | 49     | 49     | 170    | 540    | 350    | 280    | 350    | 340    | 350    | 17     | 350    | 170    | 5000 or less MPN/100 ml                                                                   |
| 9                     | Fecal Coliform(MPN/100ml)                    | 22     | 33     | 79     | 220    | 240    | 170    | 240    | 220    | 240    | 13     | 130    | 79     |                                                                                           |
| 10                    | Fecal Streptococci (MPN/100ml)               | -      | -      | -      | 50     | 7.8    | 80     | 15     | 50     | 171    | 7.1    | 95     | 48     |                                                                                           |
| 11                    | Turbidity(NTU)                               | 2.50   | 4.42   | 4.82   | 2.77   | 2.52   | 4.43   | 1.82   | 2.38   | 1.86   | 2.13   | 1.80   | 1.71   |                                                                                           |
| 12                    | Phenolphthalein Alkalinity(mg/l)             | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |                                                                                           |
| 13                    | Total Alkalinity(mg/l)                       | 42.0   | 34.0   | 36.0   | 32.0   | 20.0   | 26.0   | 36.0   | 30.0   | 36.0   | 30.0   | 14.0   | 26.0   |                                                                                           |
| 14                    | Chlorides(mg/l)                              | 10.5   | 12.5   | 11.5   | 7.0    | 10.27  | 7.83   | 6.0    | 5.5    | 8.49   | 8.81   | 5.5    | 5.96   |                                                                                           |
| 15                    | COD(mg/l)                                    | 4.0    | 4.0    | 4.0    | 6.0    | 11.0   | 6.0    | 6.0    | 4.0    | 4.0    | 4.0    | 6.0    | 6.0    |                                                                                           |
| 16                    | Total Kjeldahl Nitrogen(mg/l)                | 4.2    | -      | -      | -      | -      | -      | 6.72   | -      | -      | -      | 14.0   | 14.0   |                                                                                           |
| 17                    | Ammonia (mg/l)                               | BDL    | 0.08   | BDL    | BDL    | 0.077  | 0.11   | BDL    | 0.12   | 0.13   | BDL    | 0.06   | BDL    |                                                                                           |
| 18                    | Total Hardness(mg/l)                         | 28.0   | 26.0   | 26.0   | 20.0   | 28.0   | 18.0   | 20.0   | 12.0   | 12.0   | 20.0   | 10.0   | 20.0   |                                                                                           |
| 19                    | Calcium(mg/l)                                | 4.8    | 4.0    | 4.0    | 4.8    | 8.0    | 5.0    | 4.01   | 4.0    | 3.2    | 8.0    | BDL    | 3.2    |                                                                                           |
| 20                    | Magnesium(mg/l)                              | 3.9    | 3.9    | 3.9    | BDL    | 4.86   | BDL    | 2.43   | BDL    | BDL    | 2.92   | BDL    | 2.9    |                                                                                           |
| 21                    | Sulphate(mg/l)                               | BDL    | 6.2    | 5.7    | BDL    | 3.14   | 2.8    | BDL    | 2.50   | 2.46   | BDL    | BDL    | 2.39   |                                                                                           |
| 22                    | Sodium(mg/l)                                 | 21.0   | -      | -      | -      | -      | -      | 14.1   | -      | -      | -      | -      | -      |                                                                                           |
| 23                    | Total Dissolved Solids(mg/l)                 | 58.0   | 68.0   | 47.0   | 46.0   | 44.10  | 35.0   | 40.0   | 37.0   | 53.0   | 44.0   | 39.0   | 45.0   |                                                                                           |
| 24                    | Total Fixed Solids(mg/l)                     | 34.0   | 37.0   | 27.0   | 24.0   | 20.0   | 21.0   | 21.0   | 23.0   | 25.0   | 20.0   | 25.0   | 23.0   |                                                                                           |
| 25                    | Total Suspended Solids(mg/l)                 | 4.0    | 10.0   | 5.0    | 5.0    | 18.0   | 12.0   | 12.0   | 9.0    | 22.0   | 6.0    | 4.0    | 9.0    |                                                                                           |
| 26                    | Phosphate(mg/l)                              | 0.16   | 0.04   | 0.09   | BDL    | 0.051  | BDL    | 0.03   | BDL    | BDL    | BDL    | 0.17   | 0.02   |                                                                                           |
| 27                    | Boron(mg/l)                                  | 0.6    | -      | -      | -      | -      | -      | 0.78   | -      | -      | -      | -      | -      |                                                                                           |
| 28                    | Potassium(mg/l)                              | 0.8    | -      | -      | -      | -      | -      | 0.96   | -      | -      | -      | -      | -      |                                                                                           |
| 29                    | Flouride(mg/l)                               | 0.81   | BDL    | BDL    | BDL    | BDL    | BDL    | 0.42   | 0.22   | BDL    | 0.50   | 1.1    | BDL    |                                                                                           |
| 30                    | Arsenic(mg/l)                                | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 31                    | Cadmium(mg/l)                                | BDL    | -      | -      | -      | -      | -      | 0.010  | -      | -      | -      | -      | -      |                                                                                           |
| 32                    | Copper(mg/l)                                 | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 33                    | Lead(mg/l)                                   | BDL    | -      | -      | -      | -      | -      | 0.093  | -      | -      | -      | -      | -      |                                                                                           |
| 34                    | Chromium(mg/l)                               | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 35                    | Nickel(mg/l)                                 | 0.216  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 36                    | Zinc(mg/l)                                   | 0.082  | -      | -      | -      | -      | -      | 0.034  | -      | -      | -      | -      | -      |                                                                                           |
| 37                    | IronTotal(mg/l)                              | 0.400  | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 38                    | Carbaryl (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 39                    | DDT-o,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 40                    | DDT-p,p' (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 41                    | alpha Endosulfan(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 42                    | beta Endosulfan(mg/L)                        | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 43                    | Anilofos (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 44                    | 2,4-Dichlorophenoxyacetic acid(mg/L)         | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 45                    | Aldrin/Dieldrin (mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 46                    | Alpha HCH (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 47                    | Beta HCH (mg/L)                              | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 48                    | Chlorpyrifos (mg/L)                          | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 49                    | Gamma-HCH (Lindane) (mg/L)                   | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 50                    | Malathion (mg/L)                             | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |
| 51                    | Methyl parathion(mg/L)                       | BDL    | -      | -      | -      | -      | -      | BDL    | -      | -      | -      | -      | -      |                                                                                           |

## ANNEXURE - IX

### NAAQS Monitoring & Analysis Guidelines Volume-I

#### NATIONAL AMBIENT AIR QUALITY STANDARDS (2009)

| Pollutants                                                                         | Time Weighted Average   | Concentration in Ambient Air                   |                                                              | Methods of Measurement                                                                                   |
|------------------------------------------------------------------------------------|-------------------------|------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|                                                                                    |                         | Industrial, Residential, Rural and other Areas | Ecologically Sensitive Area (Notified by Central Government) |                                                                                                          |
| Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>                              | Annual *<br>24 Hours ** | 50<br>80                                       | 20<br>80                                                     | -Improved West and Gaeke Method<br>-Ultraviolet Fluorescence                                             |
| Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>                             | Annual *<br>24 Hours ** | 40<br>80                                       | 30<br>80                                                     | -Jacob & Hochheiser modified (NaOH-NaAsO <sub>2</sub> ) Method<br>-Gas Phase Chemiluminescence           |
| Particulate Matter (Size less than 10µm) or PM <sub>10</sub> , µg/m <sup>3</sup>   | Annual *<br>24 Hours ** | 60<br>100                                      | 60<br>100                                                    | -Gravimetric<br>-TEOM<br>-Beta attenuation                                                               |
| Particulate Matter (Size less than 2.5µm) or PM <sub>2.5</sub> , µg/m <sup>3</sup> | Annual *<br>24 Hours ** | 40<br>60                                       | 40<br>60                                                     | -Gravimetric<br>-TEOM<br>-Beta attenuation                                                               |
| Ozone (O <sub>3</sub> ) µg/m <sup>3</sup>                                          | 8 Hours *<br>1 Hour **  | 100<br>180                                     | 100<br>180                                                   | -UV Photometric<br>-Chemiluminescence<br>-Chemical Method                                                |
| Lead (Pb) µg/m <sup>3</sup>                                                        | Annual *<br>24 Hours ** | 0.50<br>1.0                                    | 0.50<br>1.0                                                  | -AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper<br>-ED-XRF using Teflon filter     |
| Carbon Monoxide(CO), mg/m <sup>3</sup>                                             | 8 Hours **<br>1 Hour ** | 02<br>04                                       | 02<br>04                                                     | -Non dispersive Infrared (NDIR) Spectroscopy                                                             |
| Ammonia (NH <sub>3</sub> ), µg/m <sup>3</sup>                                      | Annual *<br>24 Hours ** | 100<br>400                                     | 100<br>400                                                   | -Chemiluminescence<br>-Indophenol blue method                                                            |
| Benzene (C <sub>6</sub> H <sub>6</sub> ), µg/m <sup>3</sup>                        | Annual *                | 05                                             | 05                                                           | -Gas Chromatography (GC) based continuous analyzer<br>-Adsorption and desorption followed by GC analysis |
| Benzo(a)Pyrene (BaP) Particulate phase only, ng/m <sup>3</sup>                     | Annual *                | 01                                             | 01                                                           | -Solvent extraction followed by HPLC/GC analysis                                                         |
| Arsenic (As), ng/m <sup>3</sup>                                                    | Annual *                | 06                                             | 06                                                           | -AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper                                    |
| Nickel (Ni), ng/m <sup>3</sup>                                                     | Annual *                | 20                                             | 20                                                           | -AAS/ICP Method after sampling on EPM 2000 or equivalent filter paper                                    |

\* Annual Arithmetic mean of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals.

\*\* 24 hourly or 8 hourly or 1 hourly monitored values, as applicable, shall be complied with 98% of the time in a year. 2% of the time, they may exceed the limits but not on two consecutive days of monitoring.

NOTE: Whenever and wherever monitoring results on two consecutive days of monitoring exceed the limits specified above for the respective category, it shall be considered adequate reason to institute regular or continuous monitoring and further investigations.

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM MAY 2020 to MARCH 2021

**Station: On the open Terrace of Residential House of Mr. Selwyn D'costa**

**City: Quepem**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 05-05-2020 | 318                                                                  | 33                | 10              | 13              | #         | 11             | 0.05      | 268 | Poor         |
| 2      | 08-05-2020 | 386                                                                  | 77                | 10              | 13              | #         | 11             | 0.13      | 344 | Very Poor    |
| 3      | 11-05-2020 | 204                                                                  | 74                | 11              | 17              | #         | 13             | 0.03      | 169 | Moderate     |
| 4      | 15-05-2020 | 268                                                                  | 100               | 11              | 19              | #         | 10             | 0.05      | 233 | Poor         |
| 5      | 18-05-2020 | 256                                                                  | 54                | 13              | 20              | #         | 12             | 0.13      | 206 | Poor         |
| 6      | 22-05-2020 | 194                                                                  | 33                | 11              | 18              | #         | 10             | 0.09      | 163 | Moderate     |
| 7      | 26-05-2020 | 146                                                                  | 52                | 6               | 16              | #         | 9              | 0.12      | 131 | Moderate     |
| 8      | 29-05-2020 | 139                                                                  | 40                | 14              | 21              | #         | 11             | 0.07      | 126 | Moderate     |
| 9      | 01-06-2020 | 93                                                                   | 35                | 6               | 14              | #         | 5              | 0.13      | 93  | Satisfactory |
| 10     | 04-06-2020 | 86                                                                   | 27                | 10              | 17              | #         | 5              | 0.10      | 86  | Satisfactory |
| 11     | 08-06-2020 | 85                                                                   | 25                | 10              | 19              | #         | 7              | 0.04      | 85  | Satisfactory |
| 12     | 09-07-2020 | 58                                                                   | 17                | 5               | 9               | #         | 2              | BDL       | 58  | Satisfactory |
| 13     | 13-07-2020 | 50                                                                   | 11                | 3               | 10              | #         | 3              | 0.03      | 50  | Good         |
| 14     | 16-07-2020 | 53                                                                   | 10                | 5               | 11              | #         | 3              | 0.04      | 53  | Satisfactory |
| 15     | 20-07-2020 | 36                                                                   | 7                 | 3               | 9               | #         | 2              | 0.06      | 36  | Good         |
| 16     | 23-07-2020 | 39                                                                   | 8                 | 5               | 9               | #         | 3              | 0.03      | 39  | Good         |
| 17     | 27-07-2020 | 53                                                                   | 11                | 5               | 8               | #         | 3              | 0.01      | 53  | Satisfactory |
| 18     | 30-07-2020 | 39                                                                   | 10                | 5               | 13              | #         | 3              | 0.03      | 39  | Good         |
| 19     | 04-11-2020 | 77                                                                   | 34                | 7               | 13              | 0.06      | 14             | BDL       | 77  | Satisfactory |
| 20     | 06-11-2020 | 78                                                                   | 35                | 8               | 13              | 0.06      | 13             | BDL       | 78  | Satisfactory |
| 21     | 10-11-2020 | 80                                                                   | 34                | 7               | 13              | 0.07      | 14             | BDL       | 80  | Satisfactory |
| 22     | 13-11-2020 | 72                                                                   | 35                | 7               | 12              | 0.07      | 14             | BDL       | 72  | Satisfactory |
| 23     | 17-11-2020 | 81                                                                   | 42                | 8               | 13              | 0.07      | 14             | BDL       | 81  | Satisfactory |
| 24     | 20-11-2020 | 76                                                                   | 35                | 7               | 12              | 0.06      | 14             | BDL       | 76  | Satisfactory |

|    |            |     |    |    |    |      |    |     |            |              |
|----|------------|-----|----|----|----|------|----|-----|------------|--------------|
| 25 | 24-11-2020 | 80  | 39 | 8  | 13 | 0.07 | 14 | BDL | <b>80</b>  | Satisfactory |
| 26 | 27-11-2020 | 78  | 38 | 7  | 13 | 0.07 | 14 | BDL | <b>78</b>  | Satisfactory |
| 27 | 01-12-2020 | 98  | 43 | 10 | 13 | 0.07 | 14 | BDL | <b>98</b>  | Satisfactory |
| 28 | 04-12-2020 | 100 | 44 | 10 | 14 | 0.08 | 15 | BDL | <b>100</b> | Satisfactory |
| 29 | 08-12-2020 | 103 | 48 | 10 | 13 | 0.05 | 15 | BDL | <b>102</b> | Moderate     |
| 30 | 11-12-2020 | 108 | 45 | 10 | 14 | 0.05 | 15 | BDL | <b>105</b> | Moderate     |
| 31 | 15-12-2020 | 103 | 45 | 11 | 14 | 0.07 | 15 | BDL | <b>102</b> | Moderate     |
| 32 | 18-12-2020 | 97  | 47 | 10 | 14 | 0.07 | 15 | BDL | <b>97</b>  | Satisfactory |
| 33 | 22-12-2020 | 83  | 43 | 9  | 13 | 0.08 | 15 | BDL | <b>83</b>  | Satisfactory |
| 34 | 25-12-2020 | 89  | 45 | 10 | 14 | 0.09 | 16 | BDL | <b>89</b>  | Satisfactory |
| 35 | 29-12-2020 | 78  | 38 | 8  | 14 | 0.08 | 15 | BDL | <b>78</b>  | Satisfactory |
| 36 | 01-01-2021 | 77  | 37 | 9  | 14 | 0.08 | 14 | BDL | <b>77</b>  | Satisfactory |
| 37 | 05-01-2021 | 85  | 40 | 7  | 14 | 0.07 | 13 | BDL | <b>85</b>  | Satisfactory |
| 38 | 08-01-2021 | 81  | 32 | 8  | 13 | 0.06 | 13 | BDL | <b>81</b>  | Satisfactory |
| 39 | 12-01-2021 | 78  | 37 | 8  | 14 | 0.06 | 14 | BDL | <b>78</b>  | Satisfactory |
| 40 | 15-01-2021 | 70  | 44 | 9  | 15 | 0.07 | 13 | BDL | <b>73</b>  | Satisfactory |
| 41 | 19-01-2021 | 83  | 44 | 9  | 15 | 0.06 | 14 | BDL | <b>83</b>  | Satisfactory |
| 42 | 22-01-2021 | 84  | 43 | 8  | 14 | 0.07 | 15 | BDL | <b>84</b>  | Satisfactory |
| 43 | 26-01-2021 | 88  | 42 | 9  | 15 | 0.08 | 14 | BDL | <b>88</b>  | Satisfactory |
| 44 | 29-01-2021 | 81  | 41 | 8  | 14 | 0.08 | 13 | BDL | <b>81</b>  | Satisfactory |
| 45 | 03.03.2021 | 76  | 14 | 8  | 16 | 0.97 | 9  | 0   | <b>76</b>  | Satisfactory |
| 46 | 05.03.2021 | 80  | 12 | 6  | 17 | 1.11 | 6  | 0   | <b>80</b>  | Satisfactory |
| 47 | 09.03.2021 | 61  | 11 | 6  | 14 | 0.90 | 8  | 0   | <b>61</b>  | Satisfactory |
| 48 | 11.03.2021 | 69  | 10 | 8  | 16 | 0.96 | 9  | 0   | <b>69</b>  | Satisfactory |
| 49 | 16.03.2021 | 83  | 14 | 10 | 17 | 1.02 | 8  | 0   | <b>83</b>  | Satisfactory |
| 50 | 18.03.2021 | 95  | 19 | 11 | 22 | 1.08 | 11 | 0   | <b>95</b>  | Satisfactory |
| 51 | 23.03.2021 | 89  | 18 | 6  | 17 | 0.95 | 9  | 0   | <b>89</b>  | Satisfactory |
| 52 | 25.03.2021 | 82  | 17 | 10 | 19 | 1.00 | 10 | 0   | <b>82</b>  | Satisfactory |
| 53 | 30.03.2021 | 68  | 10 | 5  | 14 | 0.92 | 10 | 0   | <b>68</b>  | Satisfactory |

| ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM MAY 2020 to MARCH 2021      |            |                                                                      |                   |                 |                 |           |                |           |     |                  |
|------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|------------------|
| Station: On the open Terrance of M/s. Mallikarjun Store near Village Panchayat dem |            |                                                                      |                   |                 |                 |           |                |           |     | City: Sanvor-dem |
|                                                                                    |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY         |
|                                                                                    |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |                  |
|                                                                                    | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |                  |
| Sr .No                                                                             | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |                  |
| 1                                                                                  | 05-05-2020 | 84                                                                   | 32                | 8               | 14              | #         | 10             | 0.11      | 84  | Satisfactory     |
| 2                                                                                  | 08-05-2020 | 49                                                                   | 41                | 11              | 15              | #         | 9              | 0.06      | 68  | Satisfactory     |
| 3                                                                                  | 11-05-2020 | 122                                                                  | 82                | 13              | 19              | #         | 10             | 0.03      | 174 | Moderate         |
| 4                                                                                  | 15-05-2020 | 146                                                                  | 87                | 10              | 24              | #         | 11             | 0.06      | 191 | Moderate         |
| 5                                                                                  | 18-05-2020 | 90                                                                   | 28                | 11              | 26              | #         | 11             | 0.05      | 90  | Satisfactory     |
| 6                                                                                  | 22-05-2020 | 113                                                                  | 41                | 13              | 22              | #         | 11             | 0.10      | 109 | Moderate         |
| 7                                                                                  | 26-05-2020 | 97                                                                   | 28                | 8               | 19              | #         | 10             | 0.08      | 97  | Satisfactory     |
| 8                                                                                  | 29-05-2020 | 118                                                                  | 31                | 8               | 18              | #         | 9              | 0.01      | 112 | Moderate         |
| 9                                                                                  | 01-06-2020 | 80                                                                   | 22                | 8               | 14              | #         | 4              | 0.11      | 80  | Satisfactory     |
| 10                                                                                 | 04-06-2020 | 77                                                                   | 24                | 5               | 11              | #         | 3              | 0.08      | 77  | Satisfactory     |
| 11                                                                                 | 08-06-2020 | 81                                                                   | 26                | 6               | 14              | #         | 9              | 0.07      | 81  | Satisfactory     |
| 12                                                                                 | 11-06-2020 | 88                                                                   | 29                | 11              | 16              | #         | 9              | 0.02      | 88  | Satisfactory     |
| 13                                                                                 | 15-06-2020 | 81                                                                   | 22                | 8               | 13              | #         | 4              | 0.05      | 81  | Satisfactory     |
| 14                                                                                 | 18-06-2020 | 78                                                                   | 17                | 3               | 10              | #         | 3              | 0.08      | 78  | Satisfactory     |
| 15                                                                                 | 22-06-2020 | 71                                                                   | 16                | 5               | 13              | #         | 3              | 0.05      | 71  | Satisfactory     |
| 16                                                                                 | 25-06-2020 | 63                                                                   | 15                | 6               | 15              | #         | 3              | 0.07      | 63  | Satisfactory     |
| 17                                                                                 | 29-06-2020 | 55                                                                   | 14                | 8               | 11              | #         | 4              | 0.07      | 55  | Satisfactory     |
| 18                                                                                 | 02-07-2020 | 53                                                                   | 13                | 5               | 11              | #         | 3              | 0.06      | 53  | Satisfactory     |
| 19                                                                                 | 06-07-2020 | 54                                                                   | 13                | 3               | 11              | #         | 2              | 0.06      | 54  | Satisfactory     |
| 20                                                                                 | 09-07-2020 | 54                                                                   | 14                | 3               | 7               | #         | 3              | 0.01      | 54  | Satisfactory     |
| 21                                                                                 | 13-07-2020 | 47                                                                   | 12                | 6               | 12              | #         | 4              | 0.06      | 47  | Good             |
| 22                                                                                 | 16-07-2020 | 41                                                                   | 11                | 3               | 8               | #         | 3              | 0.07      | 41  | Good             |
| 23                                                                                 | 20-07-2020 | 40                                                                   | 12                | 5               | 12              | #         | 4              | 0.05      | 40  | Good             |
| 24                                                                                 | 23-07-2020 | 35                                                                   | 11                | 3               | 15              | #         | 2              | 0.03      | 35  | Good             |

|    |            |     |    |    |    |      |    |      |            |              |
|----|------------|-----|----|----|----|------|----|------|------------|--------------|
| 25 | 27-07-2020 | 40  | 10 | 3  | 9  | #    | 4  | 0.06 | <b>40</b>  | Good         |
| 26 | 30-07-2020 | 44  | 10 | 5  | 11 | #    | 4  | 0.04 | <b>44</b>  | Good         |
| 27 | 04-11-2020 | 77  | 38 | 8  | 13 | 0.07 | 14 | BDL  | <b>77</b>  | Satisfactory |
| 28 | 06-11-2020 | 84  | 40 | 9  | 13 | 0.07 | 15 | BDL  | <b>84</b>  | Satisfactory |
| 29 | 10-11-2020 | 81  | 40 | 7  | 12 | 0.06 | 13 | BDL  | <b>81</b>  | Satisfactory |
| 30 | 13-11-2020 | 82  | 40 | 7  | 13 | 0.08 | 14 | BDL  | <b>82</b>  | Satisfactory |
| 31 | 17-11-2020 | 83  | 44 | 7  | 12 | 0.07 | 14 | BDL  | <b>83</b>  | Satisfactory |
| 32 | 20-11-2020 | 77  | 40 | 7  | 12 | 0.06 | 14 | BDL  | <b>77</b>  | Satisfactory |
| 33 | 24-11-2020 | 80  | 43 | 8  | 13 | 0.06 | 14 | BDL  | <b>80</b>  | Satisfactory |
| 34 | 27-11-2020 | 71  | 36 | 7  | 13 | 0.07 | 14 | BDL  | <b>71</b>  | Satisfactory |
| 35 | 01-12-2020 | 107 | 43 | 10 | 14 | 0.07 | 14 | BDL  | <b>105</b> | Moderate     |
| 36 | 04-12-2020 | 105 | 44 | 10 | 14 | 0.08 | 16 | BDL  | <b>103</b> | Moderate     |
| 37 | 08-12-2020 | 102 | 49 | 10 | 14 | 0.05 | 15 | BDL  | <b>101</b> | Moderate     |
| 38 | 11-12-2020 | 106 | 43 | 10 | 14 | 0.05 | 15 | BDL  | <b>104</b> | Moderate     |
| 39 | 15-12-2020 | 96  | 44 | 10 | 14 | 0.06 | 15 | BDL  | <b>96</b>  | Satisfactory |
| 40 | 18-12-2020 | 106 | 46 | 10 | 14 | 0.06 | 15 | BDL  | <b>104</b> | Moderate     |
| 41 | 22-12-2020 | 84  | 44 | 9  | 13 | 0.08 | 15 | BDL  | <b>84</b>  | Satisfactory |
| 42 | 25-12-2020 | 89  | 46 | 10 | 14 | 0.08 | 15 | BDL  | <b>89</b>  | Satisfactory |
| 43 | 29-12-2020 | 77  | 36 | 8  | 13 | 0.07 | 15 | BDL  | <b>77</b>  | Satisfactory |
| 44 | 01-01-2021 | 83  | 41 | 7  | 13 | 0.08 | 13 | BDL  | <b>83</b>  | Satisfactory |
| 45 | 05-01-2021 | 78  | 38 | 9  | 14 | 0.08 | 14 | BDL  | <b>78</b>  | Satisfactory |
| 46 | 08-01-2021 | 72  | 32 | 8  | 13 | 0.07 | 13 | BDL  | <b>72</b>  | Satisfactory |
| 47 | 12-01-2021 | 79  | 38 | 7  | 13 | 0.08 | 14 | BDL  | <b>79</b>  | Satisfactory |
| 48 | 15-01-2021 | 72  | 34 | 9  | 14 | 0.07 | 13 | BDL  | <b>72</b>  | Satisfactory |
| 49 | 19-01-2021 | 81  | 45 | 9  | 14 | 0.06 | 15 | BDL  | <b>81</b>  | Satisfactory |
| 50 | 22-01-2021 | 84  | 41 | 8  | 14 | 0.08 | 13 | BDL  | <b>84</b>  | Satisfactory |
| 51 | 26-01-2021 | 88  | 43 | 9  | 14 | 0.08 | 14 | BDL  | <b>88</b>  | Satisfactory |
| 52 | 29-01-2021 | 84  | 36 | 7  | 14 | 0.08 | 14 | BDL  | <b>84</b>  | Satisfactory |
| 53 | 03.03.2021 | 82  | 14 | 5  | 16 | 1    | 10 | 0.03 | <b>82</b>  | Satisfactory |
| 54 | 05.03.2021 | 77  | 14 | 3  | 13 | 1    | 5  | 0.03 | <b>77</b>  | Satisfactory |
| 55 | 09.03.2021 | 65  | 10 | 8  | 11 | 1    | 9  | 0.01 | <b>65</b>  | Satisfactory |
| 56 | 11.03.2021 | 75  | 12 | 6  | 13 | 1    | 9  | 0.01 | <b>75</b>  | Satisfactory |
| 57 | 16.03.2021 | 89  | 15 | 3  | 11 | 1    | 6  | 0.03 | <b>89</b>  | Satisfactory |

|    |            |    |    |    |    |   |    |      |           |              |
|----|------------|----|----|----|----|---|----|------|-----------|--------------|
| 58 | 18.03.2021 | 88 | 15 | 8  | 17 | 1 | 8  | 0.04 | <b>88</b> | Satisfactory |
| 59 | 23.03.2021 | 93 | 17 | 10 | 21 | 1 | 9  | 0.07 | <b>93</b> | Satisfactory |
| 60 | 25.03.2021 | 78 | 15 | 8  | 17 | 1 | 10 | 0.04 | <b>78</b> | Satisfactory |
| 61 | 30.03.2021 | 68 | 10 | 3  | 13 | 1 | 9  | 0.04 | <b>68</b> | Satisfactory |

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM MAY 2020 to JULY 2020

**Station: Back Side of Shree Sateri Temple, Bag Xelvona**

**City: Quepem**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 05-05-2020 | 44                                                                   | 35                | 10              | 13              | #         | 11             | 0.08      | 59  | Satisfactory |
| 2      | 08-05-2020 | 57                                                                   | 42                | 11              | 18              | #         | 12             | 0.04      | 70  | Satisfactory |
| 3      | 11-05-2020 | 58                                                                   | 22                | 8               | 11              | #         | 10             | 0.06      | 58  | Satisfactory |
| 4      | 15-05-2020 | 51                                                                   | 38                | 11              | 19              | #         | 10             | 0.06      | 63  | Satisfactory |
| 5      | 18-05-2020 | 44                                                                   | 35                | 8               | 18              | #         | 10             | 0.03      | 59  | Satisfactory |
| 6      | 22-05-2020 | 104                                                                  | 26                | 10              | 17              | #         | 10             | 0.10      | 103 | Moderate     |
| 7      | 26-05-2020 | 88                                                                   | 32                | 11              | 22              | #         | 9              | 0.06      | 88  | Satisfactory |
| 8      | 29-05-2020 | 86                                                                   | 27                | 13              | 19              | #         | 11             | 0.05      | 86  | Satisfactory |
| 9      | 01-06-2020 | 83                                                                   | 26                | 10              | 19              | #         | 4              | 0.10      | 83  | Satisfactory |
| 10     | 04-06-2020 | 88                                                                   | 29                | 10              | 11              | #         | 5              | 0.06      | 88  | Satisfactory |
| 11     | 08-06-2020 | 83                                                                   | 28                | 13              | 16              | #         | 10             | 0.05      | 83  | Satisfactory |
| 12     | 11-06-2020 | 90                                                                   | 31                | 8               | 14              | #         | 7              | 0.04      | 90  | Satisfactory |
| 13     | 15-06-2020 | 86                                                                   | 22                | 5               | 11              | #         | 3              | 0.04      | 86  | Satisfactory |
| 14     | 18-06-2020 | 83                                                                   | 21                | 8               | 16              | #         | 4              | 0.05      | 83  | Satisfactory |
| 15     | 22-06-2020 | 71                                                                   | 16                | 6               | 16              | #         | 3              | 0.09      | 71  | Satisfactory |
| 16     | 25-06-2020 | 62                                                                   | 18                | 8               | 11              | #         | 4              | 0.05      | 62  | Satisfactory |
| 17     | 29-06-2020 | 59                                                                   | 17                | 5               | 11              | #         | 5              | 0.06      | 59  | Satisfactory |
| 18     | 02-07-2020 | 56                                                                   | 16                | 5               | 12              | #         | 2              | 0.06      | 56  | Satisfactory |
| 19     | 06-07-2020 | 54                                                                   | 14                | 6               | 11              | #         | 4              | 0.02      | 54  | Satisfactory |
| 20     | 09-07-2020 | 51                                                                   | 14                | 6               | 13              | #         | 4              | 0.03      | 51  | Satisfactory |



|    |            |    |    |   |    |   |   |      |           |      |
|----|------------|----|----|---|----|---|---|------|-----------|------|
| 21 | 13-07-2020 | 46 | 15 | 3 | 14 | # | 2 | 0.08 | <b>46</b> | Good |
| 22 | 16-07-2020 | 38 | 12 | 3 | 7  | # | 2 | 0.06 | <b>38</b> | Good |
| 23 | 20-07-2020 | 39 | 10 | 6 | 14 | # | 3 | 0.05 | <b>39</b> | Good |
| 24 | 23-07-2020 | 36 | 9  | 3 | 10 | # | 4 | 0.03 | <b>36</b> | Good |
| 25 | 27-07-2020 | 41 | 10 | 3 | 7  | # | 2 | 0.03 | <b>41</b> | Good |
| 26 | 30-07-2020 | 45 | 10 | 3 | 9  | # | 2 | 0.05 | <b>45</b> | Good |

| ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM MAY 2020 to MARCH 2021 |             |                                                                      |                   |                 |                 |           |                |           |               |              |
|-------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|---------------|--------------|
| Station: On the open Terrance of Residential House of Mr. Dilip Raikar        |             |                                                                      |                   |                 |                 |           |                |           | City: Sanguem |              |
|                                                                               |             | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI           | AIR QLTY     |
|                                                                               |             | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |               |              |
|                                                                               | Param-eters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |               |              |
| Sr. No                                                                        | Date        | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |               |              |
| 1                                                                             | 05-05-2020  | 86                                                                   | 35                | 11              | 15              | #         | 12             | 0.04      | 86            | Satisfactory |
| 2                                                                             | 08-05-2020  | 66                                                                   | 61                | 11              | 18              | #         | 11             | 0.09      | 104           | Moderate     |
| 3                                                                             | 11-05-2020  | 92                                                                   | 79                | 14              | 26              | #         | 12             | 0.09      | 163           | Moderate     |
| 4                                                                             | 15-05-2020  | 101                                                                  | 60                | 13              | 23              | #         | 11             | 0.04      | 101           | Moderate     |
| 5                                                                             | 18-05-2020  | 102                                                                  | 29                | 10              | 20              | #         | 9              | 0.06      | 102           | Moderate     |
| 6                                                                             | 22-05-2020  | 97                                                                   | 69                | 13              | 26              | #         | 12             | 0.08      | 130           | Moderate     |
| 7                                                                             | 26-05-2020  | 79                                                                   | 28                | 11              | 24              | #         | 11             | 0.08      | 79            | Satisfactory |
| 8                                                                             | 29-05-2020  | 89                                                                   | 38                | 11              | 16              | #         | 10             | 0.03      | 89            | Satisfactory |
| 9                                                                             | 01-06-2020  | 75                                                                   | 23                | 10              | 16              | #         | 4              | 0.05      | 75            | Satisfactory |
| 10                                                                            | 04-06-2020  | 84                                                                   | 22                | 5               | 18              | #         | 6              | 0.07      | 84            | Satisfactory |
| 11                                                                            | 08-06-2020  | 77                                                                   | 21                | 10              | 15              | #         | 9              | 0.03      | 77            | Satisfactory |
| 12                                                                            | 11-06-2020  | 80                                                                   | 22                | 8               | 15              | #         | 8              | 0.04      | 80            | Satisfactory |
| 13                                                                            | 15-06-2020  | 78                                                                   | 21                | 8               | 17              | #         | 4              | 0.07      | 78            | Satisfactory |
| 14                                                                            | 18-06-2020  | 75                                                                   | 18                | 6               | 16              | #         | 5              | 0.10      | 75            | Satisfactory |
| 15                                                                            | 22-06-2020  | 72                                                                   | 17                | 5               | 14              | #         | 3              | 0.04      | 72            | Satisfactory |
| 16                                                                            | 25-06-2020  | 60                                                                   | 17                | 8               | 13              | #         | 4              | 0.07      | 60            | Satisfactory |
| 17                                                                            | 29-06-2020  | 53                                                                   | 16                | 5               | 11              | #         | 5              | 0.05      | 53            | Satisfactory |
| 18                                                                            | 02-07-2020  | 48                                                                   | 15                | 6               | 9               | #         | 3              | 0.05      | 48            | Good         |

|    |            |    |    |   |    |      |   |      |           |              |
|----|------------|----|----|---|----|------|---|------|-----------|--------------|
| 19 | 06-07-2020 | 50 | 14 | 6 | 17 | #    | 5 | 0.06 | <b>50</b> | Good         |
| 20 | 09-07-2020 | 49 | 13 | 6 | 11 | #    | 5 | 0.02 | <b>49</b> | Good         |
| 21 | 13-07-2020 | 46 | 13 | 3 | 9  | #    | 3 | 0.09 | <b>46</b> | Good         |
| 22 | 16-07-2020 | 38 | 11 | 5 | 8  | #    | 3 | 0.03 | <b>38</b> | Good         |
| 23 | 20-07-2020 | 39 | 10 | 3 | 11 | #    | 2 | 0.05 | <b>39</b> | Good         |
| 24 | 23-07-2020 | 39 | 9  | 3 | 10 | #    | 4 | 0.08 | <b>39</b> | Good         |
| 25 | 27-07-2020 | 41 | 9  | 3 | 8  | #    | 5 | 0.02 | <b>41</b> | Good         |
| 26 | 30-07-2020 | 44 | 11 | 5 | 13 | #    | 3 | 0.03 | <b>44</b> | Good         |
| 27 | 03.03.2021 | 64 | 12 | 8 | 14 | 0.84 | 9 | 0    | <b>64</b> | Satisfactory |
| 28 | 05.03.2021 | 54 | 14 | 5 | 14 | 0.98 | 5 | 0    | <b>54</b> | Satisfactory |
| 29 | 09.03.2021 | 61 | 10 | 6 | 12 | 0.97 | 8 | 0    | <b>61</b> | Satisfactory |
| 30 | 11.03.2021 | 77 | 11 | 3 | 13 | 0.94 | 7 | 0    | <b>77</b> | Satisfactory |
| 31 | 16.03.2021 | 65 | 13 | 6 | 13 | 0.96 | 8 | 0    | <b>65</b> | Satisfactory |
| 32 | 18.03.2021 | 71 | 10 | 3 | 11 | 0.91 | 7 | 0    | <b>71</b> | Satisfactory |
| 33 | 23.03.2021 | 79 | 17 | 6 | 14 | 0.95 | 8 | 0    | <b>79</b> | Satisfactory |
| 34 | 25.03.2021 | 66 | 12 | 3 | 12 | 0.89 | 7 | 0    | <b>66</b> | Satisfactory |
| 35 | 30.03.2021 | 77 | 14 | 6 | 14 | 0.97 | 9 | 0    | <b>77</b> | Satisfactory |

**ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM MAY 2020 to JULY 2020**

**Station: On the open Terrance of Residential House of Mr. Tulsidas Naik**

**City: Curchorem**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 05-05-2020 | 40                                                                   | 23                | 8               | 14              | #         | 12             | 0.05      | 40  | Good         |
| 2      | 08-05-2020 | 94                                                                   | 69                | 10              | 20              | #         | 10             | 0.10      | 129 | Moderate     |
| 3      | 11-05-2020 | 46                                                                   | 31                | 13              | 23              | #         | 11             | 0.04      | 52  | Satisfactory |
| 4      | 15-05-2020 | 78                                                                   | 40                | 13              | 25              | #         | 11             | 0.04      | 78  | Satisfactory |
| 5      | 18-05-2020 | 87                                                                   | 43                | 11              | 19              | #         | 9              | 0.06      | 87  | Satisfactory |
| 6      | 22-05-2020 | 74                                                                   | 50                | 11              | 24              | #         | 11             | 0.08      | 84  | Satisfactory |

|    |            |    |    |    |    |   |    |      |           |              |
|----|------------|----|----|----|----|---|----|------|-----------|--------------|
| 7  | 26-05-2020 | 89 | 31 | 14 | 23 | # | 11 | 0.05 | <b>89</b> | Satisfactory |
| 8  | 29-05-2020 | 86 | 38 | 8  | 17 | # | 10 | 0.05 | <b>86</b> | Satisfactory |
| 9  | 01-06-2020 | 91 | 23 | 6  | 11 | # | 5  | 0.01 | <b>91</b> | Satisfactory |
| 10 | 04-06-2020 | 85 | 21 | 8  | 13 | # | 6  | 0.12 | <b>85</b> | Satisfactory |
| 11 | 08-06-2020 | 75 | 20 | 10 | 17 | # | 8  | 0.05 | <b>75</b> | Satisfactory |
| 12 | 11-06-2020 | 84 | 27 | 10 | 13 | # | 6  | 0.04 | <b>84</b> | Satisfactory |
| 13 | 15-06-2020 | 79 | 20 | 6  | 14 | # | 4  | 0.02 | <b>79</b> | Satisfactory |
| 14 | 18-06-2020 | 76 | 18 | 10 | 17 | # | 5  | 0.05 | <b>76</b> | Satisfactory |
| 15 | 22-06-2020 | 70 | 15 | 5  | 15 | # | 5  | 0.07 | <b>70</b> | Satisfactory |
| 16 | 25-06-2020 | 64 | 15 | 10 | 12 | # | 3  | 0.02 | <b>64</b> | Satisfactory |
| 17 | 29-06-2020 | 57 | 16 | 5  | 10 | # | 3  | 0.03 | <b>57</b> | Satisfactory |
| 18 | 02-07-2020 | 55 | 15 | 5  | 8  | # | 3  | 0.06 | <b>55</b> | Satisfactory |
| 19 | 06-07-2020 | 53 | 14 | 5  | 14 | # | 3  | 0.07 | <b>53</b> | Satisfactory |
| 20 | 09-07-2020 | 50 | 14 | 3  | 10 | # | 2  | 0.06 | <b>50</b> | Satisfactory |
| 21 | 13-07-2020 | 46 | 11 | 3  | 8  | # | 4  | 0.06 | <b>46</b> | Good         |
| 22 | 16-07-2020 | 41 | 12 | 5  | 11 | # | 3  | 0.04 | <b>41</b> | Good         |
| 23 | 20-07-2020 | 32 | 9  | 2  | 7  | # | 2  | 0.05 | <b>32</b> | Good         |
| 24 | 23-07-2020 | 34 | 8  | 2  | 7  | # | 2  | 0.05 | <b>34</b> | Good         |
| 25 | 27-07-2020 | 36 | 9  | 5  | 9  | # | 3  | 0.05 | <b>36</b> | Good         |
| 26 | 30-07-2020 | 37 | 9  | 5  | 9  | # | 4  | 0.01 | <b>37</b> | Good         |

| ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM APRIL 2020 to JANU-<br>ARY 2021 |            |                                                                         |                   |                 |                 |              |                |              |              |              |
|----------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|--------------|----------------|--------------|--------------|--------------|
| Station: Ambaulim Quepem (House of Ramnath B. Naik)                                    |            |                                                                         |                   |                 |                 |              |                |              | City: Quepem |              |
|                                                                                        |            | Time Weighted Average (TWA)                                             |                   |                 |                 |              |                |              | AQI          | AIR QLTY     |
|                                                                                        |            | 24 -<br>Hour                                                            | 24 -<br>Hour      | 24 -<br>Hour    | 24 -<br>Hour    | 24 -<br>Hour | 24 -<br>Hour   | 24 -<br>Hour |              |              |
|                                                                                        | Parameters | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |              |                |              |              |              |
| Sr.<br>No                                                                              | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO          | O <sub>3</sub> | Pb           |              |              |
| 1                                                                                      | 23-04-2020 | 73                                                                      | 35                | 11              | 14              | 0.07         | 15             | BDL          | 73           | Satisfactory |
| 2                                                                                      | 25-04-2020 | 53                                                                      | 37                | 11              | 14              | 0.07         | 15             | BDL          | 62           | Satisfactory |
| 3                                                                                      | 29-04-2020 | 55                                                                      | 28                | 10              | 13              | 0.06         | 15             | BDL          | 55           | Satisfactory |
| 4                                                                                      | 02-05-2020 | 66                                                                      | 36                | 9               | 12              | 0.06         | 14             | BDL          | 66           | Satisfactory |
| 5                                                                                      | 05-05-2020 | 68                                                                      | 35                | 9               | 13              | 0.07         | 15             | BDL          | 68           | Satisfactory |
| 6                                                                                      | 08-05-2020 | 70                                                                      | 38                | 9               | 13              | 0.06         | 14             | BDL          | 70           | Satisfactory |
| 7                                                                                      | 12-05-2020 | 70                                                                      | 43                | 9               | 13              | 0.05         | 15             | BDL          | 72           | Satisfactory |
| 8                                                                                      | 15-05-2020 | 72                                                                      | 38                | 10              | 13              | 0.06         | 15             | BDL          | 72           | Satisfactory |
| 9                                                                                      | 19-05-2020 | 80                                                                      | 43                | 10              | 13              | 0.05         | 14             | BDL          | 80           | Satisfactory |
| 10                                                                                     | 22-05-2020 | 72                                                                      | 40                | 10              | 14              | 0.05         | 15             | BDL          | 72           | Satisfactory |
| 11                                                                                     | 26-05-2020 | 67                                                                      | 34                | 11              | 14              | 0.06         | 15             | BDL          | 67           | Satisfactory |
| 12                                                                                     | 29-05-2020 | 68                                                                      | 36                | 10              | 14              | 0.05         | 15             | BDL          | 68           | Satisfactory |
| 13                                                                                     | 02-06-2020 | 62                                                                      | 33                | 9               | 12              | 0.05         | 14             | BDL          | 62           | Satisfactory |
| 14                                                                                     | 05-06-2020 | 57                                                                      | 30                | 9               | 13              | 0.06         | 13             | BDL          | 57           | Satisfactory |
| 15                                                                                     | 09-06-2020 | 56                                                                      | 29                | 8               | 12              | 0.05         | 14             | BDL          | 56           | Satisfactory |
| 16                                                                                     | 12-06-2020 | 58                                                                      | 28                | 8               | 13              | 0.05         | 13             | BDL          | 58           | Satisfactory |
| 17                                                                                     | 16-06-2020 | 47                                                                      | 26                | 8               | 12              | 0.05         | 15             | BDL          | 47           | Good         |
| 18                                                                                     | 19-06-2020 | 44                                                                      | 23                | 9               | 13              | 0.05         | 14             | BDL          | 44           | Good         |
| 19                                                                                     | 23-06-2020 | 52                                                                      | 27                | 8               | 12              | 0.06         | 15             | BDL          | 52           | Satisfactory |
| 20                                                                                     | 26-06-2020 | 42                                                                      | 23                | 7               | 12              | 0.05         | 14             | BDL          | 42           | Good         |
| 21                                                                                     | 30-06-2020 | 49                                                                      | 26                | 8               | 13              | 0.06         | 14             | BDL          | 49           | Good         |
| 22                                                                                     | 03-07-2020 | 45                                                                      | 24                | 8               | 13              | 0.05         | 13             | BDL          | 45           | Good         |
| 23                                                                                     | 07-07-2020 | 41                                                                      | 21                | 7               | 12              | 0.05         | 13             | BDL          | 41           | Good         |
| 24                                                                                     | 10-07-2020 | 37                                                                      | 22                | 6               | 11              | 0.05         | 14             | BDL          | 37           | Good         |

|    |            |    |    |    |    |      |    |     |           |              |
|----|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 25 | 14-07-2020 | 38 | 22 | 6  | 11 | 0.05 | 13 | BDL | <b>38</b> | Good         |
| 26 | 17-07-2020 | 37 | 21 | 6  | 11 | 0.05 | 14 | BDL | <b>37</b> | Good         |
| 27 | 21-07-2020 | 40 | 23 | 6  | 12 | 0.05 | 13 | BDL | <b>40</b> | Good         |
| 28 | 24-07-2020 | 40 | 23 | 6  | 12 | 0.05 | 13 | BDL | <b>40</b> | Good         |
| 29 | 28-07-2020 | 41 | 22 | 6  | 12 | 0.05 | 14 | BDL | <b>41</b> | Good         |
| 30 | 31-07-2020 | 45 | 25 | 6  | 12 | 0.06 | 14 | BDL | <b>45</b> | Good         |
| 31 | 04-11-2020 | 63 | 34 | 8  | 13 | 0.07 | 14 | BDL | <b>63</b> | Satisfactory |
| 32 | 06-11-2020 | 62 | 33 | 7  | 13 | 0.08 | 15 | BDL | <b>62</b> | Satisfactory |
| 33 | 10-11-2020 | 79 | 37 | 8  | 13 | 0.07 | 14 | BDL | <b>79</b> | Satisfactory |
| 34 | 13-11-2020 | 62 | 34 | 7  | 13 | 0.07 | 14 | BDL | <b>62</b> | Satisfactory |
| 35 | 17-11-2020 | 63 | 31 | 7  | 12 | 0.07 | 14 | BDL | <b>63</b> | Satisfactory |
| 36 | 20-11-2020 | 64 | 33 | 7  | 13 | 0.07 | 14 | BDL | <b>64</b> | Satisfactory |
| 37 | 24-11-2020 | 75 | 34 | 8  | 13 | 0.07 | 15 | BDL | <b>75</b> | Satisfactory |
| 38 | 27-11-2020 | 74 | 36 | 9  | 13 | 0.08 | 14 | BDL | <b>74</b> | Satisfactory |
| 39 | 01-12-2020 | 94 | 47 | 9  | 13 | 0.07 | 14 | BDL | <b>94</b> | Satisfactory |
| 40 | 04-12-2020 | 94 | 46 | 9  | 13 | 0.08 | 15 | BDL | <b>94</b> | Satisfactory |
| 41 | 08-12-2020 | 92 | 43 | 10 | 13 | 0.07 | 14 | BDL | <b>92</b> | Satisfactory |
| 42 | 11-12-2020 | 85 | 49 | 10 | 13 | 0.07 | 14 | BDL | <b>85</b> | Satisfactory |
| 43 | 15-12-2020 | 79 | 49 | 9  | 14 | 0.08 | 15 | BDL | <b>82</b> | Satisfactory |
| 44 | 18-12-2020 | 82 | 43 | 9  | 13 | 0.09 | 15 | BDL | <b>82</b> | Satisfactory |
| 45 | 22-12-2020 | 89 | 43 | 9  | 13 | 0.08 | 15 | BDL | <b>89</b> | Satisfactory |
| 46 | 25-12-2020 | 94 | 44 | 10 | 14 | 0.09 | 16 | BDL | <b>94</b> | Satisfactory |
| 47 | 29-12-2020 | 78 | 37 | 9  | 14 | 0.07 | 14 | BDL | <b>78</b> | Satisfactory |
| 48 | 01-01-2021 | 81 | 41 | 8  | 13 | 0.07 | 13 | BDL | <b>81</b> | Satisfactory |
| 49 | 05-01-2021 | 70 | 35 | 7  | 13 | 0.08 | 13 | BDL | <b>70</b> | Satisfactory |
| 50 | 08-01-2021 | 72 | 34 | 8  | 14 | 0.07 | 13 | BDL | <b>72</b> | Satisfactory |
| 51 | 12-01-2021 | 64 | 31 | 8  | 13 | 0.06 | 13 | BDL | <b>64</b> | Satisfactory |
| 52 | 15-01-2021 | 78 | 40 | 7  | 15 | 0.07 | 13 | BDL | <b>78</b> | Satisfactory |
| 53 | 19-01-2021 | 80 | 42 | 8  | 14 | 0.08 | 13 | BDL | <b>80</b> | Satisfactory |
| 54 | 22-01-2021 | 76 | 40 | 8  | 14 | 0.08 | 15 | BDL | <b>76</b> | Satisfactory |
| 55 | 26-01-2021 | 75 | 39 | 9  | 14 | 0.09 | 14 | BDL | <b>75</b> | Satisfactory |
| 56 | 29-01-2021 | 73 | 36 | 8  | 14 | 0.08 | 14 | BDL | <b>73</b> | Satisfactory |

| ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM APRIL 2020 to JANU-<br>ARY 2021 |            |                                                                         |                   |                 |                 |              |                |              |                 |              |
|----------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|--------------|----------------|--------------|-----------------|--------------|
| Station: Kakumader Curchorem (House of Simaon Diniz)                                   |            |                                                                         |                   |                 |                 |              |                |              | City: Curchorem |              |
|                                                                                        |            | Time Weighted Average (TWA)                                             |                   |                 |                 |              |                |              | AQI             | AIR QLTY     |
|                                                                                        |            | 24 -<br>Hour                                                            | 24 -<br>Hour      | 24 -<br>Hour    | 24 -<br>Hour    | 24 -<br>Hour | 24 -<br>Hour   | 24 -<br>Hour |                 |              |
|                                                                                        | Parameters | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |              |                |              |                 |              |
| Sr.<br>No                                                                              | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO          | O <sub>3</sub> | Pb           |                 |              |
| 1                                                                                      | 21-04-2020 | 53                                                                      | 25                | 11              | 14              | 0.07         | 14             | BDL          | 53              | Satisfactory |
| 2                                                                                      | 24-04-2020 | 59                                                                      | 28                | 10              | 13              | 0.07         | 14             | BDL          | 59              | Satisfactory |
| 3                                                                                      | 28-04-2020 | 46                                                                      | 20                | 11              | 13              | 0.06         | 13             | BDL          | 46              | Good         |
| 4                                                                                      | 01-05-2020 | 63                                                                      | 33                | 9               | 13              | 0.06         | 14             | BDL          | 63              | Satisfactory |
| 5                                                                                      | 05-05-2020 | 54                                                                      | 29                | 8               | 12              | 0.06         | 15             | BDL          | 54              | Satisfactory |
| 6                                                                                      | 08-05-2020 | 61                                                                      | 30                | 10              | 13              | 0.07         | 15             | BDL          | 61              | Satisfactory |
| 7                                                                                      | 11-05-2020 | 66                                                                      | 34                | 9               | 13              | 0.05         | 14             | BDL          | 66              | Satisfactory |
| 8                                                                                      | 15-05-2020 | 73                                                                      | 37                | 10              | 13              | 0.06         | 14             | BDL          | 73              | Satisfactory |
| 9                                                                                      | 19-05-2020 | 74                                                                      | 38                | 10              | 13              | 0.05         | 15             | BDL          | 74              | Satisfactory |
| 10                                                                                     | 22-05-2020 | 73                                                                      | 40                | 10              | 13              | 0.05         | 15             | BDL          | 73              | Satisfactory |
| 11                                                                                     | 26-05-2020 | 77                                                                      | 37                | 11              | 14              | 0.07         | 14             | BDL          | 77              | Satisfactory |
| 12                                                                                     | 29-05-2020 | 78                                                                      | 38                | 10              | 14              | 0.06         | 14             | BDL          | 78              | Satisfactory |
| 13                                                                                     | 02-06-2020 | 61                                                                      | 30                | 9               | 13              | 0.05         | 14             | BDL          | 61              | Satisfactory |
| 14                                                                                     | 05-06-2020 | 65                                                                      | 34                | 8               | 12              | 0.05         | 14             | BDL          | 65              | Satisfactory |
| 15                                                                                     | 09-06-2020 | 58                                                                      | 31                | 8               | 13              | 0.06         | 13             | BDL          | 58              | Satisfactory |
| 16                                                                                     | 12-06-2020 | 60                                                                      | 30                | 8               | 12              | 0.05         | 14             | BDL          | 60              | Satisfactory |
| 17                                                                                     | 16-06-2020 | 55                                                                      | 31                | 9               | 13              | 0.05         | 14             | BDL          | 55              | Satisfactory |
| 18                                                                                     | 19-06-2020 | 46                                                                      | 24                | 8               | 12              | 0.05         | 15             | BDL          | 46              | Good         |
| 19                                                                                     | 23-06-2020 | 44                                                                      | 24                | 7               | 12              | 0.05         | 15             | BDL          | 44              | Good         |
| 20                                                                                     | 26-06-2020 | 50                                                                      | 26                | 8               | 12              | 0.05         | 13             | BDL          | 50              | Satisfactory |
| 21                                                                                     | 30-06-2020 | 43                                                                      | 23                | 8               | 13              | 0.05         | 14             | BDL          | 43              | Good         |
| 22                                                                                     | 03-07-2020 | 46                                                                      | 24                | 8               | 13              | 0.05         | 14             | BDL          | 46              | Good         |
| 23                                                                                     | 07-07-2020 | 41                                                                      | 23                | 7               | 12              | 0.05         | 13             | BDL          | 41              | Good         |
| 24                                                                                     | 10-07-2020 | 39                                                                      | 23                | 6               | 11              | 0.05         | 13             | BDL          | 39              | Good         |

|    |            |    |    |    |    |      |    |     |           |              |
|----|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 25 | 14-07-2020 | 44 | 24 | 7  | 12 | 0.05 | 14 | BDL | <b>44</b> | Good         |
| 26 | 17-07-2020 | 37 | 18 | 6  | 11 | 0.05 | 13 | BDL | <b>37</b> | Good         |
| 27 | 21-07-2020 | 42 | 22 | 6  | 11 | 0.05 | 15 | BDL | <b>42</b> | Good         |
| 28 | 24-07-2020 | 42 | 22 | 6  | 12 | 0.05 | 14 | BDL | <b>42</b> | Good         |
| 29 | 28-07-2020 | 40 | 24 | 6  | 12 | 0.05 | 14 | BDL | <b>40</b> | Good         |
| 30 | 31-07-2020 | 44 | 24 | 6  | 12 | 0.05 | 13 | BDL | <b>44</b> | Good         |
| 31 | 04-11-2020 | 65 | 32 | 7  | 12 | 0.07 | 14 | BDL | <b>65</b> | Satisfactory |
| 32 | 06-11-2020 | 71 | 31 | 7  | 13 | 0.07 | 14 | BDL | <b>71</b> | Satisfactory |
| 33 | 10-11-2020 | 73 | 33 | 7  | 12 | 0.06 | 13 | BDL | <b>73</b> | Satisfactory |
| 34 | 13-11-2020 | 75 | 33 | 7  | 13 | 0.07 | 14 | BDL | <b>75</b> | Satisfactory |
| 35 | 17-11-2020 | 65 | 30 | 6  | 11 | 0.06 | 13 | BDL | <b>65</b> | Satisfactory |
| 36 | 20-11-2020 | 69 | 32 | 7  | 12 | 0.06 | 14 | BDL | <b>69</b> | Satisfactory |
| 37 | 24-11-2020 | 70 | 34 | 7  | 13 | 0.07 | 14 | BDL | <b>70</b> | Satisfactory |
| 38 | 27-11-2020 | 72 | 35 | 8  | 13 | 0.07 | 14 | BDL | <b>72</b> | Satisfactory |
| 39 | 01-12-2020 | 86 | 46 | 8  | 13 | 0.08 | 15 | BDL | <b>86</b> | Satisfactory |
| 40 | 04-12-2020 | 84 | 44 | 10 | 14 | 0.06 | 14 | BDL | <b>84</b> | Satisfactory |
| 41 | 08-12-2020 | 86 | 44 | 9  | 13 | 0.05 | 14 | BDL | <b>86</b> | Satisfactory |
| 42 | 11-12-2020 | 88 | 46 | 8  | 13 | 0.06 | 14 | BDL | <b>88</b> | Satisfactory |
| 43 | 15-12-2020 | 81 | 40 | 9  | 13 | 0.08 | 15 | BDL | <b>81</b> | Satisfactory |
| 44 | 18-12-2020 | 87 | 41 | 10 | 14 | 0.07 | 14 | BDL | <b>87</b> | Satisfactory |
| 45 | 22-12-2020 | 84 | 45 | 9  | 14 | 0.08 | 15 | BDL | <b>84</b> | Satisfactory |
| 46 | 25-12-2020 | 86 | 45 | 10 | 15 | 0.08 | 16 | BDL | <b>86</b> | Satisfactory |
| 47 | 29-12-2020 | 77 | 37 | 8  | 14 | 0.08 | 15 | BDL | <b>77</b> | Satisfactory |
| 48 | 01-01-2021 | 74 | 36 | 7  | 13 | 0.07 | 13 | BDL | <b>74</b> | Satisfactory |
| 49 | 05-01-2021 | 67 | 32 | 8  | 14 | 0.07 | 14 | BDL | <b>67</b> | Satisfactory |
| 50 | 08-01-2021 | 73 | 34 | 7  | 13 | 0.06 | 13 | BDL | <b>73</b> | Satisfactory |
| 51 | 12-01-2021 | 69 | 34 | 8  | 13 | 0.06 | 14 | BDL | <b>69</b> | Satisfactory |
| 52 | 15-01-2021 | 72 | 32 | 9  | 14 | 0.08 | 13 | BDL | <b>72</b> | Satisfactory |
| 53 | 19-01-2021 | 85 | 42 | 9  | 14 | 0.08 | 15 | BDL | <b>85</b> | Satisfactory |
| 54 | 22-01-2021 | 73 | 37 | 8  | 14 | 0.08 | 13 | BDL | <b>73</b> | Satisfactory |
| 55 | 26-01-2021 | 71 | 35 | 9  | 14 | 0.08 | 14 | BDL | <b>71</b> | Satisfactory |
| 56 | 29-01-2021 | 79 | 36 | 8  | 14 | 0.08 | 13 | BDL | <b>79</b> | Satisfactory |

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM APRIL 2020 to JANUARY 2021

**Station: RIVONA (Premises of Mahalaximi Temple)**

**City: Rivona**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 23-04-2020 | 49                                                                   | 23                | 9               | 12              | 0.06      | 14             | BDL       | 49  | Good         |
| 2      | 25-04-2020 | 46                                                                   | 29                | 10              | 14              | 0.07      | 15             | BDL       | 48  | Good         |
| 3      | 28-04-2020 | 68                                                                   | 40                | 11              | 13              | 0.06      | 14             | BDL       | 68  | Satisfactory |
| 4      | 01-05-2020 | 67                                                                   | 35                | 9               | 13              | 0.06      | 15             | BDL       | 67  | Satisfactory |
| 5      | 05-05-2020 | 61                                                                   | 32                | 10              | 13              | 0.05      | 15             | BDL       | 61  | Satisfactory |
| 6      | 08-05-2020 | 78                                                                   | 36                | 8               | 12              | 0.06      | 14             | BDL       | 78  | Satisfactory |
| 7      | 12-05-2020 | 63                                                                   | 32                | 9               | 13              | 0.06      | 14             | BDL       | 63  | Satisfactory |
| 8      | 15-05-2020 | 70                                                                   | 39                | 10              | 13              | 0.06      | 13             | BDL       | 70  | Satisfactory |
| 9      | 19-05-2020 | 73                                                                   | 38                | 10              | 13              | 0.06      | 15             | BDL       | 73  | Satisfactory |
| 10     | 22-05-2020 | 78                                                                   | 41                | 11              | 14              | 0.06      | 15             | BDL       | 78  | Satisfactory |
| 11     | 26-05-2020 | 79                                                                   | 39                | 11              | 14              | 0.06      | 15             | BDL       | 79  | Satisfactory |
| 12     | 29-05-2020 | 80                                                                   | 36                | 10              | 13              | 0.06      | 15             | BDL       | 80  | Satisfactory |
| 13     | 02-06-2020 | 58                                                                   | 30                | 8               | 12              | 0.05      | 14             | BDL       | 58  | Satisfactory |
| 14     | 05-06-2020 | 58                                                                   | 30                | 9               | 13              | 0.05      | 14             | BDL       | 58  | Satisfactory |
| 15     | 09-06-2020 | 64                                                                   | 29                | 9               | 13              | 0.05      | 14             | BDL       | 64  | Satisfactory |
| 16     | 12-06-2020 | 57                                                                   | 27                | 8               | 12              | 0.06      | 14             | BDL       | 57  | Satisfactory |
| 17     | 16-06-2020 | 46                                                                   | 23                | 10              | 13              | 0.06      | 14             | BDL       | 46  | Good         |
| 18     | 19-06-2020 | 48                                                                   | 26                | 7               | 11              | 0.05      | 15             | BDL       | 48  | Good         |
| 19     | 23-06-2020 | 47                                                                   | 25                | 9               | 13              | 0.06      | 15             | BDL       | 47  | Good         |
| 20     | 26-06-2020 | 41                                                                   | 21                | 8               | 12              | 0.05      | 14             | BDL       | 41  | Good         |
| 21     | 30-06-2020 | 45                                                                   | 24                | 7               | 11              | 0.05      | 15             | BDL       | 45  | Good         |
| 22     | 03-07-2020 | 49                                                                   | 26                | 7               | 12              | 0.05      | 14             | BDL       | 49  | Good         |
| 23     | 07-07-2020 | 44                                                                   | 27                | 7               | 12              | 0.05      | 14             | BDL       | 44  | Good         |
| 24     | 10-07-2020 | 41                                                                   | 22                | 6               | 11              | 0.05      | 13             | BDL       | 41  | Good         |



|    |            |    |    |    |    |      |    |      |           |              |
|----|------------|----|----|----|----|------|----|------|-----------|--------------|
| 25 | 14-07-2020 | 45 | 24 | 6  | 11 | 0.06 | 13 | BDL  | <b>45</b> | Good         |
| 26 | 17-07-2020 | 38 | 20 | 6  | 11 | 0.05 | 13 | BDL  | <b>38</b> | Good         |
| 27 | 21-07-2020 | 44 | 22 | 6  | 11 | 0.05 | 13 | BDL  | <b>44</b> | Good         |
| 28 | 24-07-2020 | 42 | 23 | 7  | 12 | 0.06 | 14 | BDL  | <b>42</b> | Good         |
| 29 | 28-07-2020 | 41 | 21 | 7  | 12 | 0.05 | 14 | BDL  | <b>41</b> | Good         |
| 30 | 31-07-2020 | 44 | 24 | 6  | 12 | 0.05 | 13 | BDL  | <b>44</b> | Good         |
| 31 | 18-11-2020 | 51 | 14 | 15 | 19 | 1.15 | 8  | 0.07 | <b>58</b> | Satisfactory |
| 32 | 20-11-2020 | 71 | 17 | 8  | 16 | 1.37 | 9  | 0.04 | <b>71</b> | Satisfactory |
| 33 | 25-11-2020 | 85 | 16 | 7  | 13 | 1.11 | 8  | 0.04 | <b>85</b> | Satisfactory |
| 34 | 28-11-2020 | 98 | 21 | 8  | 15 | 1.02 | 8  | 0.03 | <b>98</b> | Satisfactory |
| 35 | 02-12-2020 | 51 | 17 | 10 | 16 | 1.23 | 9  | 0.06 | <b>62</b> | Satisfactory |
| 36 | 04-12-2020 | 57 | 12 | 10 | 18 | 1.03 | 7  | 0.09 | <b>57</b> | Satisfactory |
| 37 | 09-12-2020 | 69 | 22 | 7  | 15 | 0.98 | 6  | 0.02 | <b>69</b> | Satisfactory |
| 38 | 11-12-2020 | 70 | 12 | 5  | 11 | 1.03 | 6  | 0.05 | <b>70</b> | Satisfactory |
| 39 | 16-12-2020 | 46 | 19 | 7  | 11 | 1.13 | 10 | 0.04 | <b>57</b> | Satisfactory |
| 40 | 19-12-2020 | 61 | 11 | 3  | 11 | 1.10 | 9  | 0.04 | <b>61</b> | Satisfactory |
| 41 | 23-12-2020 | 75 | 13 | 3  | 11 | 1.18 | 8  | 0.05 | <b>75</b> | Satisfactory |
| 42 | 25-12-2020 | 64 | 14 | 3  | 11 | 1.03 | 8  | 0.04 | <b>64</b> | Satisfactory |
| 43 | 30-12-2020 | 77 | 17 | 5  | 15 | 1.05 | 9  | 0.03 | <b>77</b> | Satisfactory |
| 44 | 01-01-2021 | 90 | 12 | 5  | 12 | 1.05 | 9  | 0.09 | <b>90</b> | Satisfactory |
| 45 | 06-01-2021 | 57 | 10 | 5  | 14 | 0.94 | 7  | 0.03 | <b>57</b> | Satisfactory |
| 46 | 08-01-2021 | 81 | 10 | 3  | 14 | 0.97 | 10 | 0.02 | <b>81</b> | Satisfactory |
| 47 | 13-01-2021 | 81 | 16 | 3  | 12 | 0.96 | 7  | 0.02 | <b>81</b> | Satisfactory |
| 48 | 15-01-2021 | 71 | 15 | 5  | 11 | 1.14 | 6  | 0.04 | <b>71</b> | Satisfactory |
| 49 | 20-01-2021 | 73 | 12 | 3  | 11 | 1.16 | 8  | 0.11 | <b>73</b> | Satisfactory |
| 50 | 22-01-2021 | 57 | 8  | 3  | 9  | 1.08 | 5  | 0.12 | <b>57</b> | Satisfactory |
| 51 | 27-01-2021 | 76 | 16 | 9  | 15 | 1.01 | 10 | 0.08 | <b>76</b> | Satisfactory |
| 52 | 29-01-2021 | 66 | 12 | 5  | 12 | 1.13 | 13 | 0.04 | <b>66</b> | Satisfactory |

| ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION<br>FROM JUNE 2020 to JANUARY 2021 |            |                                                                         |                   |                 |                 |           |                |           |              |              |
|-------------------------------------------------------------------------------------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|--------------|--------------|
| Station: On the open terrace, Residence of Mr. Anil Faldesai                        |            |                                                                         |                   |                 |                 |           |                |           | City: Cavrem |              |
|                                                                                     |            | Time Weighted Average (TWA)                                             |                   |                 |                 |           |                |           | AQI          | AIR QLTY     |
|                                                                                     |            | 24 - Hour                                                               | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |              |              |
|                                                                                     | Parameters | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |              |              |
| Sr. No                                                                              | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |              |              |
| 1                                                                                   | 23-06-2020 | 41                                                                      | 21                | 7               | 11              | 0.05      | 14             | BDL       | 41           | Good         |
| 2                                                                                   | 26-06-2020 | 45                                                                      | 24                | 7               | 12              | 0.06      | 15             | BDL       | 45           | Good         |
| 3                                                                                   | 29-06-2020 | 47                                                                      | 25                | 7               | 11              | 0.05      | 14             | BDL       | 47           | Good         |
| 4                                                                                   | 03-07-2020 | 43                                                                      | 23                | 6               | 11              | 0.05      | 13             | BDL       | 43           | Good         |
| 5                                                                                   | 07-07-2020 | 36                                                                      | 21                | 6               | 11              | 0.05      | 14             | BDL       | 36           | Good         |
| 6                                                                                   | 10-07-2020 | 39                                                                      | 21                | 6               | 12              | 0.05      | 14             | BDL       | 39           | Good         |
| 7                                                                                   | 14-07-2020 | 38                                                                      | 21                | 6               | 12              | 0.05      | 14             | BDL       | 38           | Good         |
| 8                                                                                   | 17-07-2020 | 36                                                                      | 19                | 6               | 11              | 0.05      | 13             | BDL       | 36           | Good         |
| 9                                                                                   | 21-07-2020 | 37                                                                      | 21                | 6               | 11              | 0.05      | 14             | BDL       | 37           | Good         |
| 10                                                                                  | 24-07-2020 | 38                                                                      | 23                | 6               | 12              | 0.05      | 13             | BDL       | 38           | Good         |
| 11                                                                                  | 28-07-2020 | 41                                                                      | 22                | 6               | 12              | 0.05      | 13             | BDL       | 41           | Good         |
| 12                                                                                  | 31-07-2020 | 46                                                                      | 23                | 6               | 12              | 0.05      | 13             | BDL       | 46           | Good         |
| 13                                                                                  | 04-11-2020 | 63                                                                      | 32                | 7               | 12              | 0.07      | 14             | BDL       | 63           | Satisfactory |
| 14                                                                                  | 06-11-2020 | 67                                                                      | 34                | 7               | 13              | 0.06      | 13             | BDL       | 67           | Satisfactory |
| 15                                                                                  | 10-11-2020 | 64                                                                      | 33                | 7               | 12              | 0.06      | 14             | BDL       | 64           | Satisfactory |
| 16                                                                                  | 13-11-2020 | 73                                                                      | 36                | 7               | 13              | 0.06      | 14             | BDL       | 73           | Satisfactory |
| 17                                                                                  | 17-11-2020 | 71                                                                      | 35                | 7               | 13              | 0.06      | 14             | BDL       | 71           | Satisfactory |
| 18                                                                                  | 20-11-2020 | 66                                                                      | 31                | 7               | 12              | 0.05      | 14             | BDL       | 66           | Satisfactory |
| 19                                                                                  | 24-11-2020 | 64                                                                      | 32                | 7               | 12              | 0.06      | 14             | BDL       | 64           | Satisfactory |
| 20                                                                                  | 27-11-2020 | 61                                                                      | 31                | 7               | 13              | 0.07      | 14             | BDL       | 61           | Satisfactory |
| 21                                                                                  | 01-12-2020 | 86                                                                      | 41                | 9               | 13              | 0.07      | 14             | BDL       | 86           | Satisfactory |
| 22                                                                                  | 04-12-2020 | 90                                                                      | 42                | 10              | 13              | 0.07      | 14             | BDL       | 90           | Satisfactory |
| 23                                                                                  | 08-12-2020 | 87                                                                      | 42                | 8               | 13              | 0.06      | 15             | BDL       | 87           | Satisfactory |
| 24                                                                                  | 11-12-2020 | 82                                                                      | 43                | 8               | 13              | 0.06      | 14             | BDL       | 82           | Satisfactory |

|    |             |    |    |    |    |      |    |     |           |              |
|----|-------------|----|----|----|----|------|----|-----|-----------|--------------|
| 25 | 15-12-2020  | 88 | 47 | 7  | 13 | 0.06 | 14 | BDL | <b>88</b> | Satisfactory |
| 26 | 18-12-2020  | 94 | 45 | 9  | 13 | 0.07 | 14 | BDL | <b>94</b> | Satisfactory |
| 27 | 22-12-2020  | 87 | 46 | 9  | 13 | 0.08 | 16 | BDL | <b>87</b> | Satisfactory |
| 28 | 25-12-2020  | 98 | 45 | 10 | 14 | 0.09 | 16 | BDL | <b>98</b> | Satisfactory |
| 29 | 29-12-2020  | 75 | 34 | 8  | 14 | 0.08 | 15 | BDL | <b>75</b> | Satisfactory |
| 30 | 01-01-2021  | 69 | 33 | 7  | 13 | 0.08 | 13 | BDL | <b>69</b> | Satisfactory |
| 31 | 05-01-2021  | 71 | 37 | 7  | 14 | 0.07 | 14 | BDL | <b>71</b> | Satisfactory |
| 32 | 08-01-2021  | 68 | 33 | 7  | 13 | 0.06 | 13 | BDL | <b>68</b> | Satisfactory |
| 33 | 12/01/.2021 | 63 | 32 | 7  | 13 | 0.06 | 13 | BDL | <b>63</b> | Satisfactory |
| 34 | 15-01-2021  | 69 | 38 | 7  | 13 | 0.07 | 13 | BDL | <b>69</b> | Satisfactory |
| 35 | 19-01-2021  | 80 | 43 | 8  | 13 | 0.07 | 14 | BDL | <b>80</b> | Satisfactory |
| 36 | 22-01-2021  | 72 | 34 | 8  | 14 | 0.08 | 13 | BDL | <b>72</b> | Satisfactory |
| 37 | 26-01-2021  | 71 | 37 | 9  | 14 | 0.08 | 14 | BDL | <b>71</b> | Satisfactory |
| 38 | 29-01-2021  | 74 | 35 | 8  | 15 | 0.08 | 13 | BDL | <b>74</b> | Satisfactory |

**ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM NOVEMBER 2020 to JANUARY 2021**

**Station: On the Open terrace, Residednce of Mr.Sanjay Naik**

**City: Curchorem**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 06-11-2020 | 75                                                                   | 36                | 7               | 13              | 0.07      | 14             | BDL       | 75  | Satisfactory |
| 2      | 10-11-2020 | 79                                                                   | 38                | 9               | 13              | 0.06      | 14             | BDL       | 79  | Satisfactory |
| 3      | 13-11-2020 | 78                                                                   | 39                | 8               | 13              | 0.07      | 14             | BDL       | 78  | Satisfactory |
| 4      | 17-11-2020 | 73                                                                   | 37                | 7               | 13              | 0.06      | 13             | BDL       | 73  | Satisfactory |
| 5      | 20-11-2020 | 72                                                                   | 36                | 7               | 12              | 0.06      | 14             | BDL       | 72  | Satisfactory |
| 6      | 24-11-2020 | 81                                                                   | 41                | 8               | 13              | 0.07      | 14             | BDL       | 81  | Satisfactory |
| 7      | 27-11-2020 | 75                                                                   | 35                | 6               | 12              | 0.07      | 14             | BDL       | 75  | Satisfactory |
| 8      | 01-12-2020 | 90                                                                   | 44                | 10              | 13              | 0.07      | 14             | BDL       | 90  | Satisfactory |
| 9      | 04-12-2020 | 99                                                                   | 49                | 10              | 13              | 0.07      | 15             | BDL       | 99  | Satisfactory |

|    |            |    |    |    |    |      |    |     |           |              |
|----|------------|----|----|----|----|------|----|-----|-----------|--------------|
| 10 | 08-12-2020 | 74 | 36 | 10 | 13 | 0.06 | 14 | BDL | <b>74</b> | Satisfactory |
| 11 | 11-12-2020 | 94 | 43 | 10 | 13 | 0.07 | 15 | BDL | <b>94</b> | Satisfactory |
| 12 | 15-12-2020 | 96 | 45 | 9  | 12 | 0.08 | 15 | BDL | <b>96</b> | Satisfactory |
| 13 | 18-12-2020 | 97 | 40 | 10 | 13 | 0.08 | 15 | BDL | <b>97</b> | Satisfactory |
| 14 | 22-12-2020 | 85 | 45 | 9  | 14 | 0.08 | 15 | BDL | <b>85</b> | Satisfactory |
| 15 | 25-12-2020 | 86 | 46 | 10 | 14 | 0.07 | 15 | BDL | <b>86</b> | Satisfactory |
| 16 | 29-12-2020 | 76 | 35 | 8  | 14 | 0.07 | 15 | BDL | <b>76</b> | Satisfactory |
| 17 | 01-01-2021 | 75 | 33 | 8  | 14 | 0.08 | 13 | BDL | <b>75</b> | Satisfactory |
| 18 | 05-01-2021 | 67 | 32 | 7  | 13 | 0.07 | 13 | BDL | <b>67</b> | Satisfactory |
| 19 | 08-01-2021 | 74 | 35 | 8  | 14 | 0.06 | 13 | BDL | <b>74</b> | Satisfactory |
| 20 | 12-01-2021 | 65 | 33 | 8  | 14 | 0.08 | 13 | BDL | <b>65</b> | Satisfactory |
| 21 | 15-01-2021 | 70 | 38 | 9  | 14 | 0.08 | 13 | BDL | <b>70</b> | Satisfactory |
| 22 | 19-01-2021 | 83 | 43 | 9  | 13 | 0.08 | 14 | BDL | <b>83</b> | Satisfactory |
| 23 | 22-01-2021 | 80 | 43 | 8  | 15 | 0.08 | 15 | BDL | <b>80</b> | Satisfactory |
| 24 | 26-01-2021 | 85 | 45 | 10 | 14 | 0.07 | 15 | BDL | <b>85</b> | Satisfactory |
| 25 | 29-01-2021 | 78 | 36 | 8  | 14 | 0.08 | 14 | BDL | <b>78</b> | Satisfactory |

**ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION  
FROM DECEMBER 2020 to JANUARY 2021**

**Station: Open Tarrace of Mr Mangaldas Gawade**

**City: Mollem**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 30-12-2020 | 86                                                                   | 12                | 7               | 12              | 1.07      | 9              | 0.10      | 86  | Satisfactory |
| 2      | 01-01-2021 | 77                                                                   | 16                | 3               | 13              | 0.97      | 8              | 0.03      | 77  | Satisfactory |
| 3      | 05-01-2021 | 55                                                                   | 11                | 9               | 12              | 1.05      | 8              | 0.16      | 55  | Satisfactory |
| 4      | 07-01-2021 | 50                                                                   | 9                 | 5               | 15              | 1.05      | 8              | 0.02      | 53  | Satisfactory |
| 5      | 12-01-2021 | 75                                                                   | 10                | 3               | 13              | 1.08      | 6              | 0.03      | 75  | Satisfactory |
| 6      | 14-01-2021 | 69                                                                   | 14                | 9               | 15              | 1.11      | 8              | 0.05      | 69  | Satisfactory |
| 7      | 19-01-2021 | 62                                                                   | 13                | 10              | 17              | 0.92      | 8              | 0.12      | 62  | Satisfactory |
| 8      | 21-01-2021 | 84                                                                   | 18                | 3               | 10              | 1.04      | 8              | 0.12      | 84  | Satisfactory |

|    |            |    |    |   |    |      |    |      |           |              |
|----|------------|----|----|---|----|------|----|------|-----------|--------------|
| 9  | 26-01-2021 | 87 | 15 | 7 | 16 | 1.03 | 9  | 0.06 | <b>87</b> | Satisfactory |
| 10 | 28-01-2021 | 90 | 12 | 3 | 15 | 1.14 | 10 | 0.06 | <b>90</b> | Satisfactory |

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM JANUARY 2021 to MARCH 2021

**Station: Open Tarrace Of Mr Ramanath Setu Naik**

**City: Uguem**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 22-01-2021 | 76                                                                   | 12                | 7               | 15              | 1.17      | 9              | 0.07      | 76  | Satisfactory |
| 2      | 26-01-2021 | 70                                                                   | 12                | 5               | 10              | 0.91      | 5              | 0.05      | 70  | Satisfactory |
| 3      | 28-01-2021 | 87                                                                   | 18                | 3               | 11              | 1.07      | 8              | 0.03      | 87  | Satisfactory |
| 4      | 02-02-2021 | 86                                                                   | 15                | 5               | 17              | 1.05      | 10             | 0.04      | 86  | Satisfactory |
| 5      | 04-02-2021 | 59                                                                   | 11                | 5               | 12              | 1.14      | 7              | 0.05      | 59  | Satisfactory |
| 6      | 09-02-2021 | 75                                                                   | 10                | 5               | 14              | 0.97      | 10             | 0.05      | 75  | Satisfactory |
| 7      | 11-02-2021 | 60                                                                   | 14                | 3               | 12              | 0.97      | 6              | 0.04      | 60  | Satisfactory |
| 8      | 16-02-2021 | 82                                                                   | 10                | 3               | 17              | 0.97      | 8              | 0.03      | 82  | Satisfactory |
| 9      | 18-02-2021 | 82                                                                   | 15                | 7               | 16              | 0.88      | 9              | 0.11      | 82  | Satisfactory |
| 10     | 23-02-2021 | 85                                                                   | 18                | 5               | 13              | 0.85      | 7              | 0.16      | 85  | Satisfactory |
| 11     | 25-02-2021 | 60                                                                   | 11                | 7               | 12              | 0.95      | 6              | 0.10      | 60  | Satisfactory |
| 12     | 02.03.2021 | 60                                                                   | 12                | 5               | 11              | 0.85      | 7              | 0.02      | 60  | Satisfactory |
| 13     | 04.03.2021 | 69                                                                   | 15                | 10              | 16              | 0.91      | 6              | 0.04      | 69  | Satisfactory |
| 14     | 09.03.2021 | 85                                                                   | 12                | 3               | 11              | 0.88      | 6              | 0.01      | 85  | Satisfactory |
| 15     | 11.03.2021 | 67                                                                   | 10                | 5               | 12              | 0.85      | 8              | 0.01      | 67  | Satisfactory |
| 16     | 16.03.2021 | 84                                                                   | 12                | 8               | 14              | 0.92      | 9              | 0.02      | 84  | Satisfactory |
| 17     | 18.03.2021 | 59                                                                   | 9                 | 5               | 12              | 0.92      | 7              | 0.05      | 59  | Satisfactory |
| 18     | 23.03.2021 | 70                                                                   | 12                | 8               | 16              | 0.89      | 8              | 0.01      | 70  | Satisfactory |
| 19     | 25.03.2021 | 80                                                                   | 17                | 3               | 11              | 0.84      | 6              | 0.05      | 80  | Satisfactory |
| 20     | 30.03.2021 | 86                                                                   | 13                | 6               | 13              | 0.92      | 7              | 0.06      | 86  | Satisfactory |

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FOR THE MONTH OF JANUARY 2021

**Station: On the Open Terrace of Residential House of Mr. Ravindra Phalakar      City: Mayem**

|        |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 05-01-2021 | 48                                                                   | 12                | 3               | 12              | 1.03      | 10             | 0.07      | 52  | Satisfactory |
| 2      | 07-01-2021 | 54                                                                   | 10                | 3               | 13              | 0.99      | 10             | 0.01      | 54  | Satisfactory |
| 3      | 12-01-2021 | 80                                                                   | 13                | 5               | 11              | 1.00      | 9              | 0.04      | 80  | Satisfactory |
| 4      | 14-01-2021 | 66                                                                   | 12                | 7               | 13              | 1.03      | 6              | 0.08      | 66  | Satisfactory |
| 5      | 19-01-2021 | 83                                                                   | 17                | 3               | 11              | 1.12      | 9              | 0.09      | 83  | Satisfactory |
| 6      | 21-01-2021 | 65                                                                   | 17                | 9               | 15              | 0.99      | 7              | 0.11      | 65  | Satisfactory |
| 7      | 26-01-2021 | 67                                                                   | 16                | 5               | 16              | 0.96      | 10             | 0.06      | 67  | Satisfactory |
| 8      | 28-01-2021 | 79                                                                   | 19                | 9               | 14              | 1.06      | 13             | 0.05      | 79  | Satisfactory |

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FOR THE MONTH OF JANUARY 2021

**Station: At Open Space of Govt. Primary School, Fanaswadi      City: Naveli**

|       |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|-------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|       |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|       | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr No | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1     | 05-01-2021 | 48                                                                   | 10                | 5               | 14              | 0.88      | 9              | 0.13      | 48  | Good         |
| 2     | 07-01-2021 | 37                                                                   | 10                | 7               | 12              | 1.10      | 9              | 0.03      | 55  | Satisfactory |
| 3     | 12-01-2021 | 86                                                                   | 15                | 9               | 15              | 1.00      | 10             | 0.03      | 86  | Satisfactory |
| 4     | 14-01-2021 | 51                                                                   | 11                | 3               | 11              | 0.94      | 8              | 0.03      | 51  | Satisfactory |
| 5     | 19-01-2021 | 73                                                                   | 15                | 7               | 15              | 1.00      | 6              | 0.10      | 73  | Satisfactory |
| 6     | 21-01-2021 | 60                                                                   | 11                | 5               | 12              | 0.92      | 10             | 0.13      | 60  | Satisfactory |
| 7     | 26-01-2021 | 77                                                                   | 20                | 9               | 19              | 1.10      | 10             | 0.04      | 77  | Satisfactory |

|   |            |    |    |   |    |      |    |      |           |              |
|---|------------|----|----|---|----|------|----|------|-----------|--------------|
| 8 | 28-01-2021 | 90 | 12 | 7 | 16 | 1.00 | 12 | 0.03 | <b>90</b> | Satisfactory |
|---|------------|----|----|---|----|------|----|------|-----------|--------------|

| ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM JANUARY 2021 to MARCH 2021 |            |                                                                      |                   |                 |                 |           |                |           |                |              |
|-----------------------------------------------------------------------------------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|----------------|--------------|
| Station: On the Open Terrace of Residential House Mr. Vishnu Gawas                |            |                                                                      |                   |                 |                 |           |                |           | City: Bicholim |              |
|                                                                                   |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI            | AIR QLTY     |
|                                                                                   |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |                |              |
|                                                                                   | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |                |              |
| Sr. No                                                                            | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |                |              |
| 1                                                                                 | 05-01-2021 | 79                                                                   | 11                | 7               | 13              | 0.93      | 7              | 0.10      | 79             | Satisfactory |
| 2                                                                                 | 07-01-2021 | 51                                                                   | 11                | 3               | 12              | 1.03      | 10             | 0.05      | 52             | Satisfactory |
| 3                                                                                 | 12-01-2021 | 87                                                                   | 17                | 3               | 11              | 1.03      | 9              | 0.02      | 87             | Satisfactory |
| 4                                                                                 | 14-01-2021 | 65                                                                   | 11                | 7               | 13              | 1.08      | 6              | 0.05      | 65             | Satisfactory |
| 5                                                                                 | 19-01-2021 | 71                                                                   | 12                | 5               | 16              | 0.92      | 7              | 0.12      | 71             | Satisfactory |
| 6                                                                                 | 21-01-2021 | 69                                                                   | 9                 | 3               | 11              | 0.93      | 7              | 0.12      | 69             | Satisfactory |
| 7                                                                                 | 26-01-2021 | 77                                                                   | 14                | 3               | 12              | 0.99      | 7              | 0.09      | 77             | Satisfactory |
| 8                                                                                 | 28-01-2021 | 81                                                                   | 11                | 5               | 14              | 1.03      | 6              | 0.04      | 81             | Satisfactory |
| 9                                                                                 | 11-02-2021 | 64                                                                   | 12                | 7               | 15              | 1.03      | 5              | 0.03      | 64             | Satisfactory |
| 10                                                                                | 16-02-2021 | 70                                                                   | 15                | 3               | 13              | 1.05      | 8              | 0.14      | 70             | Satisfactory |
| 11                                                                                | 18-02-2021 | 76                                                                   | 14                | 7               | 14              | 0.94      | 8              | 0.12      | 76             | Satisfactory |
| 12                                                                                | 23-02-2021 | 70                                                                   | 12                | 5               | 12              | 0.88      | 6              | 0.07      | 70             | Satisfactory |
| 13                                                                                | 25-02-2021 | 76                                                                   | 13                | 7               | 13              | 0.94      | 7              | 0.11      | 76             | Satisfactory |
| 14                                                                                | 10.03.2021 | 66                                                                   | 10                | 5               | 11              | 0.97      | 9              | 0.01      | 66             | Satisfactory |
| 15                                                                                | 12.03.2021 | 75                                                                   | 11                | 8               | 14              | 1.00      | 8              | 0.01      | 75             | Satisfactory |
| 16                                                                                | 16.03.2021 | 76                                                                   | 9                 | 5               | 12              | 0.92      | 5              | 0.03      | 76             | Satisfactory |
| 17                                                                                | 18.03.2021 | 59                                                                   | 10                | 3               | 11              | 0.86      | 6              | 0.04      | 59             | Satisfactory |
| 18                                                                                | 23.03.2021 | 64                                                                   | 9                 | 5               | 14              | 1.02      | 7              | 0.03      | 64             | Satisfactory |
| 19                                                                                | 25.03.2021 | 82                                                                   | 13                | 6               | 13              | 0.96      | 9              | 0.03      | 82             | Satisfactory |
| 20                                                                                | 30.03.2021 | 68                                                                   | 8                 | 5               | 12              | 0.89      | 7              | 0.04      | 68             | Satisfactory |

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FOR THE MONTH OF JANUARY 2021

| Station: On the Open Terrace of Residential House Mr. Baliram Malik |            |                                                                      |                   |                 |                 |           |                |           | City: Sirsaim |              |
|---------------------------------------------------------------------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|---------------|--------------|
|                                                                     |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI           | AIR QLTY     |
|                                                                     |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |               |              |
|                                                                     | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |               |              |
| Sr. No                                                              | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |               |              |
| 1                                                                   | 05-01-2021 | 69                                                                   | 11                | 3               | 11              | 0.97      | 8              | 0.10      | 69            | Satisfactory |
| 2                                                                   | 07-01-2021 | 46                                                                   | 12                | 7               | 16              | 0.90      | 8              | 0.06      | 46            | Good         |
| 3                                                                   | 12-01-2021 | 69                                                                   | 15                | 7               | 14              | 0.93      | 7              | 0.04      | 69            | Satisfactory |
| 4                                                                   | 14-01-2021 | 74                                                                   | 12                | 5               | 13              | 0.89      | 8              | 0.06      | 74            | Satisfactory |
| 5                                                                   | 19-01-2021 | 79                                                                   | 10                | 3               | 12              | 1.15      | 9              | 0.07      | 79            | Satisfactory |
| 6                                                                   | 21-01-2021 | 75                                                                   | 17                | 9               | 16              | 1.09      | 9              | 0.11      | 75            | Satisfactory |
| 7                                                                   | 26-01-2021 | 90                                                                   | 15                | 5               | 14              | 1.16      | 8              | 0.08      | 90            | Satisfactory |
| 8                                                                   | 28-01-2021 | 67                                                                   | 18                | 7               | 13              | 1.19      | 9              | 0.08      | 67            | Satisfactory |

### ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FOR THE MONTH OF JANUARY 2021

| Station: Open Tarrace Of Mr Paresh Shirodkar |            |                                                                      |                   |                 |                 |           |                |           | City: Mayem |              |
|----------------------------------------------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-------------|--------------|
|                                              |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI         | AIR QLTY     |
|                                              |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |             |              |
|                                              | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |             |              |
| Sr. No                                       | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |             |              |
| 1                                            | 12-01-2021 | 68                                                                   | 11                | 5               | 12              | 1.14      | 8              | 0.05      | 68          | Satisfactory |
| 2                                            | 14-01-2021 | 87                                                                   | 17                | 3               | 11              | 0.93      | 7              | 0.05      | 87          | Satisfactory |
| 3                                            | 19-01-2021 | 96                                                                   | 12                | 5               | 15              | 0.97      | 7              | 0.13      | 96          | Satisfactory |
| 4                                            | 21-01-2021 | 54                                                                   | 10                | 7               | 12              | 1.11      | 6              | 0.12      | 56          | Satisfactory |
| 5                                            | 26-01-2021 | 68                                                                   | 19                | 3               | 13              | 1.05      | 6              | 0.06      | 68          | Satisfactory |
| 6                                            | 28-01-2021 | 83                                                                   | 15                | 9               | 15              | 0.97      | 8              | 0.03      | 83          | Satisfactory |



## ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM FEBRUARY 2021 to MARCH 2021

**Station: Open Terrace of Mr. Budnesab Vatnal**

**City:Sanvordem**

|        |            | Time Weighted Average (TWA)                                             |                   |                 |                 |           |                |           | AQI | AIR QLTY     |
|--------|------------|-------------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-----|--------------|
|        |            | 24 - Hour                                                               | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |     |              |
|        | Parameters | Pollutants concentration in µg/m3<br>(except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |     |              |
| Sr. No | Date       | PM <sub>10</sub>                                                        | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |     |              |
| 1      | 02-02-2021 | 84                                                                      | 16                | 3               | 16              | 1.10      | 8              | 0.07      | 84  | Satisfactory |
| 2      | 04-02-2021 | 80                                                                      | 12                | 7               | 15              | 1.08      | 12             | 0.03      | 80  | Satisfactory |
| 3      | 09-02-2021 | 81                                                                      | 11                | 3               | 12              | 1.03      | 8              | 0.06      | 81  | Satisfactory |
| 4      | 11-02-2021 | 72                                                                      | 15                | 5               | 13              | 0.93      | 8              | 0.04      | 72  | Satisfactory |
| 5      | 16-02-2021 | 75                                                                      | 13                | 7               | 15              | 1.00      | 7              | 0.09      | 75  | Satisfactory |
| 6      | 18-02-2021 | 77                                                                      | 11                | 5               | 13              | 0.89      | 9              | 0.18      | 77  | Satisfactory |
| 7      | 23-02-2021 | 89                                                                      | 9                 | 3               | 11              | 0.93      | 5              | 0.11      | 89  | Satisfactory |
| 8      | 25-02-2021 | 62                                                                      | 10                | 5               | 10              | 0.84      | 4              | 0.10      | 62  | Satisfactory |
| 9      | 02.03.2021 | 87                                                                      | 15                | 3               | 12              | 0.94      | 7              | 0.02      | 87  | Satisfactory |
| 10     | 04.03.2021 | 92                                                                      | 16                | 3               | 16              | 1.02      | 5              | 0.02      | 92  | Satisfactory |
| 11     | 09.03.2021 | 75                                                                      | 13                | 6               | 13              | 0.89      | 9              | 0.01      | 75  | Satisfactory |
| 12     | 11.03.2021 | 77                                                                      | 14                | 8               | 14              | 0.92      | 9              | 0.01      | 77  | Satisfactory |
| 13     | 16.03.2021 | 68                                                                      | 13                | 5               | 17              | 0.94      | 10             | 0.03      | 68  | Satisfactory |
| 14     | 18.03.2021 | 88                                                                      | 15                | 8               | 18              | 1.05      | 12             | 0.04      | 88  | Satisfactory |
| 15     | 23.03.2021 | 90                                                                      | 18                | 10              | 24              | 1.00      | 13             | 0.06      | 90  | Satisfactory |
| 16     | 25.03.2021 | 83                                                                      | 14                | 6               | 15              | 0.94      | 10             | 0.05      | 83  | Satisfactory |
| 17     | 30.03.2021 | 83                                                                      | 17                | 10              | 20              | 1.00      | 12             | 0.06      | 83  | Satisfactory |

| ANNUAL AAQM DATA OF MINING TRANSPORTATION STATION FROM FEBRUARY 2021 to MARCH 2021 |            |                                                                      |                   |                 |                 |           |                |           |             |              |
|------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------|-------------------|-----------------|-----------------|-----------|----------------|-----------|-------------|--------------|
| Station: Office Primeses fo M/s. Eyster Finanance Leasing Pvt. Ltd.                |            |                                                                      |                   |                 |                 |           |                |           | City:Collem |              |
|                                                                                    |            | Time Weighted Average (TWA)                                          |                   |                 |                 |           |                |           | AQI         | AIR QLTY     |
|                                                                                    |            | 24 - Hour                                                            | 24 - Hour         | 24 - Hour       | 24 - Hour       | 24 - Hour | 24 - Hour      | 24 - Hour |             |              |
|                                                                                    | Parameters | Pollutants concentration in µg/m3 (except for *CO which is in mg/m3) |                   |                 |                 |           |                |           |             |              |
| Sr .No                                                                             | Date       | PM <sub>10</sub>                                                     | PM <sub>2.5</sub> | SO <sub>2</sub> | NO <sub>2</sub> | *CO       | O <sub>3</sub> | Pb        |             |              |
| 1                                                                                  | 10-02-2021 | 64                                                                   | 13                | 5               | 15              | 1.00      | 7              | 0.03      | 64          | Satisfactory |
| 2                                                                                  | 12-02-2021 | 66                                                                   | 16                | 9               | 12              | 0.89      | 7              | 0.03      | 66          | Satisfactory |
| 3                                                                                  | 17-02-2021 | 66                                                                   | 10                | 3               | 12              | 0.94      | 8              | 0.13      | 66          | Satisfactory |
| 4                                                                                  | 19-02-2021 | 80                                                                   | 12                | 7               | 11              | 0.88      | 5              | 0.04      | 80          | Satisfactory |
| 5                                                                                  | 24-02-2021 | 51                                                                   | 10                | 3               | 10              | 0.85      | 5              | 0.10      | 51          | Satisfactory |
| 6                                                                                  | 26-02-2021 | 68                                                                   | 14                | 3               | 11              | 0.84      | 4              | 0.11      | 68          | Satisfactory |
| 7                                                                                  | 02.03.2021 | 59                                                                   | 10                | 6               | 14              | 0.85      | 6              | 0.04      | 59          | Satisfactory |
| 8                                                                                  | 04.03.2021 | 52                                                                   | 8                 | 8               | 15              | 0.83      | 9              | 0.03      | 52          | Satisfactory |
| 9                                                                                  | 09.03.2021 | 63                                                                   | 7                 | 5               | 12              | 0.92      | 7              | 0.01      | 63          | Satisfactory |
| 10                                                                                 | 11.03.2021 | 65                                                                   | 10                | 6               | 14              | 0.88      | 6              | 0.01      | 65          | Satisfactory |
| 11                                                                                 | 16.03.2021 | 72                                                                   | 12                | 3               | 11              | 0.84      | 6              | 0.04      | 72          | Satisfactory |
| 12                                                                                 | 18.03.2021 | 62                                                                   | 10                | 5               | 11              | 0.83      | 6              | 0.09      | 62          | Satisfactory |
| 13                                                                                 | 23.03.2021 | 51                                                                   | 7                 | 3               | 10              | 0.88      | 7              | 0.04      | 51          | Satisfactory |
| 14                                                                                 | 25.03.2021 | 71                                                                   | 9                 | 5               | 13              | 0.94      | 6              | 0.05      | 71          | Satisfactory |
| 15                                                                                 | 30.03.2021 | 73                                                                   | 12                | 3               | 10              | 0.89      | 7              | 0.05      | 73          | Satisfactory |

# - No Monitoring

ANNEXURE X

AAQM Data for Deepawali 2020

Ambient Air Quality during Deepawali Festival was monitored from 07.11.2020 to 21.11.2020. The AAQM data during the said period is placed below at table.

| Name of the Location: Pattoo, Panaji-Goa |                                      | Regulatory parameters                |                                       |                                        |                            |                         | New parameters          |                                      |                         |                         |
|------------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|----------------------------------------|----------------------------|-------------------------|-------------------------|--------------------------------------|-------------------------|-------------------------|
| Date                                     | SO <sub>2</sub> (µg/m <sup>3</sup> ) | NO <sub>2</sub> (µg/m <sup>3</sup> ) | PM <sub>10</sub> (µg/m <sup>3</sup> ) | PM <sub>2.5</sub> (µg/m <sup>3</sup> ) | Metals in PM <sub>10</sub> |                         |                         | Metals/Elements in PM <sub>2.5</sub> |                         |                         |
|                                          |                                      |                                      |                                       |                                        | Pb (µg/m <sup>3</sup> )    | Ni (ng/m <sup>3</sup> ) | As (ng/m <sup>3</sup> ) | Al (µg/m <sup>3</sup> )              | Ba (µg/m <sup>3</sup> ) | Fe (µg/m <sup>3</sup> ) |
| 07-11-2020                               | BDL                                  | 12                                   | 57                                    | *                                      | 0.04                       | 8.93                    | 0.00                    | *                                    | *                       | *                       |
| 08-11-2020                               | BDL                                  | 9                                    | 66                                    | *                                      | 0.01                       | 14.17                   | 0.00                    | *                                    | *                       | *                       |
| 09-11-2020                               | BDL                                  | BDL                                  | 50                                    | 40                                     | 0.00                       | 3.63                    | 0.00                    | <0.0004                              | 9.47                    | 1.023                   |
| 10-11-2020                               | BDL                                  | 13                                   | 61                                    | 17                                     | 0.08                       | 14.87                   | 0.00                    | <0.0004                              | 19.50                   | 0.644                   |
| 11-11-2020                               | BDL                                  | 17                                   | 72                                    | 29                                     | 0.03                       | 6.23                    | 0.00                    | <0.0004                              | 7.48                    | 1.382                   |
| 12-11-2020                               | BDL                                  | BDL                                  | 56                                    | 41                                     | 0.01                       | 4.17                    | 0.00                    | <0.0004                              | 18.88                   | 0.348                   |
| 13-11-2020                               | BDL                                  | 16                                   | 61                                    | 30                                     | 0.01                       | 15.06                   | 0.00                    | <0.0004                              | 11.02                   | 0.892                   |
| 14-11-2020                               | BDL                                  | 16                                   | 77                                    | 10                                     | 0.00                       | 10.73                   | 0.00                    | <0.0004                              | 15.09                   | 0.197                   |
| 15-11-2020                               | BDL                                  | BDL                                  | 36                                    | 15                                     | 0.00                       | 8.8                     | 0.00                    | <0.0004                              | 18.25                   | 0.489                   |
| 16-11-2020                               | BDL                                  | 15                                   | 41                                    | 12                                     | 0.00                       | 10.86                   | 0.00                    | <0.0004                              | 1.48                    | 0.092                   |
| 17-11-2020                               | BDL                                  | 15                                   | 39                                    | *                                      | 0.00                       | 12.93                   | 0.00                    | *                                    | *                       | *                       |
| 18-11-2020                               | BDL                                  | 14                                   | 39                                    | 24                                     | 0.01                       | 11.33                   | 0.00                    | <0.0004                              | 16.73                   | 31.274                  |
| 19-11-2020                               | BDL                                  | 11                                   | 28                                    | 18                                     | 0.01                       | 10.23                   | 0.00                    | <0.0004                              | 7.47                    | 0.795                   |
| 20-11-2020                               | BDL                                  | 10                                   | 28                                    | 8                                      | 0.01                       | 9.63                    | 0.00                    | <0.0004                              | 8.07                    | 1.568                   |
| 21-11-2020                               | BDL                                  | 16                                   | 34                                    | 39                                     | 0.06                       | 10.67                   | 0.00                    | <0.0004                              | 14.28                   | 0.949                   |
| NAAQS (24 hrly Avg)                      | 80                                   | 80                                   | 100                                   | 60                                     | 1.0                        |                         |                         |                                      |                         |                         |

Note- \* No Monitoring due to Machine Failure.

Interpretation of Ambient Air Quality Data/Result:

No exceedence of PM10 & PM2.5 Values observed during 15 days of monitoring.  
Low to high density Light Motor Vehicular movement & low density Heavy Motor Vehicular movement during Monitoring 14-11-2020 (Deepawali day) – Low to High density Light Motor Vehicular movement & Burning of fire crackers observed.

# ANNEXURE XI

| Colva creek Upstream, Colva, April 2020- March 2021 |                                  |        |        |        |        |        |        |        |         |         |        |        |         |                 |
|-----------------------------------------------------|----------------------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|---------|-----------------|
| Sr. no.                                             | Parameters                       | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20  | Dec-20  | Jan-21 | Feb-21 | Mar-21  | Limit           |
| 1                                                   | Temp (°C)                        | 29     | 30     | 30     | 28     | 28     | 27     | 28     | 30      | 30      | 30     | 30     | 31      |                 |
| 2                                                   | DO (mg/l)                        | 5.2    | 2.9    | 1.3    | 5.4    | 5.7    | 5.2    | 4.5    | 4.8     | 6       | 5.7    | 7.2    | 4.2     | ≥ 5 mg/l        |
| 3                                                   | pH                               | 8.3    | 8.2    | 7.20   | 6.75   | 7.41   | 6.47   | 6.5    | 7.04    | 7.35    | 6.43   | 8.87   | 6.88    | 6.5-8.5         |
| 4                                                   | Cond (µs/cm)                     | 34200  | 33920  | 1338   | 269.01 | 242.5  | 127.92 | 236.16 | 24920.0 | 13000   | 12720  | 4920   | 35750   |                 |
| 5                                                   | BOD (mg/l)                       | 6      | 6      | 7.2    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL     | BDL    | 2.4    | 3.4     | ≤ 3.0 mg/l      |
| 6                                                   | Nitrate-N (mg/l)                 | 0.24   | BDL    | 2.5    | 0.15   | BDL    | 0.42   | BDL    | 0.13    | 0.1     | BDL    | 0.28   | 0.17    |                 |
| 7                                                   | Nitrite-N (mg/l)                 | bdl    | BDL    | 0.186  | 0.012  | BDL    | BDL    | 0.007  | BDL     | 0.006   | 0.015  | BDL    | 0.01    |                 |
| 8                                                   | Total Coliform (MPN/100ml)       | 7900   | 5400   | 3300   | 6300   | 4600   | 4900   | 4600   | 3300    | 2400    | 3300   | 2100   | 2200    | ≤500 MPN/100 ml |
| 9                                                   | Fecal Coliform (MPN/100ml)       | 4900   | 2400   | 2300   | 3100   | 2100   | 3300   | 2300   | 1300    | 790     | 2300   | 1300   | 1700    |                 |
| 10                                                  | Fecal Streptococci (MPN/100ml)   | -      | -      | -      | 71     | 10.3   | >1601  | 541    | 281     | 541     | 171    | 121    | 221     |                 |
| 11                                                  | Turbidity (NTU)                  | 5.78   | 3.25   | 3.35   | 3.01   | 3.75   | 6.58   | 5.89   | 9.28    | 13.12   | 5.18   | 2.55   | 4.95    |                 |
| 12                                                  | Phenolphthalein Alkalinity(mg/l) | 20     | 22     | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL     | BDL    | 10     | BDL     |                 |
| 13                                                  | Total Alkalinity(mg/l)           | 92     | 100    | 144.0  | 64     | 44.0   | 40.0   | 50.0   | 98.0    | 90      | 82     | 112    | 140     |                 |
| 14                                                  | Chlorides (mg/l)                 | 11462  | 10078  | 235.3  | 45.8   | 33.0   | 35.0   | 35.22  | 9597.0  | 5136.71 | 4525   | 1949.4 | 11996.3 |                 |
| 15                                                  | COD (mg/l)                       | -      | -      | 16.0   | 13.0   | 18.0   | 10.0   | 8.0    | -       | -       | -      | 42     | -       |                 |
| 16                                                  | Total Kjeldhal Nitrogen (mg/l)   | -      | -      | -      | -      | -      | -      | -      | -       | -       | -      | 7      | 7       |                 |
| 17                                                  | Ammonia- N (mg/l)                | 0.24   | 0.319  | 0.62   | 0.2    | 0.06   | BDL    | 0.05   | 0.41    | BDL     | BDL    | 0.13   | 0.22    |                 |
| 18                                                  | Total Hardness (mg/l)            | 3140   | 3400   | 218.0  | 66.0   | 54.0   | 42.0   | 38.0   | 1600.0  | 4500    | 5000   | 240    | 1700    |                 |
| 19                                                  | Calcium (mg/l)                   | 256    | 401    | 50.5   | 14.4   | 12.02  | 13.0   | 7.2    | 320.6   | 1002    | 1202   | 48.1   | 192.4   |                 |
| 20                                                  | Magnesium (mg/l)                 | 608    | 583    | 22.4   | 7.3    | 5.8    | 2.0    | 7.4    | 194.4   | 850.01  | 486    | 29.2   | 296.5   |                 |
| 21                                                  | Sulphate (mg/l)                  | 1678   | 323    | 113.0  | 34.4   | 28.66  | 38.00  | 7.11   | 538.6   | 554.59  | 587    | 146.6  | 1368.6  |                 |
| 22                                                  | Total Dissolved Solids (mg/l)    | 23940  | 23744  | 837.0  | 167.0  | 145.0  | 75.0   | 142.0  | 14428.0 | 7742    | 7624   | 2610   | 20791   |                 |
| 23                                                  | Total Fixed Solids (mg/l)        | 9576   | 9498   | 527.0  | 93.0   | 139.0  | 32.0   | 73.0   | 7228.0  | 2220    | 3805   | 1535   | 12205   |                 |
| 24                                                  | Total Suspended Solids (mg/l)    | 32     | 22     | 28.0   | 28.0   | 8.0    | 19.0   | 36.0   | 54.0    | 54      | 49     | 63     | 65      |                 |
| 25                                                  | Phosphate (mg/l)                 | 0.08   | 0.32   | 1.11   | 0.22   | 0.10   | 0.11   | 0.108  | 0.29    | 0.077   | 0.071  | 0.06   | 0.29    |                 |
| 26                                                  | Flouride (mg/l)                  | BDL    | BDL    | 0.3    | BDL    | 0.94   | 0.27   | BDL    | 1.48    | 0.25    | 0.204  | BDL    | 0.34    |                 |

| Colva creek Downstream, Colva, April 2020- March 2021 |                                  |        |        |        |        |        |        |        |         |         |        |        |         |                 |
|-------------------------------------------------------|----------------------------------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|---------|-----------------|
| Sr. no.                                               | Parameters                       | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20  | Dec-20  | Jan-21 | Feb-21 | Mar-21  | Limit           |
| 1                                                     | Temp (°C)                        | 29     | 30     | 30     | 28     | 28     | 27     | 28     | 30      | 30      | 30     | 29     | 31      |                 |
| 2                                                     | DO (mg/l)                        | 5.5    | 3.9    | 1.4    | 5.3    | 5.9    | 5.9    | 4.5    | 5.1     | 5       | 6.4    | 8      | 4.4     | ≥ 5 mg/l        |
| 3                                                     | pH                               | 8.5    | 8.2    | 7.24   | 6.77   | 7.31   | 6.56   | 6.41   | 7.1     | 7.04    | 7      | 8.22   | 6.92    | 6.5-8.5         |
| 4                                                     | Cond (µs/cm)                     | 34720  | 34990  | 1457   | 261.2  | 255.86 | 123.08 | 247.01 | 25790.0 | 15470   | 12530  | 4980   | 35180   |                 |
| 5                                                     | BOD (mg/l)                       | 4.7    | 4.8    | 7.2    | BDL    | BDL    | 2.1    | BDL    | BDL     | BDL     | BDL    | 3.2    | 3.2     | ≤ 3.0 mg/l      |
| 6                                                     | Nitrate-N (mg/l)                 | BDL    | BDL    | 2.7    | 0.13   | BDL    | 0.48   | BDL    | 0.12    | 0.1     | BDL    | 0.2    | 0.18    |                 |
| 7                                                     | Nitrite-N (mg/l)                 | BDL    | BDL    | 0.258  | 0.014  | BDL    | BDL    | 0.006  | 0.005   | 0.006   | 0.016  | BDL    | 0.01    |                 |
| 8                                                     | Total Coliform (MPN/100ml)       | 7000   | 2400   | 4900   | 8400   | 4900   | 6300   | 4900   | 4600    | 2400    | 4900   | 3300   | 2300    | ≤500 MPN/100 ml |
| 9                                                     | Fecal Coliform (MPN/100ml)       | 4900   | 1300   | 3300   | 4600   | 3300   | 4300   | 3300   | 1700    | 1300    | 2300   | 1700   | 1300    |                 |
| 10                                                    | Fecal Streptococci (MPN/100ml)   | -      | -      | -      | 541    | 34     | 351    | 921    | 95      | 211     | 351    | 33     | 541     |                 |
| 11                                                    | Turbidity (NTU)                  | 4.27   | 2.83   | 3.15   | 2.77   | 3.79   | 7.53   | 6.89   | 9.47    | 12.05   | 5.06   | 2.85   | 4.37    |                 |
| 12                                                    | Phenolphthalein Alkalinity(mg/l) | BDL    | 16     | BDL    | BDL    | BDL    | BDL    | BDL    | BDL     | BDL     | BDL    | 8      | BDL     |                 |
| 13                                                    | Total Alkalinity(mg/l)           | 96     | 106    | 146.0  | 48.0   | 50.0   | 38.0   | 60.0   | 98.0    | 80      | 80     | 118    | 142     |                 |
| 14                                                    | Chlorides (mg/l)                 | 12096  | 9835   | 268.6  | 39.9   | 32.5   | 18.0   | 37.67  | 8897.00 | 6359.73 | 4281   | 734    | 11621.4 |                 |
| 15                                                    | COD (mg/l)                       | -      | -      | 16.0   | 11.0   | 18.0   | 8      | 8      | -       | -       | -      | 10     | -       |                 |
| 16                                                    | Total Kjeldhal Nitrogen (mg/l)   | -      | -      | -      | -      | -      | -      | -      | -       | -       | -      | 25     | 7       |                 |
| 17                                                    | Ammonia- N (mg/l)                | 0.3    | 0.4    | BDL    | 0.27   | 0.05   | BDL    | BDL    | 0.28    | 0.05    | BDL    | 0.11   | 0.30    |                 |
| 18                                                    | Total Hardness (mg/l)            | 3200   | 4000   | 222.0  | 60.0   | 52.0   | 54.0   | 18.0   | 2400.0  | 2000    | 3000   | 490    | 1760    |                 |
| 19                                                    | Calcium (mg/l)                   | 882    | 321    | 50.5   | 9.6    | 12.02  | 11.0   | 7.2    | 160.3   | 801.6   | 1002   | 49     | 184.4   |                 |
| 20                                                    | Magnesium (mg/l)                 | 243    | 778    | 23.3   | 8.7    | 5.3    | 6.0    | 3.01   | 486.0   | 291.21  | 122    | 89     | 315.9   |                 |
| 21                                                    | Sulphate (mg/l)                  | 1716   | 1711   | 123.7  | 45.3   | 11.84  | 50.00  | 7.26   | 542.4   | 605.01  | 544    | 120    | 1006.9  |                 |
| 22                                                    | Total Dissolved Solids (mg/l)    | 18383  | 24493  | 827.4  | 159.0  | 155.0  | 73.0   | 149.0  | 15030.0 | 9159    | 7502   | 2988   | 18079   |                 |
| 23                                                    | Total Fixed Solids (mg/l)        | 10383  | 9797   | 557.4  | 85.0   | 139.0  | 30.0   | 55.0   | 7503    | 2876    | 3730   | 568    | 9590    |                 |
| 24                                                    | Total Suspended Solids (mg/l)    | 53     | 31     | 30.0   | 22.0   | 6.0    | 15.0   | 33.0   | 51.0    | 65      | 55     | 26     | 64      |                 |
| 25                                                    | Phosphate (mg/l)                 | 0.16   | 0.29   | 1.11   | 0.19   | 0.08   | 0.090  | 0.114  | 0.07    | 0.082   | 0.076  | 0.09   | 0.29    |                 |
| 26                                                    | Flouride (mg/l)                  | 0.1    | BDL    | 0.3    | BDL    | 0.81   | BDL    | 0.21   | 1.42    | 0.21    | 0.246  | BDL    | 0.35    |                 |

| Upstream of Bethora Nallah, Ponda Goa, April 2020- March 2021 |                                  |        |        |         |        |        |        |        |        |        |        |        |        |                 |  |  |
|---------------------------------------------------------------|----------------------------------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|--|--|
| Sr. no.                                                       | Parameters                       | Apr-20 | May-20 | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit           |  |  |
| 1                                                             | Temp (°C)                        |        |        | 29      | 28     | 27     | 29     | 28     | 31     | 31     | 29     |        |        |                 |  |  |
| 2                                                             | DO (mg/l)                        |        |        | 2.2     | 5.5    | 6.5    | 5.5    | 4.9    | 4.3    | 3.8    | 2.6    |        |        | ≥ 5 mg/l        |  |  |
| 3                                                             | pH                               |        |        | 6.39    | 5.52   | 5.97   | 5.47   | 5.1    | 5.09   | 5.13   | 5.13   |        |        | 6.5-8.5         |  |  |
| 4                                                             | Cond (µs/cm)                     |        |        | 2821    | 47.1   | 87.65  | 127    | 675.15 | 1296   | 1302   | 1302   |        |        |                 |  |  |
| 5                                                             | BOD (mg/l)                       |        |        | 4.7     | BDL    | BDL    | BDL    | BDL    | BDL    | 3.3    | 3.6    |        |        | ≤ 3.0 mg/l      |  |  |
| 6                                                             | Nitrate-N (mg/l)                 |        |        | 0.683   | 1.28   | BDL    | BDL    | 1.21   | 1.13   | 0.72   | 0.12   |        |        |                 |  |  |
| 7                                                             | Nitrite-N (mg/l)                 |        |        | 0.096   | BDL    | BDL    | BDL    | BDL    | 0.007  | BDL    | BDL    |        |        |                 |  |  |
| 8                                                             | Total Coliform (MPN/100ml)       |        |        | 4900    | 5800   | 4300   | 4100   | 4900   | 3300   | 3300   | 3300   |        |        | ≤500 MPN/100 ml |  |  |
| 9                                                             | Fecal Coliform (MPN/100ml)       |        |        | 3300    | 4300   | 2100   | 2100   | 2300   | 2300   | 2300   | 2300   |        |        |                 |  |  |
| 10                                                            | Fecal Streptococci (MPN/100ml)   |        |        | -       | 34     | 921    | 42     | 95     | 111    | 151    | 80     |        |        |                 |  |  |
| 11                                                            | Turbidity (NTU)                  |        |        | 45.4    | 1.6    | 41.3   | 1.94   | 2.3    | 5.49   | 5.80   | 5.80   |        |        |                 |  |  |
| 12                                                            | Phenolphthalein Alkalinity(mg/l) |        |        | BDL     | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    |        |        |                 |  |  |
| 13                                                            | Total Alkalinity(mg/l)           |        |        | 30      | 24     | 20.0   | 20.0   | 20.0   | 12.0   | 12     | 14     |        |        | DRY             |  |  |
| 14                                                            | Chlorides (mg/l)                 |        |        | 849.91  | 32.78  | 12.72  | 27.88  | 146.00 | 388.00 | 399.3  | 1272   |        |        |                 |  |  |
| 15                                                            | COD (mg/l)                       |        |        | 14      | 8      | 6.0    | 6.0    | 6.0    | 16.0   | -      | 8      |        |        |                 |  |  |
| 16                                                            | Total Kjeldhal Nitrogen (mg/l)   |        |        | -       | -      | -      | -      | -      | -      | -      | -      |        |        |                 |  |  |
| 17                                                            | Ammonia- N (mg/l)                |        |        | 0.587   | BDL    | BDL    | BDL    | BDL    | 0.08   | BDL    | BDL    |        |        |                 |  |  |
| 18                                                            | Total Hardness (mg/l)            |        |        | 1200    | 50     | 26.0   | 58.0   | 180.0  | 160.0  | 40     | 640    |        |        |                 |  |  |
| 19                                                            | Calcium (mg/l)                   |        |        | 400     | 30     | 20.0   | 28.0   | 55.0   | 40.0   | 7.2    | 144    |        |        |                 |  |  |
| 20                                                            | Magnesium (mg/l)                 |        |        | 194.4   | 4.86   | BDL    | 7.29   | 10.00  | 15.00  | 5.35   | 68     |        |        |                 |  |  |
| 21                                                            | Sulphate (mg/l)                  |        |        | 1731.25 | 4.61   | 5.33   | 14.45  | 14     | 23     | 16.24  | 49     |        |        |                 |  |  |
| 22                                                            | Total Dissolved Solids (mg/l)    |        |        | 1692.6  | 28.2   | 56.0   | 79.0   | 472.0  | 902.0  | 764    | 781    |        |        |                 |  |  |
| 23                                                            | Total Fixed Solids (mg/l)        |        |        | 529     | 13     | 27.0   | 32.0   | 283.0  | 541.0  | 528    | 162    |        |        |                 |  |  |
| 24                                                            | Total Suspended Solids (mg/l)    |        |        | 28      | 12     | 25.0   | 24.0   | 5.0    | 8.0    | 10     | 47     |        |        |                 |  |  |
| 25                                                            | Phosphate (mg/l)                 |        |        | 0.051   | 0.28   | 0.057  | 0.05   | BDL    | 0.02   | BDL    | 0.05   |        |        |                 |  |  |
| 26                                                            | Flouride (mg/l)                  |        |        | 0.357   | BDL    | BDL    | BDL    | 0.39   | 0.24   | BDL    | BDL    |        |        |                 |  |  |

| Downstream of Bethora Nallah, Ponda Goa, April 2020- March 2021 |                                  |        |        |         |        |        |        |        |         |        |        |         |        |                 |
|-----------------------------------------------------------------|----------------------------------|--------|--------|---------|--------|--------|--------|--------|---------|--------|--------|---------|--------|-----------------|
| Sr. no.                                                         | Parameters                       | Apr-20 | May-20 | Jun-20  | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20  | Dec-20 | Jan-21 | Feb-21  | Mar-21 | Limit           |
| 1                                                               | Temp (°C)                        | 30     | 29     | 29      | 28     | 27     | 29     | 28     | 31      | 31     | 29     | 30      | 29     |                 |
| 2                                                               | DO (mg/l)                        | 4      | 5.4    | 2.9     | 5.5    | 7.0    | 5      | 2.5    | 6.8     | 3.9    | 1.7    | 3.5     | BDL    | ≥ 5 mg/l        |
| 3                                                               | pH                               | 6.53   | 7.2    | 6.41    | 5.99   | 6.48   | 6.19   | 6.40   | 6.30    | 6.45   | 6.45   | 5.96    | 6.3    | 6.5-8.5         |
| 4                                                               | Cond (µs/cm)                     | 5347   | 5729   | 8582    | 182.2  | 245.73 | 548.56 | 808.29 | 1606.00 | 1577   | 1577   | 3870    | 4202   |                 |
| 5                                                               | BOD (mg/l)                       | BDL    | BDL    | 3.5     | BDL    | 3.0    | BDL    | 19.0   | 2.7     | 2.7    | 4.2    | BDL     | 7.18   | ≤ 3.0 mg/l      |
| 6                                                               | Nitrate-N (mg/l)                 | 0.94   | 1.43   | 0.688   | 1.38   | 0.99   | 0.54   | 1.54   | 2.89    | 1.80   | 0.15   | 0.15    | 4.80   |                 |
| 7                                                               | Nitrite-N (mg/l)                 | 0.085  | 0.066  | 0.094   | 0.013  | BDL    | 0.006  | BDL    | 0.36    | 0.03   | 0.005  | 0.028   | 0.58   |                 |
| 8                                                               | Total Coliform (MPN/100ml)       | 13000  | 7900   | 9400    | 11000  | 7000   | 6300   | 7000   | 6300    | 4900   | 6300   | 130     | 3500   | ≤500 MPN/100 ml |
| 9                                                               | Fecal Coliform (MPN/100ml)       | 7900   | 4900   | 7000    | 7000   | 4600   | 2100   | 3300   | 3300    | 3300   | 2300   | 78      | 2300   |                 |
| 10                                                              | Fecal Streptococci (MPN/100ml)   | -      | -      | -       | 541    | 34     | 921    | >1601  | >1601   | >1601  | 1601   | >1601   | 921    |                 |
| 11                                                              | Turbidity (NTU)                  | 1.56   | 1.31   | 14.26   | 3.25   | 41.2   | 2.86   | 2.36   | 3.27    | 3.13   | 3.13   | 2.93    | 13.81  |                 |
| 12                                                              | Phenolphthalein Alkalinity(mg/l) | 4      | BDL    | BDL     | BDL    | BDL    | BDL    | BDL    | BDL     | BDL    | BDL    | BDL     | BDL    |                 |
| 13                                                              | Total Alkalinity(mg/l)           | 104    | 90     | 60      | 44     | 60.0   | 38.0   | 52.0   | 30.0    | 50     | 68     | 80      | 72     |                 |
| 14                                                              | Chlorides (mg/l)                 | 1663.3 | 2500   | 2671.16 | 125.73 | 36.69  | 366.91 | 194    | 486     | 199.7  | 881    | 7949.66 | 950    |                 |
| 15                                                              | COD (mg/l)                       | 18     |        | 8       | 14     | 10.0   | 8.0    | 48.0   | 18.0    | -      | 10     | -       | 30     |                 |
| 16                                                              | Total Kjeldhal Nitrogen (mg/l)   | -      | -      | -       | -      | -      | -      | -      | -       | -      | -      | 28      | 56     |                 |
| 17                                                              | Ammonia- N (mg/l)                | 0.07   | BDL    | 0.734   | 0.26   | 0.11   | 0.05   | BDL    | BDL     | 0.09   | 0.20   | BDL     | 0.10   |                 |
| 18                                                              | Total Hardness (mg/l)            | 1800   | 746    | 5600    | 120    | 98.0   | 400.0  | 186.0  | 240.0   | 24     | 720    | 158     | 1000   |                 |
| 19                                                              | Calcium (mg/l)                   | 400.8  | 200.4  | 4000    | 70     | 46.0   | 200.0  | 60.0   | 48.0    | 4      | 160    | 30.5    | 120.2  |                 |
| 20                                                              | Magnesium (mg/l)                 | 194.4  | 58.3   | 388.8   | 12.5   | 12.64  | 48.60  | 8.00   | 29.00   | 3      | 78     | 30.98   | 170.1  |                 |
| 21                                                              | Sulphate (mg/l)                  | 1787.6 | 17.1   | 1871.96 | 8.43   | 18.68  | 244.5  | 15.0   | 21.0    | 62.93  | 1190   | 2772.96 | 8.55   |                 |
| 22                                                              | Total Dissolved Solids (mg/l)    | 2999   | 3382   | 5149.2  | 109.3  | 155.0  | 335.0  | 560.0  | 1124.0  | 1044   | 946    | 2160    | 2461   |                 |
| 23                                                              | Total Fixed Solids (mg/l)        | 1297   | 3280   | 1111    | 77     | 117.0  | 180.0  | 336.0  | 674.0   | 904    | 162    | 577     | 2360   |                 |
| 24                                                              | Total Suspended Solids (mg/l)    | 36     | 22     | 41      | 15     | 62.0   | 29.0   | 8.0    | 12.0    | 6      | 33     | 12      | 14     |                 |
| 25                                                              | Phosphate (mg/l)                 | 0.179  | BDL    | 0.053   | 0.08   | 0.057  | 0.14   | BDL    | 0.38    | 0.63   | 0.07   | 0.023   | 0.13   |                 |
| 26                                                              | Fluoride (mg/l)                  | BDL    | 0.25   | 0.971   | BDL    | 0.20   | BDL    | 0.41   | 0.17    | BDL    | BDL    | BDL     | 0.26   |                 |

| St.Inez creek upstream ,April 2020- March 2021 |                                  |        |        |        |        |        |        |        |        |        |        |        |        |                 |
|------------------------------------------------|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------|
| Sr. no.                                        | Parameters                       | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21 | Mar-21 | Limit           |
| 1                                              | Temp (°C)                        | 29     | 30     | 30     | 29     | 27     | 28     | 27     | 29     | 28     | 28     | 29     | 30     |                 |
| 2                                              | DO (mg/l)                        | 4.5    | 5.6    | 1.3    | 1.2    | 1.5    | 1.1    | 1.8    | 5.7    | BDL    | 1.2    | BDL    | 1.3    | ≥ 5 mg/l        |
| 3                                              | pH                               | 7.2    | 7.36   | 7.2    | 7.12   | 6.64   | 6.71   | 7.07   | 7.51   | 7.41   | 7.09   | 6.70   | 6.88   | 6.5-8.5         |
| 4                                              | Cond (µs/cm)                     | 7.38M  | 3396   | 1338   | 102.2  | 143.16 | 140.32 | 455.10 | 657.24 | 652.2  | 16650  | 235.75 | 397.15 |                 |
| 5                                              | BOD (mg/l)                       | 2      | 2.1    | 7.2    | 3.5    | BDL    | 3.7    | 3.8    | 4.3    | 6.7    | 27.8   | 18     | 3.1    | ≤ 3.0 mg/l      |
| 6                                              | Nitrate-N (mg/l)                 | 0.41   | 2.07   | 2.5    | 0.24   | 0.09   | 0.15   | 0.10   | 0.19   | 0.25   | 5.07   | 4.81   | BDL    |                 |
| 7                                              | Nitrite-N (mg/l)                 | 0.106  | BDL    | 0.186  | 0.16   | 0.015  | 0.08   | BDL    | 0.078  | 0.08   | 0.06   | 0.05   | BDL    |                 |
| 8                                              | Total Coliform (MPN/100ml)       | 11000  | 9400   | 3300   | 5800   | 3500   | 3500   | 2800   | 2400   | 1300   | 790    | 24000  | 4900   | ≤500 MPN/100 ml |
| 9                                              | Fecal Coliform (MPN/100ml)       | 7000   | 4900   | 2300   | 3100   | 2100   | 2400   | 2200   | 1300   | 790    | 490    | 13000  | 3300   |                 |
| 10                                             | Fecal Streptococci (MPN/100ml)   | -      | -      | -      | 71     | 241    | >1601  | >1601  | 541    | >1601  | 541    | >1601  | -      |                 |
| 11                                             | Turbidity (NTU)                  | 3.52   | 3.81   | 3.35   | 2.48   | 6.37   | 5.37   | 3.87   | 4.88   | 4.97   | 9      | 2.77   | 14.06  |                 |
| 12                                             | Phenolphthalein Alkalinity(mg/l) | BDL    | BDL    | BDL    | BDL    | BDL    | BDL    | 4.0    | 6.0    | BDL    | BDL    | BDL    | 2      |                 |
| 13                                             | Total Alkalinity(mg/l)           | 134    | 130    | 144    | 102    | 62.0   | 56.0   | 134.0  | 128.0  | 130    | 144    | 140    | 76     |                 |
| 14                                             | Chlorides (mg/l)                 | 7021.8 | 1027   | 235.3  | 29.57  | 14.3   | 14.29  | 47.8   | 739.1  | 394.2  | 6000   | 440    | 40.7   |                 |
| 15                                             | COD (mg/l)                       | -      | 6      | 16     | 7      | 6.0    | 8      | 9      | 10     | 14     | 70     | 30     | 14     |                 |
| 16                                             | Total Kjeldhal Nitrogen (mg/l)   | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | 112.1  | 1.7    |                 |
| 17                                             | Ammonia- N (mg/l)                | 1.75   | BDL    | 0.62   | 0.08   | BDL    | BDL    | 0.30   | 0.05   | 1.48   | 0.081  | BDL    | BDL    |                 |
| 18                                             | Total Hardness (mg/l)            | 660    | 1800   | 218    | 120    | 52.0   | 40.0   | 134.0  | 110.0  | 170    | 1100   | 720    | 97     |                 |
| 19                                             | Calcium (mg/l)                   | 142    | 54     | 50.5   | 32.9   | 10.4   | 13.6   | 32.9   | 24.0   | 33.7   | 176.4  | 24     | 28.1   |                 |
| 20                                             | Magnesium (mg/l)                 | 125.9  | 405    | 22.4   | 9.2    | 6.3    | 1.5    | 12.64  | 12.2   | 20.9   | 160.4  | 160.4  | 5.8    |                 |
| 21                                             | Sulphate (mg/l)                  | 376.1  | 14     | 113    | 61.34  | 10.1   | 3.10   | 14.67  | 208.1  | 71.1   | 400.5  | 5.76   | 12.38  |                 |
| 22                                             | Total Dissolved Solids (mg/l)    | 4649   | 2038   | 837    | 66     | 95.0   | 88.0   | 295.0  | 401.0  | 404    | 10514  | 151    | 246    |                 |
| 23                                             | Total Fixed Solids (mg/l)        | 2087   | 1468   | 527    | 37     | 52.0   | 54.0   | 184.0  | 269.0  | 270    | 9971   | 146    | 159    |                 |
| 24                                             | Total Suspended Solids (mg/l)    | 18     | 33     | 28     | 13     | 9.0    | 15.0   | 32.0   | 11.0   | 61     | 28     | 38     | 28     |                 |
| 25                                             | Phosphate (mg/l)                 | 2.71   | 0.1    | 1.11   | 0.51   | 0.09   | 0.10   | 0.21   | 0.16   | 0.58   | 1      | 0.65   | 0.10   |                 |
| 26                                             | Flouride (mg/l)                  | 2.4    | 0.38   | 0.3    | 0.93   | 0.15   | 0.20   | 0.20   | BDL    | 0.21   | 0.24   | 0.73   | BDL    |                 |



| St.Inez creek downstream ,April 2020- March 2021 |                                  |        |        |        |        |        |        |        |        |        |        |                     |         |                 |  |  |  |
|--------------------------------------------------|----------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------|---------|-----------------|--|--|--|
| Sr. no.                                          | Parameters                       | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | Oct-20 | Nov-20 | Dec-20 | Jan-21 | Feb-21              | Mar-21  | Limit           |  |  |  |
| 1                                                | Temp (°C)                        | 29     | 30     | 30     | 29     | 27     | 28     | 27     | 29     | 28     | 28     | 29                  | 30      |                 |  |  |  |
| 2                                                | DO (mg/l)                        | 5.1    | 5.2    | 1.4    | 1.6    | 1.8    | 5.1    | 2.2    | 1.9    | BDL    | 1.4    | BDL                 | 5.4     | ≥ 5 mg/l        |  |  |  |
| 3                                                | pH                               | 7.36   | 7.74   | 7.24   | 7.17   | 6.68   | 6.81   | 7.12   | 6.93   | 6.92   | 6.85   | 7.06                | 7.45    | 6.5-8.5         |  |  |  |
| 4                                                | Cond (µs/cm)                     | 1849   | 3791   | 1457   | 107.4  | 327.04 | 199.21 | 518.77 | 233.50 | 232.5  | 465.5  | 5873                | 48500   |                 |  |  |  |
| 5                                                | BOD (mg/l)                       | BDL    | 2.4    | 7.2    | 4.3    | BDL    | 3.4    | 4.6    | 5      | 5.2    | 2.8    | 20                  | BDL     | ≤ 3.0 mg/l      |  |  |  |
| 6                                                | Nitrate-N (mg/l)                 | 0.66   | 2.08   | 2.7    | 0.21   | 0.17   | 0.12   | 0.10   | 0.09   | 0.1    | 4.22   | 3.80                | 0.17    |                 |  |  |  |
| 7                                                | Nitrite-N (mg/l)                 | 0.103  | BD     | 0.258  | 0.15   | 0.115  | 0.028  | BDL    | 0.010  | 0.02   | 0.04   | BDL                 | 0.05    |                 |  |  |  |
| 8                                                | Total Coliform (MPN/100ml)       | 14000  | 11000  | 4900   | 7900   | 5400   | 2800   | 3500   | 5400   | 2400   | 1300   | 350x10 <sup>2</sup> | 7900    | ≤500 MPN/100 ml |  |  |  |
| 9                                                | Fecal Coliform (MPN/100ml)       | 11000  | 7000   | 3300   | 4900   | 3500   | 2200   | 2800   | 3500   | 1300   | 490    | 240x10 <sup>2</sup> | 4900    |                 |  |  |  |
| 10                                               | Fecal Streptococci (MPN/100ml)   | -      | -      | -      | 541    | >1601  | 151    | 210    | 211    | 351    | 1601   | >1601               | -       |                 |  |  |  |
| 11                                               | Turbidity (NTU)                  | 4.71   | 6.57   | 3.15   | 2.48   | 10.71  | 25.5   | 5.18   | 7.62   | 7.42   | 15.32  | 11.95               | 7.21    |                 |  |  |  |
| 12                                               | Phenolphthalein Alkalinity(mg/l) | BDL    | BDL    | BDL    | BDL    | BDL    | 6.0    | BDL    | BDL    | BDL    | BDL    | BDL                 | 4       |                 |  |  |  |
| 13                                               | Total Alkalinity(mg/l)           | 130    | 138    | 146    | 126    | 92.0   | 36.0   | 142.0  | 80.0   | 94     | 150    | 140                 | 108     |                 |  |  |  |
| 14                                               | Chlorides (mg/l)                 | 2094.2 | 1076   | 268.6  | 35.97  | 30.6   | 17.25  | 59.13  | 12.00  | 197.1  | 250    | 5148                | 17866.8 |                 |  |  |  |
| 15                                               | COD (mg/l)                       | -      | 8.1    | 16     | 9      | 8.0    | 6      | 11     | 1281.2 | 10     | 20     | 40                  | -       |                 |  |  |  |
| 16                                               | Total Kjeldhal Nitrogen (mg/l)   | -      | -      | -      | -      | -      | -      | -      | -      | -      | -      | 98.1                | 2.8     |                 |  |  |  |
| 17                                               | Ammonia- N (mg/l)                | 1.16   | BDL    | BDL    | 0.29   | 0.11   | 0.07   | 0.67   | 0.35   | 0.09   | 0.063  | BDL                 | 0.15    |                 |  |  |  |
| 18                                               | Total Hardness (mg/l)            | 188    | 1600   | 222    | 110    | 104.0  | 70.0   | 100.0  | 70.0   | 64     | 78     | 1060                | 5600    |                 |  |  |  |
| 19                                               | Calcium (mg/l)                   | 94     | 52     | 50.5   | 28.9   | 26.5   | 20.8   | 32.1   | 20.0   | 8.8    | 25.7   | 160.3               | 481     |                 |  |  |  |
| 20                                               | Magnesium (mg/l)                 | 22.8   | 357    | 23.3   | 9.2    | 9.2    | 4.4    | 4.86   | 4.90   | 10.2   | 3.4    | 160.4               | 1069.2  |                 |  |  |  |
| 21                                               | Sulphate (mg/l)                  | 85.5   | 29     | 123.7  | 64.3   | 34.58  | 19.9   | 20.06  | 215.20 | 6.7    | 7      | 319.8               | 2876.5  |                 |  |  |  |
| 22                                               | Total Dissolved Solids (mg/l)    | 1146   | 2274   | 827.4  | 72     | 213.0  | 124.0  | 332.0  | 140.0  | 142    | 299    | 3704                | 29585   |                 |  |  |  |
| 23                                               | Total Fixed Solids (mg/l)        | 643    | 1347   | 557.4  | 41     | 144.0  | 73.0   | 209.0  | 93.0   | 98     | 273    | 3500                | 18227   |                 |  |  |  |
| 24                                               | Total Suspended Solids (mg/l)    | 11     | 41     | 30     | 17     | 24.0   | 34.0   | 41.0   | 18.0   | 55     | 14     | 70                  | 53      |                 |  |  |  |
| 25                                               | Phosphate (mg/l)                 | 2.45   | 0.13   | 1.11   | 0.38   | 0.22   | 0.65   | 0.27   | 0.02   | 0.09   | 0.6    | 0.90                | 0.23    |                 |  |  |  |
| 26                                               | Flouride (mg/l)                  | 1.36   | 0.35   | 0.3    | 1.05   | BDL    | 0.28   | BDL    | BDL    | BDL    | BDL    | 1.0                 | BDL     |                 |  |  |  |

## ANNEXURE XII

| GANESH VISARJAN DATA OF 2020      |                             |                        |                       |                                 |                    |
|-----------------------------------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| River Mandovi at Ferry Point 2020 |                             |                        |                       |                                 |                    |
| Sr. No                            | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
| 1                                 | Date & Time                 | 17.08.2020 & 01:00 p.m | 31.08.2020 & 01:00p.m | 11.09.2020 &                    | -                  |
| 2                                 | Weather                     | Cloudy                 | Clear                 | Raining                         | -                  |
| 3                                 | Colour                      | Light brown            | Light brown           | Clear                           | -                  |
| 4                                 | Odour                       | Odourless              | Odourless             | Odourless                       | -                  |
| 5                                 | Human Activity              | Nil                    | Nil                   | Nil                             | -                  |
| 6                                 | pH                          | 6.66                   | 6.81                  | 8.07                            | 6.5-8.5            |
| 7                                 | Temperature °C              | 27                     | 29                    | 29                              | -                  |
| 8                                 | Cond µS/cm                  | 215.05                 | 4140                  | 11970                           | -                  |
| 9                                 | Turb NTU                    | 57.7                   | 15.3                  | 11.67                           | 30                 |
| 10                                | DO mg/l                     | 7.0                    | 6.8                   | 6.5                             | ≥ 4.0              |
| 11                                | BOD mg/l                    | BDL                    | BDL                   | BDL                             | ≤ 3.0              |
| 12                                | Chemical Oxygen Demand      | 10.0                   | 4.0                   | 8.0                             | -                  |
| 13                                | Total Dissolved Solids mg/l | 136.0                  | 2401.0                | 7062.0                          | -                  |
| 14                                | Total Solids mg/l           | 167.0                  | 2558.0                | 7259.0                          | -                  |
| 15                                | Chromium mg/l               | BDL                    | BDL                   | BDL                             | -                  |
| 16                                | Lead mg/l                   | BDL                    | BDL                   | 0.054                           | -                  |
| 17                                | Zinc mg/l                   | 0.040                  | 0.064                 | 0.075                           | -                  |
| 18                                | Copper mg/l                 | 0.021                  | 0.018                 | 0.034                           | -                  |

| River Mapusa at Taricode- Mapusa 2020 |                |                        |                       |                                 |                    |
|---------------------------------------|----------------|------------------------|-----------------------|---------------------------------|--------------------|
| Sr. No                                | Parameters     | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh Visarjan | Permissible Limits |
| 1                                     | Date & Time    | 17.08.2020 & 12:00 p.m | 31.08.2020 & 12:00    | 11.09.2020 & 10:30              | -                  |
| 2                                     | Weather        | Cloudy                 | Clear                 | Sunny                           | -                  |
| 3                                     | Colour         | Light Brown            | Light Brown           | Clear                           | -                  |
| 4                                     | Odour          | Odourless              | Odourless             | Odourless                       | -                  |
| 5                                     | Human Activity | Nil                    | Nil                   | Nil                             | -                  |
| 6                                     | pH             | 6.35                   | 6.30                  | 7.73                            | 6.5-8.5            |
| 7                                     | Temperature °C | 27                     | 28                    | 29                              | -                  |
| 8                                     | Cond µs/cm     | 94.9                   | 146.85                | 218.80                          | -                  |
| 9                                     | Turb NTU       | 7.58                   | 1.97                  | 7.43                            | 30                 |
| 10                                    | DO mg/l        | 3.7                    | 2.2                   | 1.6                             | ≥ 4.0              |

|    |                             |       |       |       |      |
|----|-----------------------------|-------|-------|-------|------|
| 11 | BOD mg/l                    | BDL   | 6.4   | 5.2   | ≤3.0 |
| 12 | COD mg/l                    | 16.0  | 14.0  | 10.0  | -    |
| 13 | Total Dissolved Solids mg/l | 59.0  | 88.0  | 134.0 | -    |
| 14 | Total Solids mg/l           | 78.0  | 151.0 | 161.0 | -    |
| 15 | Chromium mg/l               | BDL   | BDL   | BDL   | -    |
| 16 | Lead mg/l                   | BDL   | 0.041 | BDL   | -    |
| 17 | Zinc mg/l                   | 0.028 | 0.045 | 0.036 | -    |
| 18 | Copper mg/l                 | 0.039 | 0.035 | 0.045 | -    |

**Carambolim Lake at Carambolim 2020**

| Sr. No | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time                 | 17.08.2020 & 11:10 a.m | 31.08.2020 & 10:30a.m | 11.09.2020                      | -                  |
| 2      | Weather                     | Cloudy                 | Sunny                 | Raining                         | -                  |
| 3      | Colour                      | Light brown            | Light brown           | Clear                           | -                  |
| 4      | Odour                       | Odourless              | Odourless             | Odourless                       | -                  |
| 5      | Human Activity              | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH                          | 6.7                    | 6.9                   | 6.8                             | 6.0-9.0            |
| 7      | Temperature °C              | 27                     | 29                    | 28                              | -                  |
| 8      | Cond µs/cm                  | 107.7                  | 134.52                | 135.1                           | -                  |
| 9      | Turb NTU                    | 4.60                   | 3.15                  | 3.86                            | -                  |
| 10     | DO mg/l                     | 3.8                    | 8.2                   | 2.5                             | ≥ 4.0              |
| 11     | BOD mg/l                    | BDL                    | BDL                   | 4.8                             | ≤3.0               |
| 12     | COD mg/l                    | 6.00                   | 8.00                  | 16.00                           | -                  |
| 13     | Total Dissolved Solids mg/l | 75.00                  | 85.00                 | 92.00                           | -                  |
| 14     | Total Solids mg/l           | 119.00                 | 123.00                | 172.00                          | -                  |
| 15     | Chromium mg/l               | BDL                    | BDL                   | BDL                             | -                  |
| 16     | Lead mg/l                   | BDL                    | 0.043                 | 0.039                           | -                  |
| 17     | Zinc mg/l                   | 0.028                  | 0.044                 | 0.029                           | -                  |
| 18     | Copper mg/l                 | 0.034                  | 0.046                 | 0.036                           | -                  |

**Carkhamba (Mansher) Panaji – St. Cruz road 2020**

| Sr. No | Parameters     | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|----------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time    | 17.08.2020 & 12:30 p.m | 31.08.2020 & 12:30p.m | 11.09.2020 &                    | -                  |
| 2      | Weather        | Cloudy                 | Clear                 | Raining                         | -                  |
| 3      | Colour         | Light brown            | Light brown           | Clear                           | -                  |
| 4      | Odour          | Odourless              | Odourless             | Clear                           | -                  |
| 5      | Human Activity | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH             | 6.82                   | 7.01                  | 7.1                             | 6.5-8.5            |

|    |                             |        |        |        |       |
|----|-----------------------------|--------|--------|--------|-------|
| 7  | Temperature °C              | 27     | 29     | 29     | -     |
| 8  | Cond µS/cm                  | 746.69 | 1672   | 11410  | -     |
| 9  | Turb NTU                    | 13.49  | 12.26  | 4.61   | 30    |
| 10 | DO mg/l                     | 6.0    | 7.2    | 6.0    | ≥ 4.0 |
| 11 | BOD mg/l                    | BDL    | BDL    | BDL    | ≤ 3.0 |
| 12 | COD mg/l                    | 4.0    | 8.0    | 10.0   | -     |
| 13 | Total Dissolved Solids mg/l | 448.0  | 969.0  | 6846.0 | -     |
| 14 | Total Solids mg/l           | 479.0  | 1052.0 | 7001.0 | -     |
| 15 | Chromium mg/l               | BDL    | BDL    | BDL    | -     |
| 16 | Lead mg/l                   | BDL    | BDL    | 0.045  | -     |
| 17 | Zinc mg/l                   | 0.056  | 0.059  | 0.070  | -     |
| 18 | Copper mg/l                 | 0.064  | 0.052  | 0.044  | -     |

**Near the bridge , Chereaband , Dandora, Cuncolim 2020**

| Sr. No | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh Visarjan | Permissible Limits |
|--------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time                 | 18.08.2020 & 11:45 a.m | 01.09.2020 & 12:00p.m | 14.09.2020                      | -                  |
| 2      | Weather                     | Cloudy                 | Sunny                 | Cloudy                          | -                  |
| 3      | Colour                      | Light brown            | Light brown           | Brownish                        | -                  |
| 4      | Odour                       | Odourless              | Odourless             | Odourless                       | -                  |
| 5      | Human Activity              | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH                          | 6.36                   | 6.44                  | 6.68                            | 6.0-9.0            |
| 7      | Temperature °C              | 27                     | 28                    | 28                              | -                  |
| 8      | Cond µs/cm                  | 69.6                   | 65.92                 | 90.14                           | -                  |
| 9      | Turb NTU                    | 12.2                   | 9.46                  | 20.3                            | -                  |
| 10     | DO mg/l                     | 7.6                    | 6.9                   | 7.0                             | ≥ 4.0              |
| 11     | BOD mg/l                    | BDL                    | BDL                   | BDL                             | ≤ 3.0              |
| 12     | COD mg/l                    | 10.0                   | 8.0                   | 6.0                             | -                  |
| 13     | Total Dissolved Solids mg/l | 44.0                   | 42.0                  | 57.0                            | -                  |
| 14     | Total Solids mg/l           | 55.0                   | 56.0                  | 62.0                            | -                  |
| 15     | Chromium mg/l               | BDL                    | BDL                   | BDL                             | -                  |
| 16     | Lead mg/l                   | BDL                    | 0.037                 | 0.064                           | -                  |
| 17     | Zinc mg/l                   | 0.013                  | 0.012                 | 0.012                           | -                  |
| 18     | Copper mg/l                 | 0.051                  | 0.040                 | 0.042                           | -                  |

**Near Railway bridge, Khandiwada , Curchorem 2020**

| Sr. No | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time                 | 18.08.2020 & 11:30 a.m | 01.09.2020 & 09:50a.m | 14.09.2020                      | -                  |
| 2      | Weather                     | Cloudy                 | Sunny                 | Cloudy                          | -                  |
| 3      | Colour                      | Clear                  | Light brown           | Clear                           | -                  |
| 4      | Odour                       | Odourless              | Odourless             | Odourless                       | -                  |
| 5      | Human Activity              | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH                          | 6.6                    | 6.26                  | 6.76                            | 6.0-9.0            |
| 7      | Temperature °C              | 27                     | 28                    | 28                              | -                  |
| 8      | Cond µs/cm                  | 80.82                  | 80.91                 | 69.38                           | -                  |
| 9      | Turb NTU                    | 16.3                   | 5.07                  | 11.23                           | -                  |
| 10     | DO mg/l                     | 5.2                    | 4.9                   | 5.2                             | ≥ 4.0              |
| 11     | BOD mg/l                    | BDL                    | BDL                   | BDL                             | ≤ 3.0              |
| 12     | COD mg/l                    | 4.0                    | 6.0                   | 10.0                            | -                  |
| 13     | Total Dissolved Solids mg/l | 50.0                   | 47.0                  | 60.0                            | -                  |
| 14     | Total Solids mg/l           | 74.0                   | 69.0                  | 94.0                            | -                  |
| 15     | Chromium mg/l               | BDL                    | BDL                   | BDL                             | -                  |
| 16     | Lead mg/l                   | 0.042                  | BDL                   | BDL                             | -                  |
| 17     | Zinc mg/l                   | 0.024                  | 0.018                 | 0.034                           | -                  |
| 18     | Copper mg/l                 | 0.043                  | 0.026                 | 0.036                           | -                  |

**Paraste, Harmalkar wada, Pernem 2020**

| Sr. No | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time                 | 17.08.2020 & 11:00 a.m | 31.08.2020 & 11:15a.m | 11.09.2020                      | -                  |
| 2      | Weather                     | Cloudy                 | Cloudy                | Sunny                           | -                  |
| 3      | Colour                      | Light brown            | Light brown           | Clear                           | -                  |
| 4      | Odour                       | Odourless              | Odourless             | Odourless                       | -                  |
| 5      | Human Activity              | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH                          | 6.47                   | 6.54                  | 7.18                            | 6.0-9.0            |
| 7      | Temperature °C              | 26                     | 28                    | 28                              | -                  |
| 8      | Cond µs/cm                  | 60.82                  | 97.08                 | 112.36                          | -                  |
| 9      | Turb NTU                    | 27.8                   | 12.7                  | 9.1                             | -                  |
| 10     | DO mg/l                     | 7.1                    | 7.3                   | 7.1                             | ≥ 4.0              |
| 11     | BOD mg/l                    | BDL                    | BDL                   | BDL                             | ≤ 3.0              |
| 12     | COD mg/l                    | 12.0                   | 6.0                   | 12.0                            | -                  |
| 13     | Total Dissolved Solids mg/l | 37.0                   | 60.0                  | 69.0                            | -                  |
| 14     | Total Solids mg/l           | 59.0                   | 98.0                  | 107.0                           | -                  |

|    |               |       |       |       |   |
|----|---------------|-------|-------|-------|---|
| 15 | Chromium mg/l | BDL   | BDL   | BDL   | - |
| 16 | Lead mg/l     | BDL   | BDL   | BDL   | - |
| 17 | Zinc mg/l     | 0.034 | 0.040 | 0.016 | - |
| 18 | Copper mg/l   | 0.043 | 0.021 | 0.028 | - |

**Daudkiwada River, Daudkiwada-velus, ward no. 1, Valpoi 2020**

| Sr. No | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time                 | 17.08.2020 &12:20p.m   | 31.08.2020 &12:20p.m  | 11.09.2020                      | -                  |
| 2      | Weather                     | Raining                | Sunny                 | Raining                         | -                  |
| 3      | Colour                      | Brown                  | Light brown           | Clear                           | -                  |
| 4      | Odour                       | Odourless              | Odourless             | Odourless                       | -                  |
| 5      | Human Activity              | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH                          | 6.8                    | 6.7                   | 6.6                             | 6.0-9.0            |
| 7      | Temperature °C              | 27                     | 29                    | 27                              | -                  |
| 8      | Cond µs/cm                  | 57.83                  | 64.6                  | 69.89                           | -                  |
| 9      | Turb NTU                    | 21.2                   | 3.95                  | 2.52                            | -                  |
| 10     | DO mg/l                     | 7.3                    | 7.8                   | 8.1                             | ≥4.0               |
| 11     | BOD mg/l                    | BDL                    | BDL                   | BDL                             | ≤3.0               |
| 12     | COD mg/l                    | 4.0                    | 10.0                  | 8.0                             | -                  |
| 13     | Total Dissolved Solids mg/l | 40.0                   | 44.0                  | 48.0                            | -                  |
| 14     | Total Solids mg/l           | 78.0                   | 86.0                  | 109.0                           | -                  |
| 15     | Chromium mg/l               | BDL                    | BDL                   | BDL                             | -                  |
| 16     | Lead mg/l                   | BDL                    | BDL                   | 0.043                           | -                  |
| 17     | Zinc mg/l                   | 0.018                  | 0.047                 | 0.035                           | -                  |
| 18     | Copper mg/l                 | 0.016                  | 0.037                 | 0.043                           | -                  |

**Near bridge, Orcotto, ward no. 4, Sanguem 2020**

| Sr. No | Parameters     | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|----------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time    | 18.08.2020 &11:00 a.m  | 01.09.2020 &10:30a.m  | 14.09.2020                      | -                  |
| 2      | Weather        | Cloudy                 | Sunny                 | Cloudy                          | -                  |
| 3      | Colour         | Light brown            | Light brown           | Clear                           | -                  |
| 4      | Odour          | Odourless              | Odourless             | Odourfree                       | -                  |
| 5      | Human Activity | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH             | 7.45                   | 6.36                  | 6.68                            | 6.0-9.0            |
| 7      | Temperature °C | 27                     | 29                    | 28                              | -                  |
| 8      | Cond µs/cm     | 60.75                  | 60.75                 | 41.98                           | -                  |
| 9      | Turb NTU       | 18.4                   | 13.9                  | 32.3                            | -                  |
| 10     | DO mg/l        | 6.6                    | 6.6                   | 7.7                             | ≥4.0               |

|    |                             |       |       |       |      |
|----|-----------------------------|-------|-------|-------|------|
| 11 | BOD mg/l                    | BDL   | BDL   | BDL   | ≤3.0 |
| 12 | COD mg/l                    | 6.0   | 6.0   | 6.0   | -    |
| 13 | Total Dissolved Solids mg/l | 34.0  | 36.0  | 55.0  | -    |
| 14 | Total Solids mg/l           | 49.0  | 49.0  | 73.0  | -    |
| 15 | Chromium mg/l               | BDL   | BDL   | BDL   | -    |
| 16 | Lead mg/l                   | BDL   | BDL   | 0.074 | -    |
| 17 | Zinc mg/l                   | 0.037 | 0.013 | 0.017 | -    |
| 18 | Copper mg/l                 | 0.063 | 0.034 | 0.042 | -    |

**Pimpolcotto, ward no. 2, Sanguem 2020**

| Sr. No | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time                 | 18.08.2020 & 10:20 a.m | 01.09.2020 & 11:00a.m | 14.09.2020                      | -                  |
| 2      | Weather                     | Cloudy                 | Sunny                 | Cloudy                          | -                  |
| 3      | Colour                      | Clear                  | Clear                 | Reddish                         | -                  |
| 4      | Odour                       | Odourless              | Odourless             | Odourfree                       | -                  |
| 5      | Human Activity              | Nil                    | Nil                   | Nil                             | -                  |
| 6      | pH                          | 6.57                   | 6.73                  | 6.99                            | 6.0-9.0            |
| 7      | Temperature °C              | 27                     | 29                    | 28                              | -                  |
| 8      | Cond µs/cm                  | 63.81                  | 54.74                 | 50.62                           | -                  |
| 9      | Turb NTU                    | 10.3                   | 7.75                  | 7.66                            | -                  |
| 10     | DO mg/l                     | 7.9                    | 7.5                   | 7.2                             | ≥4.0               |
| 11     | BOD mg/l                    | BDL                    | BDL                   | BDL                             | ≤3.0               |
| 12     | COD mg/l                    | 4.0                    | 10.0                  | 10.0                            | -                  |
| 13     | Total Dissolved Solids mg/l | 37.0                   | 32.0                  | 29.0                            | -                  |
| 14     | Total Solids mg/l           | 61.0                   | 55.0                  | 43.0                            | -                  |
| 15     | Chromium mg/l               | BDL                    | BDL                   | BDL                             | -                  |
| 16     | Lead mg/l                   | BDL                    | BDL                   | 0.035                           | -                  |
| 17     | Zinc mg/l                   | 0.036                  | 0.024                 | 0.031                           | -                  |
| 18     | Copper mg/l                 | 0.067                  | 0.033                 | 0.052                           | -                  |

**Panefond River, Kindlebag, ward no. 5, Canacona 2020**

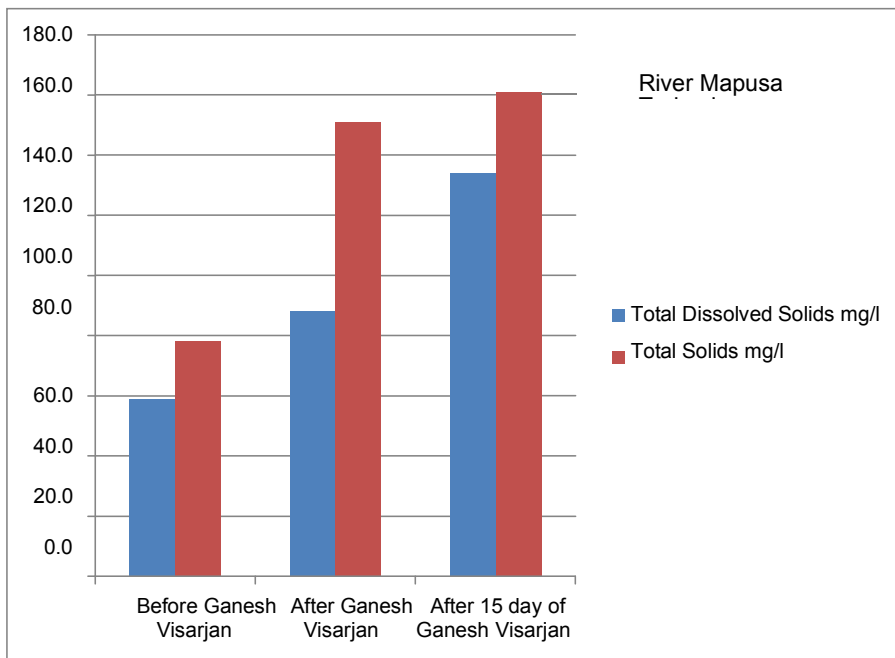
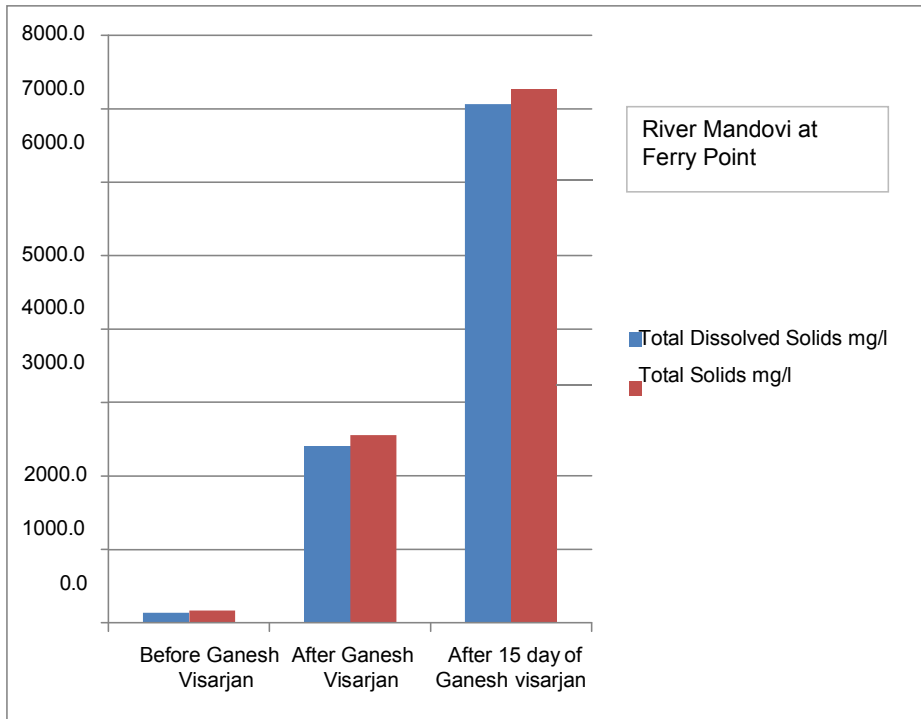
| Sr. No | Parameters     | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|----------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time    | 18.08.2020 & 02:35p.m  | 01.09.2020 & 02:15p.m | 14.09.2020 &                    | -                  |
| 2      | Weather        | Cloudy                 | Sunny                 | Cloudy                          | -                  |
| 3      | Colour         | Light brown            | Light brown           | Brownish                        | -                  |
| 4      | Odour          | Odourless              | Odourless             | Odourless                       | -                  |
| 5      | Human Activity | Nil                    | Nil                   | Nil                             | -                  |

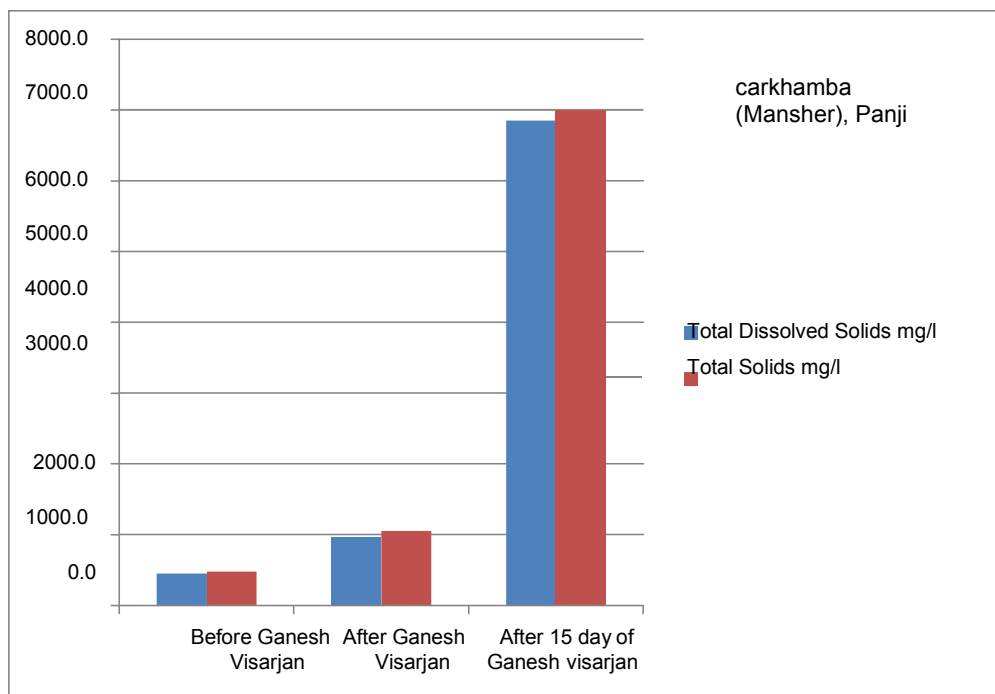
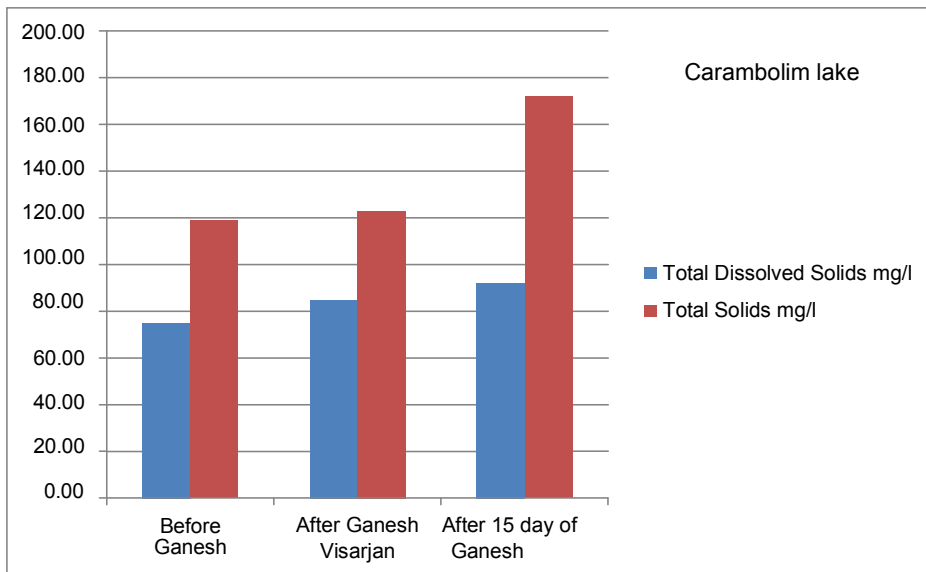
|    |                             |       |       |       |         |
|----|-----------------------------|-------|-------|-------|---------|
| 6  | pH                          | 6.37  | 6.41  | 6.53  | 6.0-9.0 |
| 7  | Temperature °C              | 27    | 27    | 28    | -       |
| 8  | Cond µs/cm                  | 67.92 | 88.27 | 70.58 | -       |
| 9  | Turb NTU                    | 13.76 | 3.65  | 29.3  | -       |
| 10 | DO mg/l                     | 7.8   | 7.5   | 7.5   | ≥ 4.0   |
| 11 | BOD mg/l                    | BDL   | BDL   | BDL   | ≤ 3.0   |
| 12 | COD mg/l                    | 8.00  | 10.00 | 8.00  | -       |
| 13 | Total Dissolved Solids mg/l | 43.00 | 55.00 | 45.00 | -       |
| 14 | Total Solids mg/l           | 56.00 | 88.00 | 53.00 | -       |
| 15 | Chromium mg/l               | BDL   | BDL   | BDL   | -       |
| 16 | Lead mg/l                   | BDL   | 0.040 | BDL   | -       |
| 17 | Zinc mg/l                   | 0.032 | 0.047 | 0.024 | -       |
| 18 | Copper mg/l                 | 0.025 | 0.033 | 0.030 | -       |

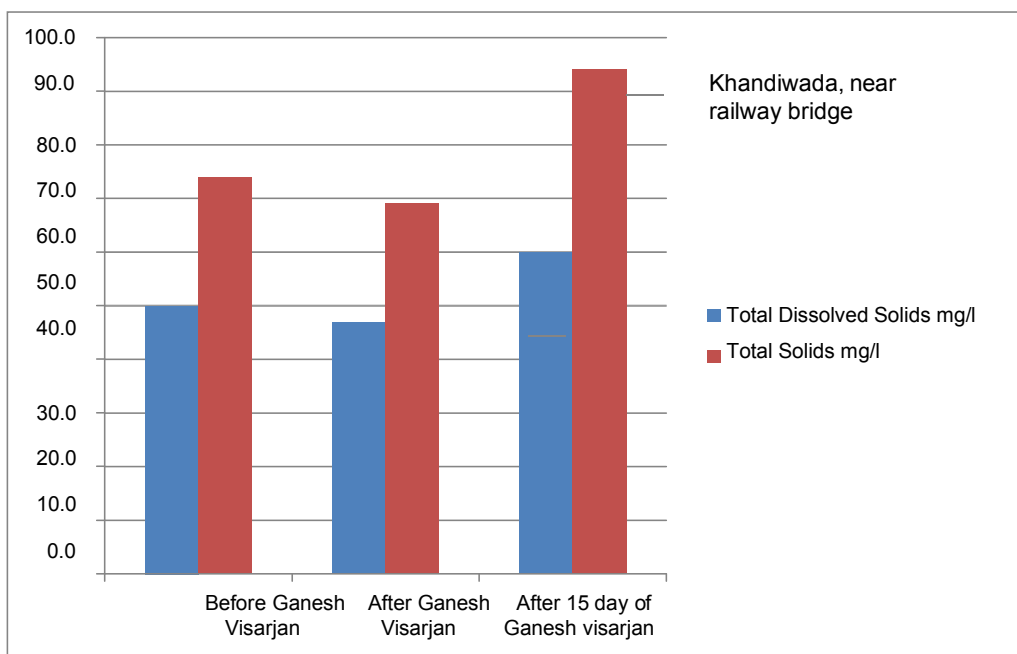
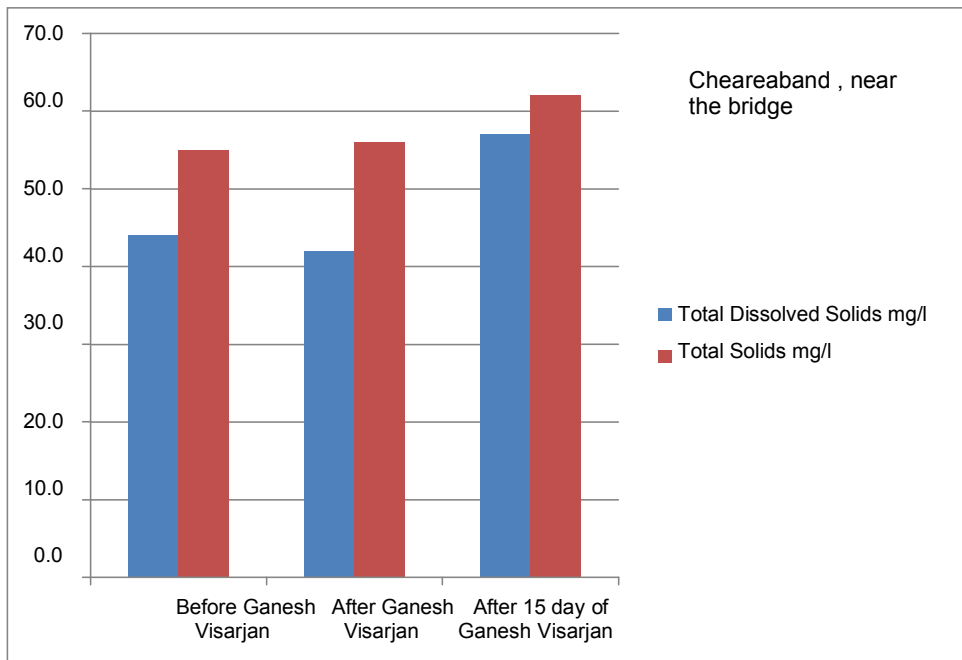
**Baina Beach, Vasco 2020**

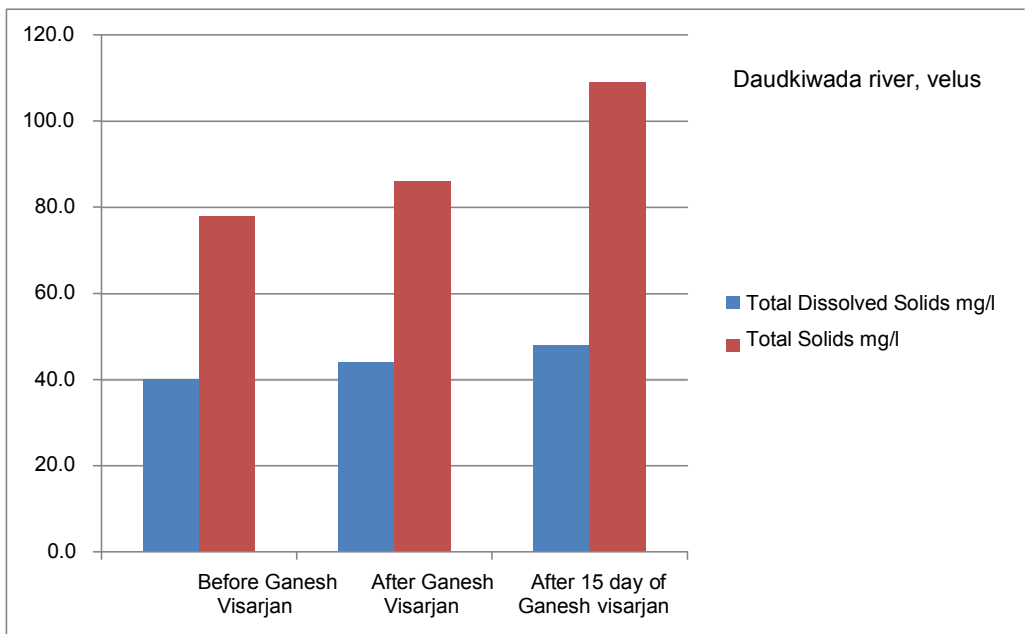
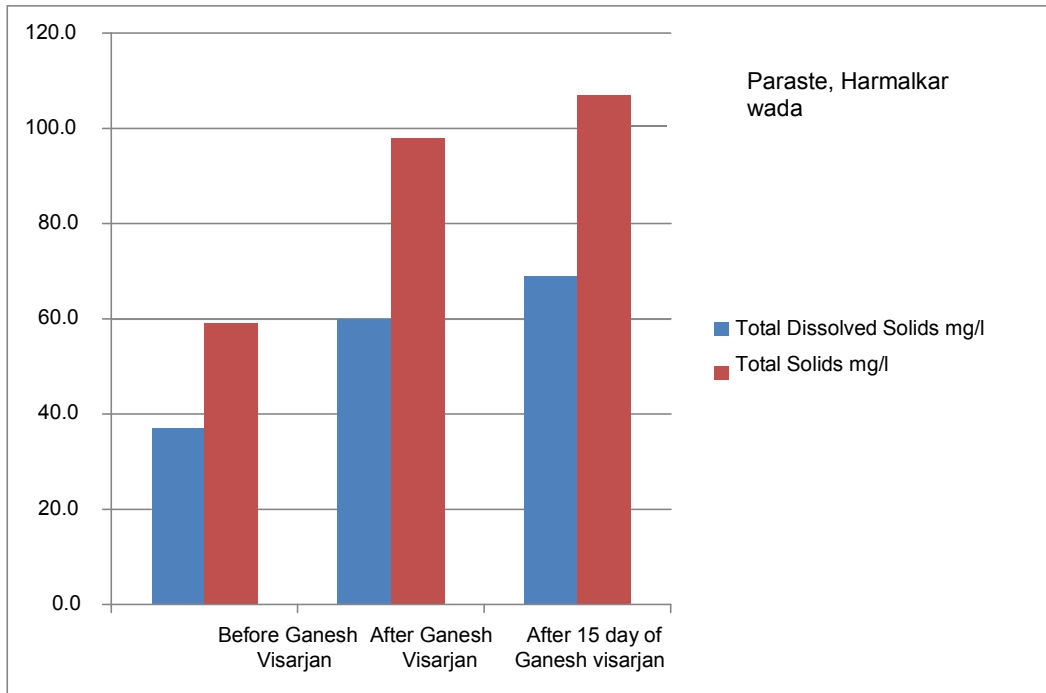
| Sr. No | Parameters                  | Before Ganesh Visarjan | After Ganesh Visarjan | After 15 day of Ganesh visarjan | Permissible Limits |
|--------|-----------------------------|------------------------|-----------------------|---------------------------------|--------------------|
| 1      | Date & Time                 | 18.08.2020 & 10:00a.m  | 01.09.2020 & 10:00a.m | 14.09.2020                      | -                  |
| 2      | Weather                     | Cloudy                 | Sunny                 | Cloudy                          | -                  |
| 3      | Colour                      | Clear                  | Clear                 | Clear                           | -                  |
| 4      | Odour                       | Odourless              | Odourless             | Odourless                       | -                  |
| 5      | Human Activity              | Fishing                | Nil                   | Nil                             | -                  |
| 6      | pH                          | 7.24                   | 7.5                   | 7.68                            | 6.5-8.5            |
| 7      | Temperature °C              | 28                     | 29                    | 28                              | -                  |
| 8      | Cond ms/cm                  | 32.57                  | 42.7                  | 49.58                           | -                  |
| 9      | Turb NTU                    | 10.22                  | 8.73                  | 23.2                            | 30                 |
| 10     | DO mg/l                     | 7.6                    | 7.0                   | 6.2                             | ≥ 4.0              |
| 11     | BOD mg/l                    | 2.0                    | 2.0                   | 2.0                             | ≤ 3.0              |
| 13     | Total Dissolved Solids mg/l | 20567.0                | 25995.0               | 29812.0                         | -                  |
| 14     | Total Solids mg/l           | 21765.0                | 26977.0               | 30018.0                         | -                  |
| 15     | Chromium mg/l               | BDL                    | BDL                   | BDL                             | -                  |
| 16     | Lead mg/l                   | 0.073                  | 0.085                 | 0.054                           | -                  |
| 17     | Zinc mg/l                   | 0.095                  | 0.330                 | 0.129                           | -                  |
| 18     | Copper mg/l                 | 0.049                  | 0.043                 | 0.019                           | -                  |

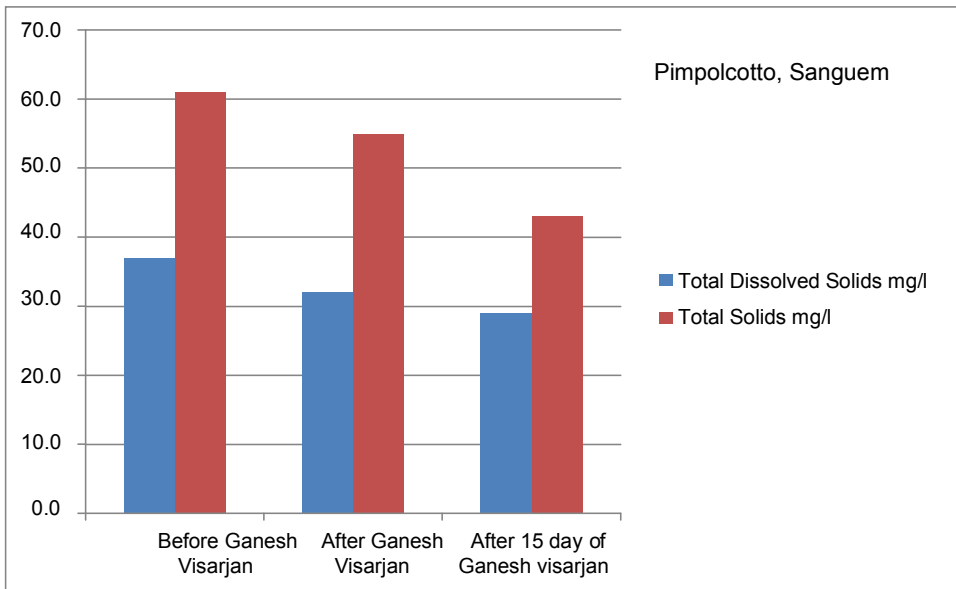
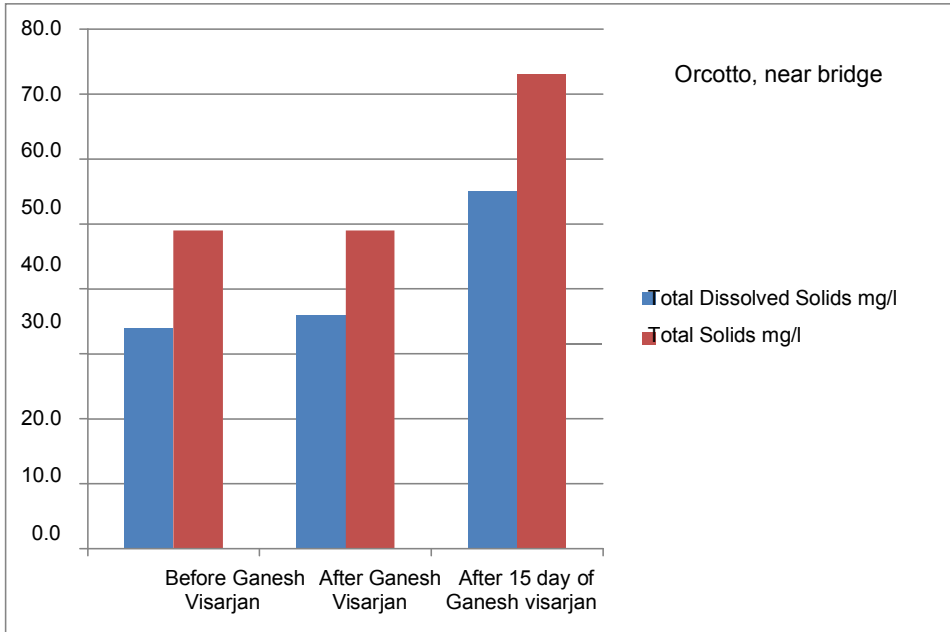


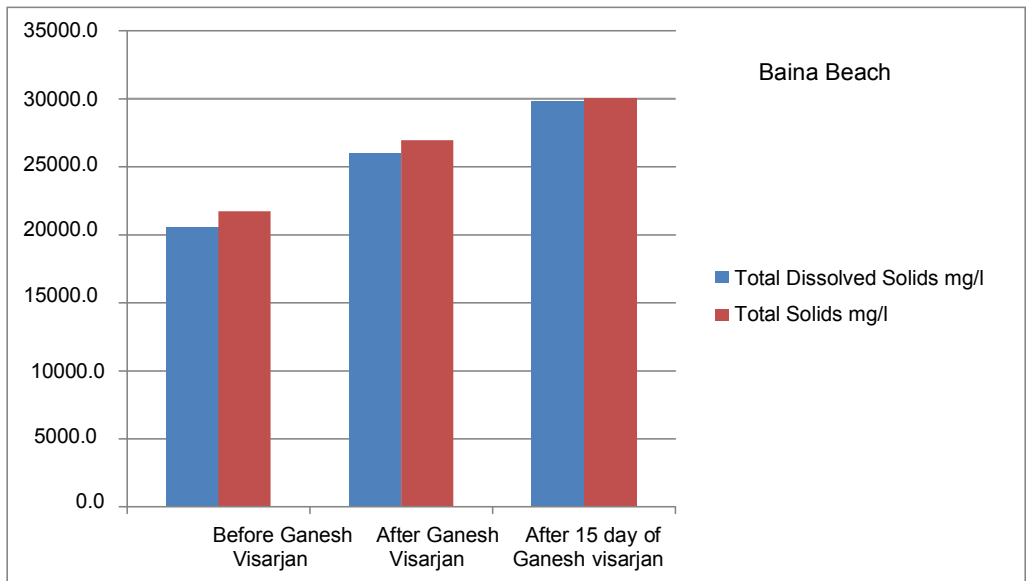
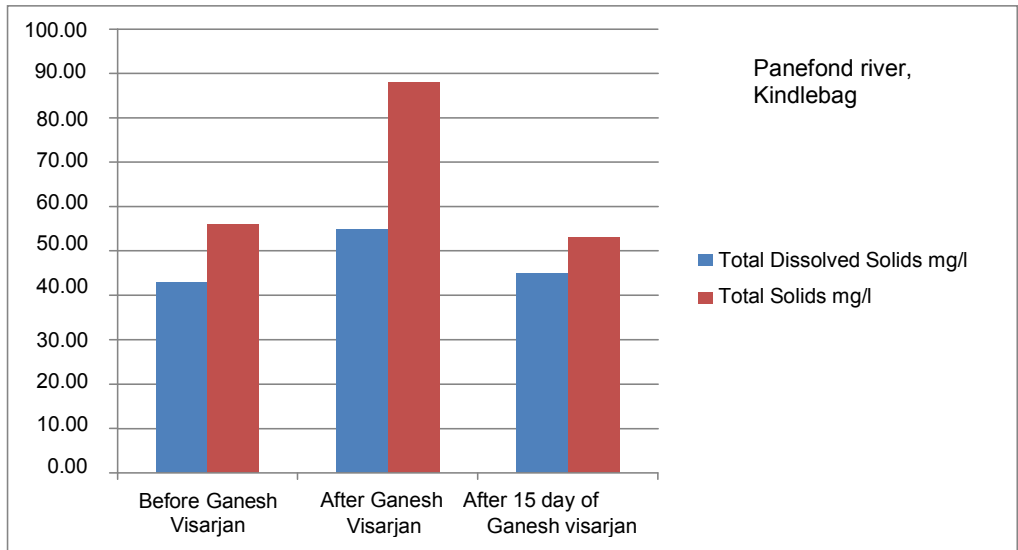












## ANNEXURE XIII

### “Form IVA” [See rule 13(2)]

**Calendar Year: 2020**

#### **Part-1 (Summary of Information)**

(1) Name of the Organization: **GOA STATE POLLUTION CONTROL BOARD**

(2) Name of the Nodal Officer with contact telephone number and e-mail:

**Dr. Shamila Monteiro (Member Secretary, GSPCB)** Contact no. **08322407700** email: **ms-gspcb.goa@nic.in**

(3) Total no. of Health Care Facilities / Occupiers:

- i. Bedded Hospitals and Nursing Homes (bedded): **148 nos**
- ii. Clinics, dispensaries: **462 nos**
- iii. Veterinary institutions: **43 nos**
- iv. Animal houses: **NIL**
- v. Pathological laboratories: **101 nos**
- vi. Blood banks: **1 (in Goa Medical College and Hospital)**
- vii. Clinical establishment: **NIL**
- viii. Research Institutions: **9 nos**
- ix. AYUSH: **15 nos**

(4) Total no. of beds: **5051**

(5) Status of authorisation

- (i) Total number of Occupiers applied for authorisation: **401 nos**
- (ii) Total number of Occupiers granted authorisation: **139 nos**
- (iii) Total number of application under consideration: **177 nos (pending for fees payment, incomplete applications, clarification / compliance sought)**
- (iv) Total number of applications rejected: **85**
- (v) Total number of Occupiers in operation without applying for authorisation: **For the year 2020, the Board had identified and issued showcause notices to 419 health care facilities. The GSPCB is in process of identifying additional HCFs operating without authorisation under the BMW Rules.**

(6) Quantity of Bio-medical Waste Generation (in kg/day):

(Please enclose District Wise Bio-medical Waste Generation as per Part-2)

- (i) Bio-medical waste generation by bedded hospitals (in kg/day): **1141.746 kg/day**
- (ii) Bio-medical waste generation by non-bedded hospitals (in kg/day): **130.93 Kg/day**
- (iii) Any other: **NIL**

(7) Bio-medical waste treatment and disposal

- (a) By Captive bio-medical waste treatment and disposal by Health Care Facilities (please enclose details as per Part-3)

- (i) Number of Health Care Facilities having captive treatment and Disposal facilities: **165 nos**
- (ii) Total bio-medical waste treated and disposed by captive treatment facilities in kg/day: **1272.68 Kg/day**

- (b) Bio-medical waste treatment and disposal by Common Bio Medical Waste Treatment Facilities (please enclose details as per Part 4):

Number of Common Bio Medical Waste Treatment Facilities in Operation:

State of Goa presently doesn't have CBMWTF. The setting up of a CBMWTF is in the final stages of completion and expected operation from August 2021. As a temporary measure till the CBMWTF is made operational, the incinerator facility (capacity: 100 kgs/hr) installed at the M/s Goa Medical College and Hospital, Bambolim is utilised for the disposal of yellow category (incinerable waste) generated in the State. Also the autoclave facility at M/s Manipal Hospital, Donapaula is utilised for the pre-treatment of the applicable biomedical waste categories before the waste is sent for disposal/recycling.

Number of Common Bio Medical Waste Treatment Facilities under construction:

The Goa Waste Management Corporation (GWMC) has been granted Environmental Clearance for the setting up of the CBMWTF at Kundaim Industrial Estate. M/s Biotic Waste Solutions Pvt Ltd. has been selected for "Design Built Operate and Transfer a CBMWTF for a period of 20 years. The setting up of a CBMWTF is in the final stages of completion and expected operation from August 2021. The said facility has obtained consent to operate from the GSPCB under the Air Act and the Water Act and also obtained authorisation under the Biomedical waste Management Rules.

- (iii) Total bio-medical waste treated in kg/day: **State of Goa doesn't presently have CBMWTF.**

Total treated bio-medical waste disposed through authorised recyclers (in Kg/day): **State of Goa doesn't have CBMWTF**

- (8) Total no. of violation by:

Health Care Facilities (bedded and non-bedded):

- a) **Show cause notice were issued by Board to 419 HCFs for operating without valid authorization of the board under BMW rules in 2020 based on the BMW details collected by the GSPCB from local bodies.**
- b) **Goa state Pollution Control Board has proposed to issue show cause notice to HCFs for not submitting annual reports within the stipulated time frame in the rules.**

- (ii) Common Bio Medical Waste Treatment Facilities: **NIL**
- (iii) Others (please specify): **NIL**

- (9) Show cause notices/directions issued to defaulters:

- a) **Show cause notice were issued by Board to approx 419 nos HCFs for operating without valid authorization of the board under BMW rules in 2020 based on the information submitted by the various local bodies in the state.**
- b) **Goa state Pollution Control Board has proposed to issue show cause notice to HCFs for not submitting annual reports within the stipulated time frame in the rules.**



- (ii) Common Bio Medical Waste Treatment Facilities: **NIL**
- (iii) Others: **NIL**

(10) Any other relevant information:

- (i) Number of workshops / trainings conducted during the year: **The state of Goa has organised training programs for major hospitals in the state through the upcoming operator of the CBMWTF (Biotic Solutions)**
- (ii) Number of occupiers installed liquid waste treatment facility: **16nos**
- (iii) Number of captive incinerators complying to the norms: **Goa Medical College and Hospital(GMCH) has upgraded the existing Incinerator and the same is as per the norms of the Biomedical Waste Management Rules.**
- (iv) Number of occupiers organised trainings: **766 nos**
- (v) Number of occupiers constituted Bio-medical Waste Management Committees: **97 nos**
- (vi) Number of occupiers submitted Annual Report for the previous calendar year: **386 nos**
- (vii) Number of occupiers practising pre-treatment of lab microbiology and Bio-technology waste: **16 nos**
- (viii) Number of Common Bio Medical Waste Treatment Facilities that have installed Continuous Online Emission Monitoring Systems: **1 no. (Captive incinerator installed at the Goa Medical College and Hospital, Bambolim has installed continuous online emission monitoring system.)**

# ANNEXURE XIV

## ANNUAL RETURNS OF PLASTIC WASTE FOR THE YEAR 2020-2021

| Name of SPCB/CPB                  | Estimate of plastic waste generated on tons per annum (TPA) | Implementation of thickness of less than 50 microns carry bags (Virgin /recycled). (Rule 4c) | Detailed of plastic waste Management (PWM) e.g. Collection , segregation disposal ( co- processing , road Construction etc) rules (5 & 6) <b>(Attach action plan)</b>                                                                                                                                                             | Partial /complete ban on usage of plastic bags ( through executive order )attach copy of notification or executive order | No. of registered plastic manufacturing /Recycling unit (Rule 13) |   |   | No. of unregistered plastic manufacturing or recycling units (in residential or unapproved areas ) (Rule 13) | Status of marketing labeling on carry bags (Rule 11) specify No. of units not complied | No. of violation and action taken on non compliance of PWM rules , 2016, as amended 2018 (Rule 12)                    | Explicitly pricing of carry bags from producers, brand owners and importers (Rule 15) | Status of submission of annual report by ULB's to SPCB/ PCC's (Rule 16) | Submission of annual Report to CPCB (Rule 17 ) |
|-----------------------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---|---|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------|------------------------------------------------|
| (1)                               | (2)                                                         | (3)                                                                                          | (4)                                                                                                                                                                                                                                                                                                                               | (5)                                                                                                                      | (6)                                                               |   |   | (7)                                                                                                          | (8)                                                                                    | (9)                                                                                                                   | (10)                                                                                  | (11)                                                                    | (12)                                           |
| Goa State Pollution Control Board | 26068.3 TPA                                                 | Implemented                                                                                  | The non biodegradable waste collected by the local bodies/ULBs is sent for co-incineration in cement plants through Goa Waste Management Corporation (GWMC) The GWMC has set up three bailing stations i.,e. Bicholim, Verna, Cacora. In addition to above bailing stations 11 ULBs and 4 Village Panchayat has bailing facility. | No order issued as on date under consideration of Government                                                             | 44                                                                | 1 | 1 | Nil                                                                                                          | Nil                                                                                    | as per the data submitted by local bodies 133 cases has been booked and an amount of Rs.1,18,400/- has been collected | -                                                                                     | Complied                                                                | Yes                                            |

# ANNEXURE XV

## Annual Returns of Lead Acid Batteries

### GOA STATE POLLUTION CONTROL BOARD

#### Status of Lead Acid Battery (APRIL 2019 - March 2020)

| Sr. No | Type of Category            | Total No | Total no. Production/ Imported/Consumption/ Recycled of LAB/(Qty) | Sale of Lead Acid Batteries in units | Total collection of Lead Acid Batteries in units | Annual Returns submitted | Action taken                                                        | Remarks                                                                                                                     |
|--------|-----------------------------|----------|-------------------------------------------------------------------|--------------------------------------|--------------------------------------------------|--------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 1      | Manufacturer/ Reconditioner | 1        | 11244                                                             | NA                                   | 0                                                | Yes                      | Units which have not submitted returns have been directed to do so. | Battery Scrap has been sent to 1. M/s. Indore Metal Corporation. Thane Mumbai. 2. M/s. Sterling Lead Pvt. Ltd., Kolhapur 1. |
| 2      | Assembler                   | 2        | 344                                                               | 0                                    | 0                                                | Yes                      |                                                                     |                                                                                                                             |
| 3      | Collection Centre           | 1        | 160492                                                            | 160492                               | 11390                                            | NA                       |                                                                     |                                                                                                                             |
| 4      | Dealer                      | 47       | NIL                                                               | 42746                                | 2680                                             | Yes                      |                                                                     |                                                                                                                             |
| 5      | Importer                    | Nil      | Nil                                                               | Nil                                  | Nil                                              | NA                       |                                                                     |                                                                                                                             |
| 6      | Blk. Consumer               | 37       | 1045                                                              | Nil                                  | 870                                              | Yes                      |                                                                     |                                                                                                                             |
| 7      | Auctioneer                  | Nil      | NA                                                                | NA                                   | NA                                               | NA                       |                                                                     |                                                                                                                             |
| 8      | Recycler                    | Nil      | NA                                                                | NA                                   | NA                                               | NA                       |                                                                     |                                                                                                                             |

\*Batteries handed over to dealers, manufacturers and registered recyclers by the Consumers & Bulk consumers  
 Details of action initiated/taken against illegal/unauthorised recycler and smelter of used lead acid batteries:  
**No case of such illegality has been reported/observed by the Board**  
 Percentage of compliance achieved in the state for the collection of used batteries as per schedule I of the rules : **11%**

## ANNEXURE - XVI

### Annual Returns of E-Waste for the year 2019 - 2020

|    |                                                                                                                                                           |                                                                                                                                                                                                                                                                           |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Number of authorized, refurbisher, collection centre, dismantler and recycler for management of e-waste in the State or Union territory under these rules | As per Information available with the Board<br>Authorized Bulk Consumer – 81 nos.<br>Authorized Manufacturer – 01<br>Authorized Refurbisher – NIL<br>Authorized Collection Centre – NIL<br>Authorized Dismantler – 1 No<br>Producers – 3 no..<br>Authorized Recycler: NIL |
| 2  | Categories of waste collected along with their quantities on a monthly/yearly average basis.                                                              | Attached in Annexure A                                                                                                                                                                                                                                                    |
| 3. | A summary Statement code wise of e-waste collected                                                                                                        | Attached in Annexure B                                                                                                                                                                                                                                                    |
| 4. | Details of material recovered from recycling of e-waste                                                                                                   | Not applicable                                                                                                                                                                                                                                                            |
| 5. | Quantity of CFL received at Treatment, Storage and Disposal facility                                                                                      | Not applicable                                                                                                                                                                                                                                                            |
| 6. | The above report is for the period from April 2019 to March 2020                                                                                          |                                                                                                                                                                                                                                                                           |

## ANNEXURE A

| Sr. no. | Categories of electrical and electronic equipment      | Collected Waste quantities on Monthly Average Basis in MT |
|---------|--------------------------------------------------------|-----------------------------------------------------------|
| 1       | Information technology and telecommunication equipment | 3.152                                                     |
| 2       | Consumer electrical and electronics                    | 15.060                                                    |

## ANNEXURE B

| Sr. No. | Categories of electrical and electronic equipment                                                     | Electrical and electronic equipment code | Collected Waste Quantities on Monthly Average Basis in MT |
|---------|-------------------------------------------------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------|
| i.      | <b>Information technology and telecommunication equipment:</b>                                        |                                          |                                                           |
|         | Centralised data processing: Mainframes, Minicomputers                                                | ITEW1                                    | 0.1313                                                    |
|         | Personal Computing: Personal Computers (Central Processing Unit with input and output devices)        | ITEW2                                    | 0.9375                                                    |
|         | Personal Computing: Laptop Computers (Central Processing Unit with input and output devices)          | ITEW3                                    | 0.037015                                                  |
|         | Personal Computing: Notebook Computers                                                                | ITEW4                                    | 0.000063333                                               |
|         | Personal Computing: Notepad Computers                                                                 | ITEW5                                    | 0.0225                                                    |
|         | Printers including cartridges                                                                         | ITEW6                                    | 0.3574                                                    |
|         | Copying equipment                                                                                     | ITEW7                                    | 0.000083                                                  |
|         | Electrical and electronic typewriters                                                                 | ITEW8                                    | 0.1203                                                    |
|         | User terminals and systems                                                                            | ITEW9                                    | 0.3854                                                    |
|         | Facsimile                                                                                             | ITEW10                                   | 0                                                         |
|         | Telex                                                                                                 | ITEW11                                   | 0                                                         |
|         | Telephones                                                                                            | ITEW12                                   | 0.0789                                                    |
|         | Pay telephones                                                                                        | ITEW13                                   | 0                                                         |
|         | Cordless telephones                                                                                   | ITEW14                                   | 0.0005                                                    |
|         | Cellular telephones                                                                                   | ITEW15                                   | 0                                                         |
|         | Answering systems                                                                                     | ITEW16                                   | 0.000417                                                  |
| ii      | <b>Consumer electrical and electronics:</b>                                                           |                                          |                                                           |
|         | Television sets (including sets based on (Liquid Crystal Display and Light Emitting Diode technology) | CEEW1                                    | 0.0835                                                    |
|         | Refrigerator                                                                                          | CEEW2                                    | 0.050833                                                  |
|         | Washing Machine                                                                                       | CEEW3                                    | 8.742                                                     |
|         | Air-conditioners excluding centralised air conditioning plants                                        | CEEW4                                    | 0.301                                                     |
|         | Fluorescent and other Mercury containing lamps                                                        | CEEW5                                    | 0.472                                                     |
|         | Others                                                                                                | PCBA, Wires, PCB                         | 1.0436                                                    |

## ANNEXURE - XVII

### ANNUAL REPORT ON CONSTRUCTION & DEMOLITION WASTEMANAGEMENT RULES 2016 FOR 2019-2020

|    |                                                                                                                                  |                                                                                                                               |
|----|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| 1. | Name of the State/Union territory                                                                                                | GOA                                                                                                                           |
| 2. | Name & address of the State Pollution Control                                                                                    | GOA STATE POLLUTION CONTROL BOARD<br>Near Pilerne Industrial Estate, Opp. Saligao<br>Seminary, Saligao, Bardez, Goa – 403511. |
| 3. | Number of municipal authorities responsible for management of municipal solid wastes in the State/Unionterritory undertheserules | 14                                                                                                                            |
| 4. | A Summary Statement on progressmade by municipal authorities in respectof implementation ofScheduleIII                           | Annexure-I                                                                                                                    |
| 5. | A Summary Statement on progress made by municipal authorities in respectof implementation ofScheduleIV                           | Not available in the said Rules.                                                                                              |

## ANNEXURE I

### Timeframe for Planning and Implementation

| Sr. No. | Compliance Criteria                                            | Cities with population of 01 million and above                                                                                                                                                                                                                                                                                                     | Cities with population of 0.5-01 million | Cities with population of less than 0.5 million |
|---------|----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------|
| 1       | Formulation of policy by State Government                      | NIL                                                                                                                                                                                                                                                                                                                                                |                                          |                                                 |
| 2       | Identification of sites for collection and processing facility | Government has handed over land to Goa Waste Management Corporation (GWMC) in survey no. 146/2, 146/3, 146/4, 146/6, 148/2, 148/6 & 148/7 of Village Curchirem of BicholimTaluka, for setting up C&D Waste Management Facility of 500 TPD capacity. Board has granted authorization to GWMC for temporary storage of C & D waste at the said site. |                                          |                                                 |
| 3       | Commissioning and implementation of the facility               | Not yet started as the facility is yet to be established.                                                                                                                                                                                                                                                                                          |                                          |                                                 |
| 4       | Monitoring by SPCBs                                            |                                                                                                                                                                                                                                                                                                                                                    |                                          |                                                 |

## ANNEXURE XVIII

**LIST OF APPLICATIONS FOR CONSENTS TO OPERATE (CCA) AND CONSENT TO ESTABLISH(CTO) UNDER WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 AND AIR (PREVENTION & CONTROL OF POLLUTION) ACT, 1981 BIO-MEDICAL WASTE (MANAGEMENT & HANDLING) RULES, 2016 AND HAZARDOUS WASTE (MANAGEMENT & HANDLING) (AMENDMENT) RULES, 2018 PROCESSED AND APPROVED BY THE BOARD DURING THE YEAR 2020-2021.**

| Sr. No. | Name of the Industry                                                    | Category | Consent issued Date |
|---------|-------------------------------------------------------------------------|----------|---------------------|
| 1       | GANESH BENZOPLAST LIMITED                                               | RED      | 4/22/2020           |
| 2       | CHOWGULE AND CO. PVT. LTD. SBD                                          | RED      | 5/30/2020           |
| 3       | KODEE RESOURCES                                                         | RED      | 6/04/2020           |
| 4       | AR MINES BUILDING SOLUTIONS                                             | RED      | 7/2/2020            |
| 5       | Eyestar Finance & Leasing Pvt. Ltd. (Bimbol Wet Beneficiation Plant)    | RED      | 6/24/2020           |
| 6       | MORMUGAO PORT TRUST-CRUISE TERMINAL STP                                 | RED      | 9/3/2020            |
| 7       | AR MINES BUILDING SOLUTIONS                                             | RED      | 9/9/2020            |
| 8       | M/S MVR SEA VIEW HOMES PVT LTD                                          | RED      | 8/11/2020           |
| 9       | MORMUGAO PORT TRUST MOORING 1,2&3                                       | RED      | 8/4/2020            |
| 10      | Siemens Ltd , Vaccum Interruptor Factory                                | RED      | 10/31/2020          |
| 11      | Sociedade De Fomento Industrial Pvt Ltd (Mobile Barge Loading Facility) | RED      | 8/27/2020           |
| 12      | MORMUGAO PORT TRUST BERTH NO.8                                          | RED      | 9/14/2020           |
| 13      | MORMUGAO PORT TRUST BERTH NO.10,11 & GENERAL                            | RED      | 9/22/2020           |
| 14      | GANESH BENZOPLAST LIMITED                                               | RED      | 9/9/2020            |
| 15      | MAHINDRA HOLIDAYS AND RESORTS INDIA LIMITED (UNIT CLUB MAHINDRA)        | RED      | 8/28/2020           |
| 16      | M/s Vedanta Limited Savordem Barge Loading Jetty                        | RED      | 9/17/2020           |
| 17      | Advani Hotels & Resorts (India) Ltd                                     | RED      | 9/28/2020           |
| 18      | AIRPORTS AUTHORITY OF INDIA PTT WORK                                    | RED      | 2/18/2021           |
| 19      | GOA SPONGE & POWER LTD                                                  | RED      | 2020-12-21          |
| 20      | SGDH                                                                    | RED      | 2020-12-17          |
| 21      | Sesa Resource Limited, Khamamol Barge loading jetty                     | RED      | 2020-10-21          |
| 22      | AMIT EARTHMOVERS                                                        | RED      | 2020-12-15          |
| 23      | SHARVANI EARTHMOVERS                                                    | RED      | 11/2/2020           |
| 24      | ITC Grand Goa Resort & Spa                                              | RED      | 12/7/2020           |
| 25      | Fomento Resources Pvt. Ltd. (Mobile Screening Plant) Maina-Quepem       | RED      | 2020-11-13          |
| 26      | The Zuri White Sands Goa Resort & Casino                                | RED      | 2020-11-19          |



|    |                                                                                  |     |            |
|----|----------------------------------------------------------------------------------|-----|------------|
| 27 | TEMBECHEM DONGOR IRON & MANGANESE ORE MINE                                       | RED | 2020-11-21 |
| 28 | M/s.Sea Bird Resorts Pvt.Ltd.(Unit-Alila Diwa Goa)                               | RED | 2020-12-17 |
| 29 | Soceidade Zarakpar & Parkar Ltda. (Mobile Screening Plant) Santona               | RED | 1/1/2021   |
| 30 | Fomento Resources Pvt Ltd (Mobile Screening Plant)                               | RED | 2020-12-30 |
| 31 | Faldessai Mines and Minerals International Private Limited                       | RED | 12/9/2020  |
| 32 | 6.7 MLD STP FOR MARGAO TOWN (PWD DIV XXI PHE))                                   | RED | 3/24/2021  |
| 33 | M/s. Timblo Enterprises                                                          | RED | 1/4/2021   |
| 34 | Rajesh Prakash Timblo                                                            | RED | 2020-12-15 |
| 35 | M/S ROCKTECH ENGINEERS                                                           | RED | 2020-12-22 |
| 36 | MAHINDRA HOLIDAYS AND RESORTS INDIA LIMITED (UNIT CLUB MAHINDRA)                 | RED | 1/8/2021   |
| 37 | AVISHA SHIPPING CORPORATION (DOMINGOS SANTANA FERNANDES)                         | RED | 2/8/2021   |
| 38 | VAIBHAVI SHIPPING PVT LTD                                                        | RED | 2/8/2021   |
| 39 | Zeolites & Allied Products Pvt. Ltd                                              | RED | 2/22/2021  |
| 40 | GANESH BENZOPLAST LIMITED                                                        | RED | 3/16/2021  |
| 41 | Devashri Garden Cooperative Housing Society Ltd.                                 | RED | 7/27/2020  |
| 42 | Vedanta Ltd, Bag House                                                           | RED | 6/13/2020  |
| 43 | Barge Loading Facility No.1                                                      | RED | 5/26/2020  |
| 44 | Vedanta Ltd, Met coke division II & Waste heat recovery power plant II           | RED | 5/15/2020  |
| 45 | Procter & Gamble Health Limited                                                  | RED | 9/21/2020  |
| 46 | Maina Barge Loading Jetty                                                        | RED | 9/30/2020  |
| 47 | Deccan Fine Chemicals (India) Private Limited                                    | RED | 5/12/2020  |
| 48 | V. M. SALGAOCAR & BRO. PVT. LTD.,                                                | RED | 5/26/2020  |
| 49 | Squirem Plot for Stacking of Iron Ore/ROM - Chowgule and Company Private Limited | RED | 6/10/2020  |
| 50 | GOA WASTE MANAGEMENT CORPORATION (SWMF Bainguinim)                               | RED | 9/30/2020  |
| 51 | Pacifica Hotels ( Ahmedabad Project) Pvt. Ltd.                                   | RED | 7/2/2020   |
| 52 | Igloo Dairy Services Pvt Ltd                                                     | RED | 8/28/2020  |
| 53 | UNITED LEADOXIDE PRODUCTS PVT LTD                                                | RED | 2020-10-28 |
| 54 | FOMENTO RESORTS & HOTELS LIMITED UNIT CIDADE DE GOA                              | RED | 6/30/2020  |
| 55 | Bag House                                                                        | RED | 6/15/2020  |
| 56 | MEHA CHEMICALS                                                                   | RED | 6/24/2020  |
| 57 | Vedanta Ltd, Pig Iron Plant and Sinter Plant                                     | RED | 6/18/2020  |
| 58 | Deccan Fine Chemicals (India) Private Limited                                    | RED | 6/15/2020  |
| 59 | SESA MINING CO. LTD BENEFICIATION PLANT PILGAO                                   | RED | 6/26/2020  |



|    |                                                                                      |     |            |
|----|--------------------------------------------------------------------------------------|-----|------------|
| 60 | M/s. Goa Institute of Management                                                     | RED | 7/20/2020  |
| 61 | VMSALGAOCAR CORPORATION PRIVATE LIMITED GOA MARRIOTT RESORT & SPA                    | RED | 7/1/2020   |
| 62 | NISHITA INDUSTRIES                                                                   | RED | 2020-10-19 |
| 63 | VAB Industries LLP                                                                   | RED | 9/4/2020   |
| 64 | M/s. INSTITUTE OF HOTEL MANAGEMENT, CATERING, TECHNOLOGY & APPLIED NUTRITION         | RED | 8/10/2020  |
| 65 | Vedanta Ltd, Met coke division II & Waste heat recovery power plant II               | RED | 8/4/2020   |
| 66 | Laxmi Powder Coating & Engineering Works                                             | RED | 8/24/2020  |
| 67 | 0.8 MLD SEWAGE TREATMENT PLANT, SANQUELIM GOA                                        | RED | 9/2/2020   |
| 68 | Versatile Landbase Pvt Ltd                                                           | RED | 8/25/2020  |
| 69 | Qualipro Industries                                                                  | RED | 9/10/2020  |
| 70 | Sociedade De Fomento Industrial Pvt. Ltd., (Capx-em Iron Ore Transshipment Terminal) | RED | 9/2/2020   |
| 71 | INTECH ORGANICS LIMITED                                                              | RED | 2020-11-24 |
| 72 | Shree Gananath Industries                                                            | RED | 9/15/2020  |
| 73 | Gera Developments Pvt Ltd & Gera Realty Estates                                      | RED | 9/25/2020  |
| 74 | Metpro Industries                                                                    | RED | 2020-10-16 |
| 75 | DESAI EARTH MOVERS MOBILE SCREENING PLANT                                            | RED | 9/28/2020  |
| 76 | Capxem Barge Loading Jetty                                                           | RED | 9/21/2020  |
| 77 | Pale Plot for Stacking of Iron Ore/ROM - Chowgule & Company Private Limited          | RED | 2020-10-23 |
| 78 | Vedanta Limited Amona Barge Loading Jetty                                            | RED | 2020-10-29 |
| 79 | Sesa Resource Limited, Barge Loading Jetty at Surla                                  | RED | 2020-10-29 |
| 80 | Sinori Jetty                                                                         | RED | 2020-10-27 |
| 81 | Vedanta Ltd, Met coke division II & Waste heat recovery power plant II               | RED | 11/7/2020  |
| 82 | Sukraft Recycling Pvt. Ltd.                                                          | RED | 2020-11-07 |
| 83 | Goan Hotels & Realty Pvt Ltd Unit Grand Hyatt Goa                                    | RED | 2/11/2021  |
| 84 | United Spirits Limited                                                               | RED | 12/7/2020  |
| 85 | MK Aromatics Limited                                                                 | RED | 2/3/2021   |
| 86 | Pacifica Hotels ( Ahmedabad Project) Pvt. Ltd.                                       | RED | 2/1/2021   |
| 87 | Goa Medical College & Hospital                                                       | RED | 2/26/2021  |
| 88 | Sukraft Recycling Pvt. Ltd.                                                          | RED | 3/25/2021  |
| 89 | Deccan Fine Chemicals (India) Private Limited                                        | RED | 2/18/2021  |
| 90 | Sesa Resource Limited, Barge Loading Jetty at Surla                                  | RED | 3/2/2021   |
| 91 | Ponda Envocare Limited                                                               | RED | 3/18/2021  |

|    |                                         |     |           |
|----|-----------------------------------------|-----|-----------|
| 92 | Shakti Polymetals Manufacturing Pvt Ltd | RED | 3/16/2021 |
| 93 | M/s Arul Linu Grabs Pvt Ltd             | RED | 3/23/2021 |
| 94 | SUPER SPECIALITY BLOCK AT GMCH          | RED | 6/4/2021  |
| 95 | Goa Medical College & Hospital          | RED | 5/13/2021 |

| Sr. no. | Name of the Industry                                        | Category | Consent issued Date |
|---------|-------------------------------------------------------------|----------|---------------------|
| 1       | Machado & Sons Agents & Stevedores Pvt. Ltd.                | WHITE    | 6/17/2020           |
| 2       | Ready systems                                               | WHITE    | 7/6/2020            |
| 3       | FERNANDES BROS.ENGINEERING WORKS                            | WHITE    | 7/15/2020           |
| 4       | Zealtek Enterprises Pvt Ltd                                 | WHITE    | 3/30/2021           |
| 5       | Sai Punyai Fuel Station                                     | WHITE    | 11/19/2020          |
| 6       | Sri Brahmachaitanya Petroleum                               | WHITE    | 10/15/2020          |
| 7       | M/s SHRUSTI ENVIROCARE                                      | WHITE    | 10/30/2020          |
| 8       | J.P STATION(HINDUSTAN PETROLEUM COR-PO.LTD)                 | WHITE    | 10/19/2020          |
| 9       | Hughes Precision Manufacturing Pvt Ltd                      | WHITE    | 11/13/2020          |
| 10      | SAGAR ENGINEERING WORKS                                     | WHITE    | 10/21/2020          |
| 11      | M/s Gonsalves Engineering                                   | WHITE    | 11/13/2020          |
| 12      | CONTROL CENTRE                                              | WHITE    | 11/20/2020          |
| 13      | DISHAS PETROL PUMP                                          | WHITE    | 11/5/2020           |
| 14      | MUNDI ENGINEERING WORKS                                     | WHITE    | 12/10/2020          |
| 15      | M/s. Chaitanya Petroleum                                    | WHITE    | 12/15/2020          |
| 16      | M/S WALUSCHA ENGINEERING WORKS                              | WHITE    | 11/25/2020          |
| 17      | FYREGARD ENTERPRISES                                        | WHITE    | 12/10/2020          |
| 18      | Furtado Fuel Centre                                         | WHITE    | 11/24/2020          |
| 19      | MAHALAXMI FUEL STATION(HINDUSTAN PETROLEUM CORPORATION LTD) | WHITE    | 12/20/2020          |
| 20      | ESS KAY COMPONENTS PVT.LTD.                                 | WHITE    | 1/4/2021            |
| 21      | INACIO FERNANDES FABRICATION                                | WHITE    | 12/30/2020          |
| 22      | Cool planet                                                 | WHITE    | 1/11/2021           |
| 23      | Bhisso Fuel Station (IOCL fuel station)                     | WHITE    | 6/4/2021            |
| 24      | NAIK FABRICATORS                                            | WHITE    | 1/29/2021           |
| 25      | LOURDES FABRICATIONS                                        | WHITE    | 2/22/2021           |
| 26      | COLACO CAFE                                                 | WHITE    | 3/12/2021           |
| 27      | ALSONY MONTEIRO FABRICATION WORK-SHOP                       | WHITE    | 3/12/2021           |
| 28      | Machado and Sons Agents and Stevedores Pvt Ltd              | WHITE    | 6/4/2020            |
| 29      | K & P INDUSTRIES                                            | WHITE    | 5/17/2020           |
| 30      | ABAB AUTO INDUSTRIES                                        | WHITE    | 5/29/2020           |
| 31      | CHAPHEKAR INDUSTRIES                                        | WHITE    | 9/8/2020            |
| 32      | VICTORY ENGINEERING                                         | WHITE    | 7/31/2020           |
| 33      | Urja Plastmet Pvt Ltd                                       | WHITE    | 10/9/2020           |

|    |                                           |       |            |
|----|-------------------------------------------|-------|------------|
| 34 | ARYALAXMI EARTHMOVERS PVT LTD.            | WHITE | 9/16/2020  |
| 35 | Solid Cement Agencies                     | WHITE | 9/26/2020  |
| 36 | OM ENTERPRISES                            | WHITE | 9/30/2020  |
| 37 | KONKAN TEA STALL                          | WHITE | 10/30/2020 |
| 38 | M/s. VAB Industries LLP (Unit IV)         | WHITE | 12/17/2020 |
| 39 | HINDUSTAN PETROLEUM CORPORATION LIMITED   | WHITE | 12/2/2020  |
| 40 | M/s. Lankhorst Euronete India Pvt. Ltd.   | WHITE | 12/18/2020 |
| 41 | Chill Out Refrigeration                   | WHITE | 12/22/2020 |
| 42 | VERONICA BRAGANCA                         | WHITE | 2/10/2021  |
| 43 | DB Electricals Private Limited - Unit III | WHITE | 5/12/2021  |
| 44 | Miracle Foods                             | WHITE | 4/12/2021  |
| 45 | Take A Treat                              | WHITE | 3/26/2021  |
| 46 | Bhagwant Korgaonkar                       | WHITE | 4/7/2021   |

| Sr. no. | Name of the Industry                                                             | Category | Consent issued Date |
|---------|----------------------------------------------------------------------------------|----------|---------------------|
| 1       | Sai Service Pvt. Ltd.                                                            | ORANGE   | 11/5/2020           |
| 2       | Cuncolim Municipal Council Garbage Treatment Plant (Remediation of legacy waste) | ORANGE   | 8/31/2020           |
| 3       | SUJAPOLYMERS                                                                     | ORANGE   | 7/22/2020           |
| 4       | Hotel Cosmique                                                                   | ORANGE   | 4/24/2020           |
| 5       | Seacoast Retreat                                                                 | ORANGE   | 5/13/2020           |
| 6       | Tulip Diagnostics (P) Ltd. (Div-Coral Clinical Systems)                          | ORANGE   | 5/28/2020           |
| 7       | VARUN BEVERAGES LIMITED                                                          | ORANGE   | 5/28/2020           |
| 8       | M/s. MARKSANS PHARMA LIMITED                                                     | ORANGE   | 7/3/2020            |
| 9       | Naval Transport Repair Workshop(Goa)                                             | ORANGE   | 5/8/2020            |
| 10      | MARIA METAL (QUARRY)                                                             | ORANGE   | 6/22/2020           |
| 11      | Sadguru Krupa Car Wash Centre                                                    | ORANGE   | 5/11/2020           |
| 12      | HOTEL POONAM                                                                     | ORANGE   | 5/12/2020           |
| 13      | TULIP DIAGNOSTICS PVT LTD (Plot NoS- 124 &S- 125 )                               | ORANGE   | 7/28/2020           |
| 14      | TULIP DIAGNOSTICS PVT LTD(S-126 & Utility-PlotVIII                               | ORANGE   | 7/28/2020           |
| 15      | CORTALIM SHIPYARD & ENGINEERS PVT LTD                                            | ORANGE   | 6/12/2020           |
| 16      | VINKA INDUSTRIES                                                                 | ORANGE   | 6/30/2020           |
| 17      | Sunrise Electromelt Ltd.                                                         | ORANGE   | 10/19/2020          |
| 18      | VERGO PHARMA RESEARCH LABORATORIES PVT LTD                                       | ORANGE   | 7/30/2020           |
| 19      | Shraddha ispat (Melting Division) Pvt. Ltd.                                      | ORANGE   | 6/16/2020           |
| 20      | DANRA METALS                                                                     | ORANGE   | 1/13/2021           |
| 21      | CHIKITSA HOSPITAL                                                                | ORANGE   | 2/23/2021           |
| 22      | JIMCAP ELECTRONICS PVT LTD                                                       | ORANGE   | 8/3/2020            |

|    |                                                           |        |            |
|----|-----------------------------------------------------------|--------|------------|
| 23 | Shirdi Steel Re -Rollers Pvt Ltd                          | ORANGE | 7/2/2020   |
| 24 | MVR AUTOMOBILES PVT LTD                                   | ORANGE | 7/1/2020   |
| 25 | KHR Hospitality India Ltd. (Unit-Kenilworth Resort & Spa) | ORANGE | 8/19/2020  |
| 26 | Sunshine Spray Painting Works                             | ORANGE | 6/18/2020  |
| 27 | PRAVEENA INDUSTRIES                                       | ORANGE | 6/29/2020  |
| 28 | GLOBAL ISPAAT PVT LTD                                     | ORANGE | 8/5/2020   |
| 29 | Sagar Industries                                          | ORANGE | 7/20/2020  |
| 30 | COSMOS PREMISES PVT LTD                                   | ORANGE | 1/12/2021  |
| 31 | Ferromar Shipping Pvt Ltd                                 | ORANGE | 8/13/2020  |
| 32 | Bhise Enterprises                                         | ORANGE | 6/29/2020  |
| 33 | M/S SHAHIL ENTERPRISES                                    | ORANGE | 7/2/2020   |
| 34 | HOTEL GOA'S PRIDE                                         | ORANGE | 7/2/2020   |
| 35 | Lubricare Services                                        | ORANGE | 9/11/2020  |
| 36 | Abbott India Limited                                      | ORANGE | 9/8/2020   |
| 37 | GAURAV FURNITURE                                          | ORANGE | 8/27/2020  |
| 38 | M/s. MACBEN EXQUISITE TRADITIONAL CUISINES                | ORANGE | 8/19/2020  |
| 39 | F.N. INDUSTRIES                                           | ORANGE | 7/14/2020  |
| 40 | SHRI BALAJI ROLLINGS PVT. LTD                             | ORANGE | 8/31/2020  |
| 41 | Paulo Auto Body Builders & Servicing Pvt Ltd              | ORANGE | 7/15/2020  |
| 42 | TEKNO PAINTS                                              | ORANGE | 10/15/2020 |
| 43 | BAVISH                                                    | ORANGE | 8/7/2020   |
| 44 | M/s HOTEL SAAJ                                            | ORANGE | 7/31/2020  |
| 45 | Konkan Maritime Cluster                                   | ORANGE | 7/22/2020  |
| 46 | GRACE HOSPITALITIES                                       | ORANGE | 8/17/2020  |
| 47 | DEEPAK ENTERPRISES                                        | ORANGE | 8/7/2020   |
| 48 | CANARA COLD STORAGE UNIT II                               | ORANGE | 7/24/2020  |
| 49 | M/s Lotus Inn Pvt. Ltd                                    | ORANGE | 5/5/2021   |
| 50 | M/s Dr. A Menezes Nursing Home,                           | ORANGE | 8/8/2020   |
| 51 | CARINA BEACH RESORT                                       | ORANGE | 10/15/2020 |
| 52 | VERGO PHARMA RESEARCH LABORATORIES PVT LTD                | ORANGE | 10/28/2020 |
| 53 | Finolex Cables Limited                                    | ORANGE | 8/11/2020  |
| 54 | TULIP DIAGNOSTICS PVT LTD (PLOT NO. 92/96)                | ORANGE | 9/9/2020   |
| 55 | TULIP DIAGNOSTICS PVT LTD(PLOT NO. O-10)                  | ORANGE | 9/9/2020   |
| 56 | MAHARUDRA DAIRY                                           | ORANGE | 9/11/2020  |
| 57 | M/s Indospirit Beverages Pvt Ltd                          | ORANGE | 8/27/2020  |
| 58 | Hindustan Coca-Cola Beverages Pvt. Ltd                    | ORANGE | 9/23/2020  |
| 59 | SHRI SUDIN N. VERENKAR                                    | ORANGE | 11/23/2020 |
| 60 | DESAI AGRO PROCESSORS PVT LTD                             | ORANGE | 8/25/2020  |
| 61 | VASCO RESIDENCY                                           | ORANGE | 2/15/2021  |
| 62 | MARGAO RESIDENCY                                          | ORANGE | 2/15/2021  |

|     |                                                    |        |            |
|-----|----------------------------------------------------|--------|------------|
| 63  | PRAVEENA INDUSTRIES                                | ORANGE | 9/1/2020   |
| 64  | M/s. Goa Inn Pvt. Ltd.                             | ORANGE | 9/7/2020   |
| 65  | M/s Hotel Rebelo                                   | ORANGE | 9/14/2020  |
| 66  | PLASTIC EXPORT ZUNDERT (I) PVT LTD                 | ORANGE | 9/8/2020   |
| 67  | JOECONS BEACH RESORT                               | ORANGE | 10/6/2020  |
| 68  | Nanu Resorts Pvt Ltd                               | ORANGE | 9/16/2020  |
| 69  | NANUTEL HOTEL                                      | ORANGE | 9/16/2020  |
| 70  | MOLBIO DIAGNOSTICS PRIVATE LIMITED                 | ORANGE | 10/15/2020 |
| 71  | Shree Ramnath Damodar Industries                   | ORANGE | 9/16/2020  |
| 72  | GLOBAL CONVEYOR SYSTEMS PVT LTD                    | ORANGE | 10/15/2020 |
| 73  | MAJESTIC ECO COMFORT                               | ORANGE | 10/3/2020  |
| 74  | Quality Foods                                      | ORANGE | 11/13/2020 |
| 75  | Betts India Private Limited                        | ORANGE | 1/8/2021   |
| 76  | The Queeny Hotel                                   | ORANGE | 10/6/2020  |
| 77  | parekh recycling                                   | ORANGE | 5/31/2021  |
| 78  | CLUB MAHINDRA EMERALD PALMS                        | ORANGE | 11/23/2020 |
| 79  | M/s Quality Granite                                | ORANGE | 10/28/2020 |
| 80  | FATIMA VENTURES                                    | ORANGE | 10/13/2020 |
| 81  | HOTEL LA FLOR                                      | ORANGE | 10/12/2020 |
| 82  | RUKMINIRAMA STEEL ROLLINGS PVT. LTD.               | ORANGE | 10/20/2020 |
| 83  | Tevapharm India Pvt Ltd                            | ORANGE | 12/10/2020 |
| 84  | PAI HOSPITAL                                       | ORANGE | 12/7/2020  |
| 85  | MR FREDDYS BREWING COMPANY                         | ORANGE | 10/16/2020 |
| 86  | Goa Auto Service Station                           | ORANGE | 12/10/2020 |
| 87  | AUTOMOTIVEIS DE CRISTAL LLP                        | ORANGE | 11/13/2020 |
| 88  | CHOWGULE INDUSTRIES PRIVATE LIMITED (EICHER DIVN)  | ORANGE | 6/7/2021   |
| 89  | M/s JAISWAL TRADERS                                | ORANGE | 3/3/2021   |
| 90  | Palolem Beach Resort                               | ORANGE | 2/5/2021   |
| 91  | CHOWGULE INDUSTRIES PRIVATE LIMITED (MSIL DIVN)    | ORANGE | 6/7/2021   |
| 92  | M/s Cipla Limited                                  | ORANGE | 12/5/2020  |
| 93  | YUNCA MACHINERY MANUFACTURING PVT LTD              | ORANGE | 3/8/2021   |
| 94  | NAIK MOTORS                                        | ORANGE | 1/20/2021  |
| 95  | DCI Pharmaceutical Pvt. Ltd.                       | ORANGE | 1/29/2021  |
| 96  | GOA GUEST HOUSE                                    | ORANGE | 11/4/2020  |
| 97  | LIVOM PHARMA                                       | ORANGE | 11/13/2020 |
| 98  | M/s RAJENDRA MAHADEV NAIK                          | ORANGE | 11/18/2020 |
| 99  | Choksi Laboratories Limited                        | ORANGE | 5/25/2021  |
| 100 | M/S VISHWA SARASWATI SOCIETY(HOTEL MANAGEMENT INS. | ORANGE | 12/22/2020 |
| 101 | M/s. EDWINS                                        | ORANGE | 11/11/2020 |

|     |                                                                                         |        |            |
|-----|-----------------------------------------------------------------------------------------|--------|------------|
| 102 | M/s RELIANCE BUILDERS                                                                   | ORANGE | 12/28/2020 |
| 103 | Bharat Petroleum Corp.Ltd                                                               | ORANGE | 12/14/2020 |
| 104 | SHREE LAXMINARAYAN HALLMARKING CENTRE                                                   | ORANGE | 12/28/2020 |
| 105 | Finolex Cables Limited                                                                  | ORANGE | 12/10/2020 |
| 106 | Kamakshi Engineering Works                                                              | ORANGE | 11/25/2020 |
| 107 | M/s SHANTADURGA HOT MIX ENTERPRISES                                                     | ORANGE | 4/7/2021   |
| 108 | Pfizer Limited                                                                          | ORANGE | 1/21/2021  |
| 109 | M/s. CISEN PHARMACEUTICALS INDIA PRIVATE LIMITED                                        | ORANGE | 2/17/2021  |
| 110 | KK STEEL TRADER                                                                         | ORANGE | 12/7/2020  |
| 111 | M/s. BALAJI TYRE SERVICES                                                               | ORANGE | 12/7/2020  |
| 112 | CACULO CARS PVT. LTD.                                                                   | ORANGE | 2/15/2021  |
| 113 | Mepra Medicaments Pvt. Ltd.                                                             | ORANGE | 1/20/2021  |
| 114 | MANGALA FOOD PRODUCTS                                                                   | ORANGE | 12/16/2020 |
| 115 | IQRA HOSPITALITY SERVICES (HOTEL SUPREME)                                               | ORANGE | 12/24/2020 |
| 116 | M/s Royal Goan Beach Resorts LLP. (Royal Palms)                                         | ORANGE | 4/4/2021   |
| 117 | NG Autocare Center                                                                      | ORANGE | 1/20/2021  |
| 118 | Watson Pharma Private Limited                                                           | ORANGE | 2/5/2021   |
| 119 | M/s. R B S CANDIAPARCAR                                                                 | ORANGE | 1/22/2021  |
| 120 | M/s. R B S CANDIAPARCAR                                                                 | ORANGE | 1/22/2021  |
| 121 | M/s. MARKSANS PHARMA LIMITED                                                            | ORANGE | 2/5/2021   |
| 122 | HFCL Limited                                                                            | ORANGE | 3/18/2021  |
| 123 | Launderaids                                                                             | ORANGE | 2/2/2021   |
| 124 | POLYCLASS INDUSTRIES                                                                    | ORANGE | 4/9/2021   |
| 125 | PARVATI INDUSTRIES                                                                      | ORANGE | 1/6/2021   |
| 126 | M/s Cipla Limited                                                                       | ORANGE | 3/1/2021   |
| 127 | Cipla Limited                                                                           | ORANGE | 3/1/2021   |
| 128 | JOECONS MARINE EXPORTS PVT LTD                                                          | ORANGE | 2/20/2021  |
| 129 | FDC LTD (UNIT I & II)                                                                   | ORANGE | 2/17/2021  |
| 130 | M/s. SAI SERVICE PRIVATE LIMITED                                                        | ORANGE | 1/25/2021  |
| 131 | MICRO LABS LIMITED                                                                      | ORANGE | 2/18/2021  |
| 132 | Blue Cross Laboratories Private Limited                                                 | ORANGE | 2/4/2021   |
| 133 | M/S OLD GOA OILS AND FOODS PVT.LTD                                                      | ORANGE | 4/5/2021   |
| 134 | GOURI ENTERPRISES                                                                       | ORANGE | 3/2/2021   |
| 135 | Canacona Municipal Council Garbage Treatment Plant Dhumane(Remediation of legacy waste) | ORANGE | 2/17/2021  |
| 136 | M/S. RAMESH HOTELS & RESORTS PVT. LTD.                                                  | ORANGE | 2/1/2021   |
| 137 | Eco Prime Car Care                                                                      | ORANGE | 3/4/2021   |
| 138 | M/s. MARKSANS PHARMA LIMITED                                                            | ORANGE | 2/26/2021  |
| 139 | VAILANKANI GARAGE                                                                       | ORANGE | 1/22/2021  |

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|-----|----------------------------------------------------|--------|------------|
| 140 | Grace Intensive Cardiac Care Centre                | ORANGE | 2/3/2021   |
| 141 | Grace Nursing Home                                 | ORANGE | 2/3/2021   |
| 142 | COSTI LATERITE QUARRY (Dr. Damodar Dessai Gaunkar) | ORANGE | 2/17/2021  |
| 143 | FILCON RESORT                                      | ORANGE | 1/28/2021  |
| 144 | DEEPAK ENTERPRISES                                 | ORANGE | 2/3/2021   |
| 145 | Cotyar Beverages                                   | ORANGE | 4/26/2021  |
| 146 | M/s Indoco Remedies Ltd (Plant-I)                  | ORANGE | 3/1/2021   |
| 147 | M/s UNITED MARINE PRODUCTS                         | ORANGE | 2/6/2021   |
| 148 | MOLBIO DIAGNOSTICS PRIVATE LIMITED                 | ORANGE | 3/11/2021  |
| 149 | M/s MONAK PACKAGING                                | ORANGE | 4/1/2021   |
| 150 | M/s MADANANT CONSTRUCTIONS GOA PVT LTD             | ORANGE | 3/31/2021  |
| 151 | M/s. INDOCO REMEDIES LTD (Plant II) (Unit 2 & 3)   | ORANGE | 3/26/2021  |
| 152 | HOTEL PANCHSHEEL                                   | ORANGE | 3/31/2021  |
| 153 | SHATIXA DAIRY FARM                                 | ORANGE | 6/24/2021  |
| 154 | UPA AUTO SERVICE                                   | ORANGE | 3/24/2021  |
| 155 | Shiva Goa Palace Pvt. Ltd.                         | ORANGE | 3/12/2021  |
| 156 | MARTINS CREST                                      | ORANGE | 3/5/2021   |
| 157 | Hindustan Petroleum Corporation Ltd.               | ORANGE | 5/6/2021   |
| 158 | M/S COASTAL INFRA                                  | ORANGE | 3/8/2021   |
| 159 | M/S. CAM INDUSTRIAL SERVICES                       | ORANGE | 3/8/2021   |
| 160 | M/S GEMINI DISTILLERIES (GOA) PRIVATE LIMITED      | ORANGE | 3/26/2021  |
| 161 | MAJESTIC ECO COMFORT                               | ORANGE | 3/29/2021  |
| 162 | Goa Granite                                        | ORANGE | 4/29/2021  |
| 163 | STEVE P -AIR SOLUTIONS                             | ORANGE | 4/9/2021   |
| 164 | RODRIGUES REAL ESTATE PVT LTD                      | ORANGE | 3/23/2021  |
| 165 | Commscope India Pvt Ltd                            | ORANGE | 4/23/2021  |
| 166 | M/s JERRY ENTERPRISES                              | ORANGE | 5/26/2021  |
| 167 | MICRO LABS LIMITED                                 | ORANGE | 4/5/2021   |
| 168 | TAPRATH IMEX                                       | ORANGE | 6/14/2021  |
| 169 | TULIP DIAGNOSTICS PVT LTD (WAREHOUSE)              | ORANGE | 4/28/2021  |
| 170 | M/S SPARKLE SERVICE STATION                        | ORANGE | 6/29/2021  |
| 171 | Princely Cars Pvt Ltd                              | ORANGE | 4/6/2021   |
| 172 | Perfect Laundry & Dry Cleaners                     | ORANGE | 4/6/2021   |
| 173 | Colonia Santa Maria Hotels Pvt Ltd.                | ORANGE | 10/20/2020 |
| 174 | CHAITANYA HOSPITAL                                 | ORANGE | 9/23/2020  |
| 175 | Glow Paints Pvt Ltd                                | ORANGE | 7/27/2020  |
| 176 | BMK INDUSTRIES                                     | ORANGE | 7/27/2020  |
| 177 | DELTIN SUITES(CASTLE ROYAL)                        | ORANGE | 6/15/2020  |
| 178 | Kingpin Hospitalitys Private Limited               | ORANGE | 5/21/2020  |



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|-----|---------------------------------------------------------------------------------------|--------|------------|
| 179 | Sigma Laboratories Private Limited                                                    | ORANGE | 12/30/2020 |
| 180 | PYRO ELECTRIC INSTRUMENTS GOA PVT LTD                                                 | ORANGE | 6/8/2020   |
| 181 | M/s. ALOFT CALANGUTE GOA (Le Meridian)                                                | ORANGE | 9/24/2020  |
| 182 | COLGATE PALMOLIVE (INDIA) LIMITED                                                     | ORANGE | 6/4/2020   |
| 183 | AQUA RESORTS & SPA PVT LTD (JAMBOREE<br>pnj 762)                                      | ORANGE | 5/20/2020  |
| 184 | M/s. DR KOLWALKARS GALAXY HOSPITAL                                                    | ORANGE | 5/14/2020  |
| 185 | Berger Paints India Limited, Plot.316-317, Kundaim<br>Industrial Estate, Kundaim, Goa | ORANGE | 5/18/2020  |
| 186 | Expanse India Buildcon Pvt Ltd                                                        | ORANGE | 5/11/2020  |
| 187 | Sai Laundry                                                                           | ORANGE | 5/14/2020  |
| 188 | M/s.Berger Paints India Limited                                                       | ORANGE | 5/20/2020  |
| 189 | INDIAN DESALINATION ENGINEERING PVT.<br>LTD.                                          | ORANGE | 8/5/2020   |
| 190 | HOTEL ORION                                                                           | ORANGE | 5/28/2020  |
| 191 | Sun Pharmaceutical Industries Pvt. Ltd.                                               | ORANGE | 7/4/2020   |
| 192 | Shaiv Distilleries Pvt.Ltd.                                                           | ORANGE | 7/27/2020  |
| 193 | REGENCY                                                                               | ORANGE | 5/27/2020  |
| 194 | M/s. Labchem                                                                          | ORANGE | 6/3/2020   |
| 195 | STAR ALLIANCE RESORTS LLP                                                             | ORANGE | 5/28/2020  |
| 196 | M/S HAPPY LAUNDRY                                                                     | ORANGE | 9/3/2020   |
| 197 | FINOLEX CABLES LIMITED                                                                | ORANGE | 12/16/2020 |
| 198 | Shree om plastic                                                                      | ORANGE | 6/22/2020  |
| 199 | Berger Paints India Limited, Plot.316-317, Kundaim<br>Industrial Estate, Kundaim, Goa | ORANGE | 6/11/2020  |
| 200 | SABA SCRAP TRADER                                                                     | ORANGE | 6/2/2020   |
| 201 | M/s.Berger Paints India Limited                                                       | ORANGE | 6/17/2020  |
| 202 | SUPERKING DISTILLERY                                                                  | ORANGE | 6/4/2020   |
| 203 | COUNTO MICROFINE PRODUCTS PVT. LTD                                                    | ORANGE | 7/24/2020  |
| 204 | AMBA INDUSTRIES                                                                       | ORANGE | 6/22/2020  |
| 205 | LATAMBARCEM BREWERS PRIVATE LIMITED                                                   | ORANGE | 9/4/2020   |
| 206 | FOMAR PVT LTD                                                                         | ORANGE | 7/11/2020  |
| 207 | VMSALGAOCAR CORPORATION PVT LTD                                                       | ORANGE | 7/16/2020  |
| 208 | CURTI ENTERPRISES LLP                                                                 | ORANGE | 7/16/2020  |
| 209 | PERAVEL BEACH HOLIDAY HOME                                                            | ORANGE | 6/24/2020  |
| 210 | VRINDAVAN ENTERPRISES                                                                 | ORANGE | 9/15/2020  |
| 211 | Durgadevi Enterprises                                                                 | ORANGE | 8/18/2020  |
| 212 | M/s. PHOENIX PARK INN (UNIT OF PHOENIX<br>TOWNSHIP LIMITED)                           | ORANGE | 7/10/2020  |
| 213 | M/S. TUSKER MOTORCYCLES PRIVATE LIM-<br>ITED                                          | ORANGE | 6/29/2020  |
| 214 | D.G.N Resorts                                                                         | ORANGE | 6/30/2020  |
| 215 | Angels Holiday Resort                                                                 | ORANGE | 6/25/2020  |



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|-----|-----------------------------------------------------|--------|------------|
| 216 | RIVER NAVIGATION DEPARTMENT (MARINE WORKSHOP)       | ORANGE | 7/1/2020   |
| 217 | M/s. THE HORIZON                                    | ORANGE | 10/13/2020 |
| 218 | Hotel Amani Vagator                                 | ORANGE | 7/2/2020   |
| 219 | M/s. PALMARINHA RESORT                              | ORANGE | 9/11/2020  |
| 220 | BAGA RETREAT                                        | ORANGE | 11/9/2020  |
| 221 | M/s Esteem Industries                               | ORANGE | 11/23/2020 |
| 222 | Hotel Manvin's                                      | ORANGE | 7/8/2020   |
| 223 | M/s. JUST PERFECT RESORTS GOA PVT. LTD.             | ORANGE | 7/23/2020  |
| 224 | M/S MANDОВI DISTILLERIES AND BREWERIES PVT. LTD     | ORANGE | 7/29/2020  |
| 225 | MORESHWAR TRADING Company PVT. LTD. (Sharayu autom) | ORANGE | 8/7/2020   |
| 226 | THE GREEN RESORT                                    | ORANGE | 7/27/2020  |
| 227 | Durga Resort                                        | ORANGE | 7/16/2020  |
| 228 | Filpak (India) Private Limited                      | ORANGE | 9/16/2020  |
| 229 | RAIYANI FURNITURE                                   | ORANGE | 9/7/2020   |
| 230 | CLUBE TENNIS de GASPARD DIAS                        | ORANGE | 8/31/2020  |
| 231 | Amigos Properties                                   | ORANGE | 7/24/2020  |
| 232 | ANIL GARAGE                                         | ORANGE | 7/27/2020  |
| 233 | CASTLE HOUSE                                        | ORANGE | 7/27/2020  |
| 234 | M/S ALOR HOLIDAY RESORT                             | ORANGE | 8/3/2020   |
| 235 | HOTEL GOA INTERNATIONAL                             | ORANGE | 8/31/2020  |
| 236 | GOA M SAND PRODUCTS                                 | ORANGE | 8/11/2020  |
| 237 | HOTEL VILLA BOMFIM                                  | ORANGE | 8/12/2020  |
| 238 | Reliance Jio Infocomm Limited                       | ORANGE | 9/21/2020  |
| 239 | Grandeur De Sanchi                                  | ORANGE | 11/3/2020  |
| 240 | Kripa Foundation                                    | ORANGE | 8/18/2020  |
| 241 | KAISARE EYE AND DENTAL HOSPITAL                     | ORANGE | 9/16/2020  |
| 242 | Amicas Structural and Fibre Glass Works             | ORANGE | 9/23/2020  |
| 243 | M/s. AHAAN RESORT PVT. LTD.                         | ORANGE | 9/8/2020   |
| 244 | M/s. DE LAGOM COMFORTS                              | ORANGE | 9/7/2020   |
| 245 | JAYRAJ CASHEW INDUSTRIES                            | ORANGE | 9/16/2020  |
| 246 | M/s. Golden Cashew Products                         | ORANGE | 11/17/2020 |
| 247 | GOAN BOUNTY                                         | ORANGE | 10/1/2020  |
| 248 | Adarsh Co-Operative Housing Society Limited         | ORANGE | 12/14/2020 |
| 249 | Nakita Resort                                       | ORANGE | 8/20/2020  |
| 250 | Hotel Gautam                                        | ORANGE | 8/20/2020  |
| 251 | M/s Shalini Metals                                  | ORANGE | 8/31/2020  |
| 252 | MORESHWAR TRADING Company PVT. LTD. (Sharayu autom) | ORANGE | 10/22/2020 |
| 253 | NEELAMS HOTELS PVT.LTD.(Neelam The Glitz)           | ORANGE | 10/3/2020  |
| 254 | Sangeet Pepsi                                       | ORANGE | 12/23/2020 |

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| 255 | GEMINI MOTORS                                                                  | ORANGE | 9/24/2020  |
| 256 | Bicholim Municipal Council                                                     | ORANGE | 9/18/2020  |
| 257 | The Regalia Resort                                                             | ORANGE | 10/8/2020  |
| 258 | Glenmark Pharmaceuticals Ltd.Plot No S-7,Colvale Industrial Estate,Colvale,Goa | ORANGE | 11/5/2020  |
| 259 | HOTEL RAVALNATH                                                                | ORANGE | 10/13/2020 |
| 260 | HOTEL SUNRISE                                                                  | ORANGE | 10/19/2020 |
| 261 | Aquatica Resort & Spa                                                          | ORANGE | 10/13/2020 |
| 262 | Sinon Baga Retreat Guest House                                                 | ORANGE | 10/23/2020 |
| 263 | CORPORATION OF THE CITY OF PANAJI                                              | ORANGE | 12/11/2020 |
| 264 | CORPORATION OF THE CITY OF PANAJI                                              | ORANGE | 12/11/2020 |
| 265 | La Conceicao                                                                   | ORANGE | 10/1/2020  |
| 266 | COASTAL SUNVIEW HOTEL PVT LTD                                                  | ORANGE | 10/30/2020 |
| 267 | CINNAMON LOFTS                                                                 | ORANGE | 10/6/2020  |
| 268 | RIA HOSPITALITY PVT LTD.                                                       | ORANGE | 10/16/2020 |
| 269 | G-Source Industries                                                            | ORANGE | 10/22/2020 |
| 270 | KASHON                                                                         | ORANGE | 11/2/2020  |
| 271 | SAI DATTA HOTELS                                                               | ORANGE | 10/14/2020 |
| 272 | Expanse India Buildcon Pvt Ltd                                                 | ORANGE | 10/26/2020 |
| 273 | Sastech Associates( M.V Tango-16)                                              | ORANGE | 12/3/2020  |
| 274 | H. K Enterprises                                                               | ORANGE | 10/14/2020 |
| 275 | M/S Shelsta Holiday Resort                                                     | ORANGE | 10/16/2020 |
| 276 | Chalston Hotel Pvt Ltd                                                         | ORANGE | 10/16/2020 |
| 277 | Gawas Engineering Works                                                        | ORANGE | 11/19/2020 |
| 278 | KRIS RESORT                                                                    | ORANGE | 10/19/2020 |
| 279 | High Court of Bombay                                                           | ORANGE | 2/9/2021   |
| 280 | INDIRA SMRUTI RAIKAR NURSING HOME                                              | ORANGE | 11/19/2020 |
| 281 | RESORT DE BALNEAIRE                                                            | ORANGE | 10/23/2020 |
| 282 | M/s Shaikh Polymers                                                            | ORANGE | 4/17/2021  |
| 283 | GRAND VIEW HOTELS PVT. LTD                                                     | ORANGE | 10/29/2020 |
| 284 | AZUL BARCO CRUISES                                                             | ORANGE | 11/3/2020  |
| 285 | OAK RESORTS PVT LTD                                                            | ORANGE | 1/28/2021  |
| 286 | M/s C.N.C Hotel                                                                | ORANGE | 10/29/2020 |
| 287 | M/s. CASA DE GOA BOUTIQUE RESORTS                                              | ORANGE | 11/18/2020 |
| 288 | M/S DAYNOMIC IT PARK DEVELOPERS                                                | ORANGE | 11/7/2020  |
| 289 | MANOJ KUMAR LOHIA (HOTEL)                                                      | ORANGE | 11/3/2020  |
| 290 | HINDUSTAN PETROLEUM CORPORATION LIMITED                                        | ORANGE | 12/2/2020  |
| 291 | Saira Car Servicing Washing centre                                             | ORANGE | 11/3/2020  |
| 292 | RockTech Engineers                                                             | ORANGE | 11/11/2020 |
| 293 | AML AUTO CARE                                                                  | ORANGE | 12/15/2020 |
| 294 | White Wood Resort & Spa (New Goa Resort)                                       | ORANGE | 12/1/2020  |
| 295 | KINECO LTD UNIT 3                                                              | ORANGE | 11/19/2020 |

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| 296 | SHARANAM HOTELS & RESORTS PVT LTD                                              | ORANGE | 11/9/2020  |
| 297 | La Grande Residencia                                                           | ORANGE | 11/28/2020 |
| 298 | M/S TIPPING POINT HOSPITALITY PVT. LTD.                                        | ORANGE | 2/25/2021  |
| 299 | Megawide Construction DMCC (Temporary Plants for Construction of Mopa Airport) | ORANGE | 11/21/2020 |
| 300 | SUMMERVILLE BEACH RESORT                                                       | ORANGE | 11/11/2020 |
| 301 | GOA COLD STORAGE PVT. LTD                                                      | ORANGE | 1/12/2021  |
| 302 | VALENTINES RETREAT                                                             | ORANGE | 11/11/2020 |
| 303 | CENTAUR PHARMACEUTICALS PVT.LTD                                                | ORANGE | 11/20/2020 |
| 304 | Krish Holiday Inn                                                              | ORANGE | 11/13/2020 |
| 305 | M/S. M. V. VIHAAN                                                              | ORANGE | 11/16/2020 |
| 306 | RICHLOOKS INFRASTRUCTURE PVT LTD                                               | ORANGE | 12/2/2020  |
| 307 | DHAVAL GUEST HOUSE                                                             | ORANGE | 12/28/2020 |
| 308 | Adventurist Spirits Distillery Private Limited                                 | ORANGE | 11/24/2020 |
| 309 | M/s. GOLDY FINEPACKS PVT. LTD.                                                 | ORANGE | 1/12/2021  |
| 310 | M/S. CHAKSHU PROPERTIES PVT. LTD                                               | ORANGE | 11/28/2020 |
| 311 | Novotel Goa Resorts & Spa (Shrem Resort Pvt. Ltd.)                             | ORANGE | 2/9/2021   |
| 312 | M/s Alvorada Resort                                                            | ORANGE | 11/24/2020 |
| 313 | HOTEL ROSE VALLEY                                                              | ORANGE | 12/10/2020 |
| 314 | Hotel Marva (Carvalho Real Estate))                                            | ORANGE | 1/4/2021   |
| 315 | ROHIT LOBO AND SUDHIR LOBO                                                     | ORANGE | 12/18/2020 |
| 316 | HOTEL M R                                                                      | ORANGE | 12/3/2020  |
| 317 | M/s. HOTEL LA GRANDE                                                           | ORANGE | 12/10/2020 |
| 318 | GOA ADVENTURE TEAM                                                             | ORANGE | 12/7/2020  |
| 319 | M/s. CG Power and Industrial Solutions Ltd. (Formerly Crompton Greaves Ltd.),  | ORANGE | 2/10/2021  |
| 320 | Meditab Specialities Limited                                                   | ORANGE | 1/18/2021  |
| 321 | TRANQUIL INN                                                                   | ORANGE | 1/11/2021  |
| 322 | De Alcazar                                                                     | ORANGE | 12/11/2020 |
| 323 | LA CABANA BEACH & SPA                                                          | ORANGE | 12/21/2020 |
| 324 | GEOTECH ENGINEERS                                                              | ORANGE | 1/29/2021  |
| 325 | Shantadurga Metal Industry (Hot Mix)                                           | ORANGE | 1/18/2021  |
| 326 | Hotel Mira                                                                     | ORANGE | 1/12/2021  |
| 327 | M/s. RANDEN ENGINEERING PVT. LTD.                                              | ORANGE | 1/2/2021   |
| 328 | PARADKAR FURNITURE                                                             | ORANGE | 2/9/2021   |
| 329 | Megawide Construction - STP for Labour Colony                                  | ORANGE | 12/26/2020 |
| 330 | LEELA COTTAGES                                                                 | ORANGE | 12/30/2020 |
| 331 | M/s Sun Village Resort Pvt Ltd                                                 | ORANGE | 1/4/2021   |
| 332 | Alcon Cement Company Pvt. Ltd.                                                 | ORANGE | 1/7/2021   |
| 333 | M/s. LA CALYPSO HOTELS PVT. LTD.                                               | ORANGE | 1/25/2021  |
| 334 | M Venkata Rao Infra Projects Pvt Ltd                                           | ORANGE | 1/7/2021   |
| 335 | Siddhi Beverages                                                               | ORANGE | 1/8/2021   |

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| 336 | MANGALMURTI ART SOLUTION                                                       | ORANGE | 3/8/2021  |
| 337 | ABALONE RESORTS PVT LTD                                                        | ORANGE | 2/19/2021 |
| 338 | SWISS HAPPY COW CHEESE PVT LTD                                                 | ORANGE | 1/20/2021 |
| 339 | CLEWALT ENGINEERING PRIVATE LIMITED                                            | ORANGE | 1/25/2021 |
| 340 | Star Agro Products                                                             | ORANGE | 3/4/2021  |
| 341 | HEALTHWAY HOSPITALS PVT.LTD.                                                   | ORANGE | 3/10/2021 |
| 342 | Car washing centre                                                             | ORANGE | 2/5/2021  |
| 343 | Megawide Construction DMCC (Temporary Plants for Construction of Mopa Airport) | ORANGE | 3/4/2021  |
| 344 | Classic Washing Centre                                                         | ORANGE | 2/3/2021  |
| 345 | REAL BOTTLING FACTORY PVT LTD                                                  | ORANGE | 2/20/2021 |
| 346 | M/s Moksha Hotels Pvt. Ltd.                                                    | ORANGE | 2/24/2021 |
| 347 | Sigma Laboratories Private Limited                                             | ORANGE | 2/12/2021 |
| 348 | STAR INDUSTRY                                                                  | ORANGE | 3/4/2021  |
| 349 | M/s. DR KOLWALKARS GALAXY HOSPITAL                                             | ORANGE | 2/26/2021 |
| 350 | M/s. Nanu Resorts Pvt Ltd                                                      | ORANGE | 3/1/2021  |
| 351 | Sunrise Cashew Industry                                                        | ORANGE | 3/1/2021  |
| 352 | M/s. ECAP GREENTECH PVT. LTD.                                                  | ORANGE | 5/24/2021 |
| 353 | DR KEDARS MATERNITY INFERTILITY AND SURGICAL HOSPITAL                          | ORANGE | 3/26/2021 |
| 354 | Lodge Janki Shankar                                                            | ORANGE | 3/16/2021 |
| 355 | M/s. ROBERTET GOLDFIELD (INDIA) PVT. LTD                                       | ORANGE | 4/29/2021 |
| 356 | M/s. South India Cashew Corporation                                            | ORANGE | 4/27/2021 |
| 357 | 7 Apple Hotels Private Limited                                                 | ORANGE | 3/2/2021  |
| 358 | M/s. THE HORIZON                                                               | ORANGE | 3/3/2021  |
| 359 | Cassa - e - Divan                                                              | ORANGE | 3/5/2021  |
| 360 | M/s. LYNN WASH CARE                                                            | ORANGE | 3/31/2021 |
| 361 | HOTEL LINDA GOA                                                                | ORANGE | 3/9/2021  |
| 362 | AA.RA Hotels Pvt. Ltd                                                          | ORANGE | 4/6/2021  |
| 363 | COUNTO MICROFINE PRODUCTS PVT. LTD                                             | ORANGE | 3/12/2021 |
| 364 | RODRIGUES AUTO SPA                                                             | ORANGE | 3/31/2021 |
| 365 | MULTIPROCESSING UNIT AT PALE KOTHAMBI UNDER PROJECT GOVAN BY GSBB              | ORANGE | 3/25/2021 |
| 366 | Dmellos Sea View Home                                                          | ORANGE | 3/17/2021 |
| 367 | High Court of Bombay                                                           | ORANGE | 3/24/2021 |
| 368 | AUTO REPAIR WORKSHOP                                                           | ORANGE | 4/17/2021 |
| 369 | UNICORN REAL ESTATE (UNIT: TURTLE BEACH RESORT)                                | ORANGE | 3/24/2021 |
| 370 | M/s. THE GRAND LEONEY RESORT                                                   | ORANGE | 3/25/2021 |
| 371 | KAMAT ADVENTURE CRUISES                                                        | ORANGE | 4/26/2021 |
| 372 | M/s. AHAAN RESORT PVT. LTD.                                                    | ORANGE | 4/1/2021  |
| 373 | Tajasvi Estate Pvt Ltd                                                         | ORANGE | 4/6/2021  |
| 374 | Fortune Belaza                                                                 | ORANGE | 4/14/2021 |

| Sr. No. | Name of the Industry                                          | Category | Consent issued Date |
|---------|---------------------------------------------------------------|----------|---------------------|
| 1       | TELESMART SCS LIMITED                                         | GREEN    | 11/13/2020          |
| 2       | The Pereira's Goan Villa                                      | GREEN    | 4/24/2020           |
| 3       | Seabreeze Cottages                                            | GREEN    | 7/8/2020            |
| 4       | AJAYSRI'S SOFT TOUCH BEAUTY PARLOUR                           | GREEN    | 6/10/2020           |
| 5       | AMI INDUSTRIES                                                | GREEN    | 5/2/2020            |
| 6       | WHITE CRAB                                                    | GREEN    | 4/6/2020            |
| 7       | GOIS BEACH SHACK                                              | GREEN    | 4/6/2020            |
| 8       | Airport Authority of India Residential Quarters               | GREEN    | 5/18/2020           |
| 9       | JOECONS ENTERPRISES                                           | GREEN    | 6/6/2020            |
| 10      | Agonda Holiday Home                                           | GREEN    | 5/26/2020           |
| 11      | AMEY INDUSTRIES                                               | GREEN    | 5/11/2020           |
| 12      | Peace Haven Guest House                                       | GREEN    | 5/23/2020           |
| 13      | CLUB PALOLEM                                                  | GREEN    | 5/27/2020           |
| 14      | DIOS GUEST HOUSE                                              | GREEN    | 5/21/2020           |
| 15      | AAI (CISF Barracks, Kote, Armory, Ammunition and Dog Kennel ) | GREEN    | 5/28/2020           |
| 16      | ROIZ COTTAGES                                                 | GREEN    | 6/3/2020            |
| 17      | BENLIG GUEST HOUSE                                            | GREEN    | 7/9/2020            |
| 18      | M/s. Poonam Enterprises                                       | GREEN    | 6/12/2020           |
| 19      | KRIS MANUFACTURING COMPANY UNIT II                            | GREEN    | 6/12/2020           |
| 20      | JAKIR SHAIKH (CARPENTRY SHOP)                                 | GREEN    | 6/16/2020           |
| 21      | C Roque Resort                                                | GREEN    | 6/2/2020            |
| 22      | IVOR A BRAGANZA                                               | GREEN    | 6/9/2020            |
| 23      | C. S. PARADISE                                                | GREEN    | 6/10/2020           |
| 24      | Essen Windmills (S.N Constructions)                           | GREEN    | 6/10/2020           |
| 25      | Untitled hotels & resorts Pvt.ltd                             | GREEN    | 6/16/2020           |
| 26      | KRIS MANUFACTURING COMPANY UNIT I                             | GREEN    | 7/30/2020           |
| 27      | Fillus Guest House                                            | GREEN    | 6/17/2020           |
| 28      | RAIKAR GUEST HOUSE                                            | GREEN    | 7/21/2020           |
| 29      | Car service point                                             | GREEN    | 6/23/2020           |
| 30      | FRAMAZ GUEST HOUSE                                            | GREEN    | 6/22/2020           |
| 31      | CASMY GUEST HOUSE                                             | GREEN    | 6/23/2020           |
| 32      | Mitchette Holiday Care                                        | GREEN    | 6/23/2020           |
| 33      | Jesus Guest House                                             | GREEN    | 6/23/2020           |
| 34      | Glowin's Adobe                                                | GREEN    | 6/29/2020           |
| 35      | LINDA'S COTTAGES                                              | GREEN    | 7/31/2020           |
| 36      | DSILVA RESIDENCE                                              | GREEN    | 7/15/2020           |
| 37      | CYEMA GUEST HOUSE                                             | GREEN    | 10/15/2020          |
| 38      | CYEMA GUEST HOUSE                                             | GREEN    | 6/30/2020           |
| 39      | M/S. SHRINIVAS RESIDENCY                                      | GREEN    | 7/7/2020            |
| 40      | LAKESHORE RESIDENCY                                           | GREEN    | 7/7/2020            |

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|----|-------------------------------------------------------------------|-------|------------|
| 41 | Konkan Railway Corporation Ltd                                    | GREEN | 8/10/2020  |
| 42 | M/s Dilkhush Cafe                                                 | GREEN | 8/12/2020  |
| 43 | Jovi Holiday Homes                                                | GREEN | 11/23/2020 |
| 44 | M/s. GOOD FAITH LODGE                                             | GREEN | 3/5/2021   |
| 45 | Leda Balcao                                                       | GREEN | 7/20/2020  |
| 46 | Vinsons Cottages                                                  | GREEN | 7/16/2020  |
| 47 | ESTEVEENS BAR & RESTAURANT                                        | GREEN | 7/15/2020  |
| 48 | IFB INDUSTRIES LIMITED                                            | GREEN | 7/31/2020  |
| 49 | SEAMENS NEST BAR & RESTAURANT                                     | GREEN | 7/15/2020  |
| 50 | STARLIGHT BAR & RESTAURANT                                        | GREEN | 7/15/2020  |
| 51 | INDIANOIL-ADANI GAS PVT. LTD.                                     | GREEN | 7/23/2020  |
| 52 | MILMAR RESTAURANT & BAR                                           | GREEN | 7/20/2020  |
| 53 | NAVINS'S INN                                                      | GREEN | 7/20/2020  |
| 54 | The Pereira's Goan Villa                                          | GREEN | 10/15/2020 |
| 55 | Drewlens Guest House                                              | GREEN | 9/16/2020  |
| 56 | Azur                                                              | GREEN | 7/27/2020  |
| 57 | Nova Goa                                                          | GREEN | 7/25/2020  |
| 58 | Nova                                                              | GREEN | 7/25/2020  |
| 59 | Jhampus                                                           | GREEN | 9/23/2020  |
| 60 | RAJ RESORTS                                                       | GREEN | 7/30/2020  |
| 61 | Paulina's Guest House                                             | GREEN | 8/6/2020   |
| 62 | M/s. MURDESHWAR PLASTICS                                          | GREEN | 1/27/2021  |
| 63 | M/s Casa Maria                                                    | GREEN | 8/3/2020   |
| 64 | SEVERINA BAKER'S                                                  | GREEN | 8/25/2020  |
| 65 | M/s Costa and Co. Pvt Ltd (Costas Guest House Mogarim Villa D1))  | GREEN | 10/30/2020 |
| 66 | JOSMAG RESIDENCY                                                  | GREEN | 11/13/2020 |
| 67 | M/s Costa And Co. Pvt Ltd (Costas Guest House Mogarim Villa E 1)  | GREEN | 10/30/2020 |
| 68 | M/s Costa And Co. Pvt Ltd (Costas Guest House Mogarim Villa A 2)  | GREEN | 10/30/2020 |
| 69 | M/s Costa And Co. Pvt Ltd ( Costas Guest House Mogarim Villa F 1) | GREEN | 10/30/2020 |
| 70 | M/s Costa And Co. Pvt Ltd (Costas Guest House Mogarim Villa F 3)  | GREEN | 10/30/2020 |
| 71 | Cuncolim Municipal council(Incinerator Facility)                  | GREEN | 10/28/2020 |
| 72 | Costa And Co.Pvt Ltd (Costas Guest House Villa D3                 | GREEN | 10/30/2020 |
| 73 | Valankanni Nest                                                   | GREEN | 9/28/2020  |
| 74 | Costa And Co. Pvt Ltd(Costas Guest House villa A 1)               | GREEN | 10/30/2020 |
| 75 | MAR AZUL BEACH VILLA (VILLA BY THE SEA)                           | GREEN | 9/4/2020   |
| 76 | APPLE LODGING & RESTAURANT                                        | GREEN | 8/21/2020  |
| 77 | JOHN DOUGLAS COUTINHO                                             | GREEN | 2/9/2021   |
| 78 | LA PETITE GUEST HOUSE                                             | GREEN | 8/31/2020  |

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|-----|--------------------------------------------------------|-------|------------|
| 79  | M/S. QUINTA DE SANTANA HERITAGE                        | GREEN | 8/26/2020  |
| 80  | MARTINS COMFORT                                        | GREEN | 8/26/2020  |
| 81  | ZIG ZAG BAR AND RESTAURANT                             | GREEN | 10/13/2020 |
| 82  | PRUDENTIAL LANDMARKS PVT LTD(THE BEACH HOUSE GOA)      | GREEN | 9/16/2020  |
| 83  | M/s SUKHSAGAR BEACH RESORT                             | GREEN | 9/9/2020   |
| 84  | M/s BLUE DIAMOND COTTAGES                              | GREEN | 9/9/2020   |
| 85  | Bogmalo Heights Holiday Apartments                     | GREEN | 10/15/2020 |
| 86  | M/S MONTS BAR & RESTAURANT                             | GREEN | 9/24/2020  |
| 87  | Cota's Guest House                                     | GREEN | 9/10/2020  |
| 88  | SALIDA DEL SOL                                         | GREEN | 9/16/2020  |
| 89  | CLUB PALOLEM                                           | GREEN | 9/14/2020  |
| 90  | Southern Hotels                                        | GREEN | 10/15/2020 |
| 91  | Xavier Guest House                                     | GREEN | 9/14/2020  |
| 92  | JIMCAM RIVER VIEW BAR & RESTAURANT                     | GREEN | 9/15/2020  |
| 93  | M/s Hideaway Hospitality                               | GREEN | 9/22/2020  |
| 94  | VIJAYA BAKERY                                          | GREEN | 3/31/2021  |
| 95  | MORAES GARDEN VILLA                                    | GREEN | 9/16/2020  |
| 96  | Dudhsagar Plantation                                   | GREEN | 9/17/2020  |
| 97  | MANISHA SEAFOOD COLVA                                  | GREEN | 9/24/2020  |
| 98  | GUEST HOUSE (EUSEBIUS DIAS)                            | GREEN | 9/24/2020  |
| 99  | Hotel La Ben                                           | GREEN | 11/13/2020 |
| 100 | Raj Resorts Home Motel                                 | GREEN | 9/30/2020  |
| 101 | TOBIAS VILLA                                           | GREEN | 9/30/2020  |
| 102 | SUNFLOWER VILLA                                        | GREEN | 9/30/2020  |
| 103 | ANTONIO DIAS Building A,Building B & Bungalow-2        | GREEN | 10/5/2020  |
| 104 | VILLA MAYFAIR                                          | GREEN | 9/30/2020  |
| 105 | VILLA MARIGOLD                                         | GREEN | 9/30/2020  |
| 106 | JOHN BAR & RESTAURANT                                  | GREEN | 10/1/2020  |
| 107 | NATURES HIDEWAY                                        | GREEN | 10/1/2020  |
| 108 | HOTEL SEA VIEW INN                                     | GREEN | 10/13/2020 |
| 109 | JOY GUEST HOUSE                                        | GREEN | 10/6/2020  |
| 110 | M/s. S.N. Associates & Builders Pvt. Ltd (MAPLE GROVE) | GREEN | 10/12/2020 |
| 111 | HOTEL ANNAPURNA LODGING & BOARDING                     | GREEN | 10/7/2020  |
| 112 | SIMON COTTAGES                                         | GREEN | 10/8/2020  |
| 113 | ROMEO GUEST HOUSE                                      | GREEN | 11/13/2020 |
| 114 | M/s P.K. Tiles & Industries                            | GREEN | 10/13/2020 |
| 115 | Duraline India Pvt Ltd                                 | GREEN | 11/13/2020 |
| 116 | JUST INN BAR & RESTAURANT                              | GREEN | 10/14/2020 |
| 117 | M/s KB Cements                                         | GREEN | 10/16/2020 |
| 118 | ROOP TEKNO POLYMERS PVT LTD                            | GREEN | 12/11/2020 |
| 119 | WAVELET BEACH RESORT                                   | GREEN | 12/16/2020 |



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|-----|---------------------------------------------------|-------|------------|
| 120 | M/S. STANOR HOSPITALITY(GOLDEN AURA)              | GREEN | 10/27/2020 |
| 121 | M/S. STANOR HOSPITALITY(GOLDEN OCEAN)             | GREEN | 10/27/2020 |
| 122 | M/S. STANOR HOSPITALITY(GOLDEN SUNSET)            | GREEN | 10/27/2020 |
| 123 | Chaitanya PUC Center                              | GREEN | 11/10/2020 |
| 124 | DHANRAJ SERVICE POLLUTION CHECK CENTRE            | GREEN | 12/14/2020 |
| 125 | SEAGULL BAR & RESTAURANT                          | GREEN | 10/28/2020 |
| 126 | ANDREW'S RESTAURANT                               | GREEN | 10/28/2020 |
| 127 | Gopika Wood Industries                            | GREEN | 11/19/2020 |
| 128 | Palm Grove Cottages                               | GREEN | 11/25/2020 |
| 129 | EFFIES APPARTMENT                                 | GREEN | 12/2/2020  |
| 130 | M/s. Hotel Colva Plaza                            | GREEN | 12/10/2020 |
| 131 | River Side Bar & Restaurant                       | GREEN | 11/23/2020 |
| 132 | Akar Suburbia                                     | GREEN | 12/30/2020 |
| 133 | PUC CENTRE                                        | GREEN | 12/15/2020 |
| 134 | Fil Farm                                          | GREEN | 11/30/2020 |
| 135 | PAYING GUEST HOUSE (FINA'Z PLUSH HOME)            | GREEN | 12/9/2020  |
| 136 | SUNSET HOUSE                                      | GREEN | 1/6/2021   |
| 137 | Hotel Paulino                                     | GREEN | 12/24/2020 |
| 138 | SEA 2000 GUEST HOUSE                              | GREEN | 11/26/2020 |
| 139 | XAVIER'S GUEST HOUSE                              | GREEN | 11/27/2020 |
| 140 | COTIGAO GUEST HOUSE                               | GREEN | 12/8/2020  |
| 141 | JES GUEST HOUSE                                   | GREEN | 12/2/2020  |
| 142 | RENDEZVOUS PLACE                                  | GREEN | 12/4/2020  |
| 143 | BLUE OCEAN PEARL                                  | GREEN | 12/4/2020  |
| 144 | SEVERINA BAKER'S                                  | GREEN | 12/10/2020 |
| 145 | HOTEL MY SOULMATE                                 | GREEN | 12/7/2020  |
| 146 | CASA DE MOG                                       | GREEN | 12/7/2020  |
| 147 | M/s PALOLEM DELIGHTS                              | GREEN | 2/5/2021   |
| 148 | Joyvon Guest House                                | GREEN | 12/9/2020  |
| 149 | MARTINS GUEST HOUSE                               | GREEN | 12/11/2020 |
| 150 | ALLY'S HOLIDAY HOME                               | GREEN | 12/11/2020 |
| 151 | M/s. MARGARITA BAR & RESTAURANT                   | GREEN | 12/16/2020 |
| 152 | M/s. Gomes and Balser Hospitality and Experiences | GREEN | 12/17/2020 |
| 153 | M/S. APARTMENT WITH VINTAGE FURNITURE             | GREEN | 12/17/2020 |
| 154 | ABUBAKER BAKERY                                   | GREEN | 12/17/2020 |
| 155 | Hotel Posh Cafe                                   | GREEN | 12/17/2020 |
| 156 | G. M. PUC CENTRE                                  | GREEN | 12/30/2020 |
| 157 | M/S. SHALOM GUEST HOUSE                           | GREEN | 12/22/2020 |
| 158 | IFB INDUSTRIES LIMITED                            | GREEN | 1/7/2021   |
| 159 | HOTEL SILVA ROSA                                  | GREEN | 12/23/2020 |
| 160 | MIKES OASIS BEACH SHACK                           | GREEN | 1/7/2021   |
| 161 | PEARLS BEACH CAFE                                 | GREEN | 1/7/2021   |



|     |                                                                 |       |            |
|-----|-----------------------------------------------------------------|-------|------------|
| 162 | KINGSLEY BAR AND RESTAURANT                                     | GREEN | 12/24/2020 |
| 163 | COSTA HOLIDAYS                                                  | GREEN | 1/5/2021   |
| 164 | M/S RITZ HOLIDAY HOMES                                          | GREEN | 1/5/2021   |
| 165 | ASWAM GOA HOLIDAY                                               | GREEN | 1/11/2021  |
| 166 | M/S VAILANKANNI GUEST HOUSE                                     | GREEN | 1/14/2021  |
| 167 | IFB INDUSTRIES LIMITED                                          | GREEN | 3/28/2021  |
| 168 | Borkar Trade Link                                               | GREEN | 1/14/2021  |
| 169 | BHAGAT ENTERPRISES                                              | GREEN | 2/11/2021  |
| 170 | Essen Whispering Willows Co-op Housing Maintenance Society Ltd. | GREEN | 2/23/2021  |
| 171 | ARYAN VILLA                                                     | GREEN | 2/23/2021  |
| 172 | AGONDA ISLAND VIEW                                              | GREEN | 2/9/2021   |
| 173 | MONKEY MIND LODGING                                             | GREEN | 1/22/2021  |
| 174 | HOTEL SULTAN PLAZA                                              | GREEN | 1/28/2021  |
| 175 | THE GOD'S GARDEN                                                | GREEN | 1/28/2021  |
| 176 | FERRAO BAKERY                                                   | GREEN | 5/21/2021  |
| 177 | FILCON RESTAURANT                                               | GREEN | 1/28/2021  |
| 178 | PALM FRINGED PLAZA                                              | GREEN | 1/28/2021  |
| 179 | Vasundhara Guest House                                          | GREEN | 2/1/2021   |
| 180 | DEMELLO GUEST HOUSE                                             | GREEN | 2/2/2021   |
| 181 | CASA HILLARY                                                    | GREEN | 2/3/2021   |
| 182 | EMM ESS AIRCON PRIVATE LIMITED                                  | GREEN | 3/9/2021   |
| 183 | FINE ABRASIVE PRODUCTS                                          | GREEN | 2/8/2021   |
| 184 | Jomat Guest House                                               | GREEN | 2/12/2021  |
| 185 | HOT CHIPS                                                       | GREEN | 3/18/2021  |
| 186 | Serene Green Park - Home Stay                                   | GREEN | 2/18/2021  |
| 187 | LUISA BY THE SEA                                                | GREEN | 2/19/2021  |
| 188 | LUISA BY THE SEA                                                | GREEN | 2/19/2021  |
| 189 | LUISA BY THE SEA                                                | GREEN | 2/19/2021  |
| 190 | Siddhivinayak Flour Mill                                        | GREEN | 3/5/2021   |
| 191 | Maria Guest House                                               | GREEN | 2/24/2021  |
| 192 | M/s. FIGOS HOLIDAY HOMES                                        | GREEN | 3/2/2021   |
| 193 | M/s. MIKES PLACE                                                | GREEN | 3/2/2021   |
| 194 | M/S. QUINTA DE SANTANA HERITAGE                                 | GREEN | 3/4/2021   |
| 195 | TONY'S DEN                                                      | GREEN | 3/5/2021   |
| 196 | Fine-O-Plast                                                    | GREEN | 3/17/2021  |
| 197 | Ganesh cafe                                                     | GREEN | 3/22/2021  |
| 198 | WILD BERRY RESORT                                               | GREEN | 3/17/2021  |
| 199 | PAPAYAS GUEST HOUSE                                             | GREEN | 3/18/2021  |
| 200 | M/S. SALIDA DEL SOL                                             | GREEN | 3/19/2021  |
| 201 | M/S. CONMAR HERITAGE                                            | GREEN | 4/9/2021   |
| 202 | SUYOG RESIDENCY                                                 | GREEN | 3/24/2021  |

|     |                                     |       |            |
|-----|-------------------------------------|-------|------------|
| 203 | BAKER CORNER                        | GREEN | 3/25/2021  |
| 204 | PARADISE                            | GREEN | 3/26/2021  |
| 205 | VEDANTA                             | GREEN | 3/26/2021  |
| 206 | THE GOAN HOUSE SISHORE              | GREEN | 3/26/2021  |
| 207 | Gopikishan Mills                    | GREEN | 3/31/2021  |
| 208 | Anastisia Voegler, Goa Cottages     | GREEN | 4/5/2021   |
| 209 | SEA CUISINE BAR AND RESTAURANT      | GREEN | 3/31/2021  |
| 210 | A's Holiday Guest House             | GREEN | 4/8/2021   |
| 211 | A's Retreat                         | GREEN | 3/31/2021  |
| 212 | ARBUDA STEEL INDUSTRIES             | GREEN | 11/2/2020  |
| 213 | RITZ CLASSIC RESTAURANT AND BAR     | GREEN | 11/17/2020 |
| 214 | SOLMAR COTTAGES                     | GREEN | 7/16/2020  |
| 215 | Sea Shell Beach Suites              | GREEN | 10/21/2020 |
| 216 | Deeplaxmi Bar & Restuarant          | GREEN | 8/20/2020  |
| 217 | SEA CREEK RESORT                    | GREEN | 6/5/2020   |
| 218 | Suraj Bar and Restaurant            | GREEN | 5/8/2020   |
| 219 | TAVORA VEGTURES                     | GREEN | 2/11/2021  |
| 220 | KADAMBA TOURIST HOME                | GREEN | 6/15/2020  |
| 221 | SUPERPACKS BUSINESS SOLUTIONS LLP   | GREEN | 5/21/2020  |
| 222 | A-ONE ENTERPRISES                   | GREEN | 7/27/2020  |
| 223 | GODREJ AGROVET LIMITED              | GREEN | 5/20/2020  |
| 224 | NAVSAI INVESTMENTS PVT LTD          | GREEN | 4/24/2020  |
| 225 | Ria Residency                       | GREEN | 5/8/2020   |
| 226 | HOTEL PITASHREE                     | GREEN | 5/21/2020  |
| 227 | San Miguel Holiday Homes            | GREEN | 5/21/2020  |
| 228 | M/s CORLIM MEADOWS                  | GREEN | 6/16/2020  |
| 229 | MAYAS HOLIDAY HOMES                 | GREEN | 5/21/2020  |
| 230 | Kalyani Guest House                 | GREEN | 6/15/2020  |
| 231 | HOTEL AMBER ROOMS                   | GREEN | 6/15/2020  |
| 232 | VEL VIN PAPER PRODUCTS              | GREEN | 6/25/2020  |
| 233 | M/S.ISPRAVA HOSPITALITY PVT LTD     | GREEN | 8/24/2020  |
| 234 | KAMAT SAW MILL                      | GREEN | 6/8/2020   |
| 235 | ANTHONY M. DSOUZA                   | GREEN | 6/1/2020   |
| 236 | ALCON HOUSE                         | GREEN | 6/1/2020   |
| 237 | Jay-Kay Plastic                     | GREEN | 6/1/2020   |
| 238 | Datta Shripad Agencies (PUC Centre) | GREEN | 6/2/2020   |
| 239 | RAUL FERNANDES                      | GREEN | 6/15/2020  |
| 240 | CELEBRATION GUEST HOUSE             | GREEN | 6/5/2020   |
| 241 | MASHELKAR FLOOR MILLS               | GREEN | 7/27/2020  |
| 242 | RIVIERA RIVER RESORT                | GREEN | 6/9/2020   |
| 243 | Pruthvi Villa                       | GREEN | 7/27/2020  |
| 244 | M/S ADITYA PLASTICS                 | GREEN | 7/29/2020  |

|     |                                                 |       |            |
|-----|-------------------------------------------------|-------|------------|
| 245 | QUINTA ESSENTIA ORGANIC                         | GREEN | 6/12/2020  |
| 246 | Sateri Restaurant                               | GREEN | 6/29/2020  |
| 247 | VELVIN PAPER PRODUCTS                           | GREEN | 9/1/2020   |
| 248 | Villa Serenity                                  | GREEN | 6/16/2020  |
| 249 | VILLA OCEANIC                                   | GREEN | 6/23/2020  |
| 250 | Shree Krupa Plastics                            | GREEN | 7/20/2020  |
| 251 | SEA MIST RESORTS                                | GREEN | 7/27/2020  |
| 252 | ORAV'S GUEST HOUSE                              | GREEN | 8/2/2020   |
| 253 | M/S.PASCOALS ROOMS, BAR AND RESTAURANT          | GREEN | 6/29/2020  |
| 254 | DONA FLORINA BEACH RESORT                       | GREEN | 6/19/2020  |
| 255 | Charles Rooms Bar & Restaurant.                 | GREEN | 7/27/2020  |
| 256 | Lyzer Fernandes                                 | GREEN | 6/24/2020  |
| 257 | MAULI FLOUR MILL                                | GREEN | 7/27/2020  |
| 258 | SENTIR DE CASA                                  | GREEN | 7/2/2020   |
| 259 | Hill View Motel                                 | GREEN | 6/23/2020  |
| 260 | E & E Guest house                               | GREEN | 7/3/2020   |
| 261 | online consultancy                              | GREEN | 6/24/2020  |
| 262 | Hotel Jerome's Holiday INN                      | GREEN | 6/24/2020  |
| 263 | Hotel Venite                                    | GREEN | 7/3/2020   |
| 264 | Cement Bricks Industries                        | GREEN | 11/18/2020 |
| 265 | M/s Snehshree Industries                        | GREEN | 6/25/2020  |
| 266 | M/s. Deepti Marbles                             | GREEN | 7/27/2020  |
| 267 | SAHIL HOTEL                                     | GREEN | 7/23/2020  |
| 268 | HOTEL SEA VIEW                                  | GREEN | 7/2/2020   |
| 269 | JONSHA GUEST HOUSE                              | GREEN | 7/1/2020   |
| 270 | Gomes bakery                                    | GREEN | 7/27/2020  |
| 271 | Jose Santana Brigido Pires                      | GREEN | 7/27/2020  |
| 272 | Oxel House unit of Goa Holidays                 | GREEN | 7/21/2020  |
| 273 | Bungalow 598                                    | GREEN | 7/3/2020   |
| 274 | Ms FAMAFA BEACH RESORT                          | GREEN | 8/17/2020  |
| 275 | MASTER INDUSTRIES                               | GREEN | 7/10/2020  |
| 276 | ROSE GUEST HOUSE                                | GREEN | 7/6/2020   |
| 277 | M/s Shri Ganesh Reinforced Cement (G.R.C)       | GREEN | 7/14/2020  |
| 278 | Boshan Developers Pvt Ltd                       | GREEN | 7/7/2020   |
| 279 | Hotel Little Nest                               | GREEN | 7/7/2020   |
| 280 | REDSTONE SPACES (HNO 61/7-V2)                   | GREEN | 7/15/2020  |
| 281 | REDSTONE SPACES (HNO 61/7-V1)                   | GREEN | 7/15/2020  |
| 282 | Luretha & Polly's Guest House, Bar & Restaurant | GREEN | 7/30/2020  |
| 283 | Marsierra (Jaglux Realty Pvt Ltd))              | GREEN | 7/7/2020   |
| 284 | Marsierra (Jaglux Realty Pvt Ltd)               | GREEN | 7/7/2020   |
| 285 | Marsierra (Jaglux Hospitality LLP))             | GREEN | 7/7/2020   |
| 286 | MAHALAXIMI GUEST HOUSE                          | GREEN | 7/8/2020   |

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|-----|------------------------------------------------|-------|------------|
| 287 | SULCAR HOLIDAY HOME (HNO 5/122/2)              | GREEN | 7/9/2020   |
| 288 | SULCAR HOLIDAY HOME (HNO 5/122/1)              | GREEN | 7/9/2020   |
| 289 | AA WALKER ESTATES PRIVATE LIMITED              | GREEN | 10/22/2020 |
| 290 | CAKES & SHAPES                                 | GREEN | 7/16/2020  |
| 291 | Casa Jackin Guest House                        | GREEN | 7/16/2020  |
| 292 | Ganpati Marble & Granites                      | GREEN | 7/9/2020   |
| 293 | Forwest Estates Private Limited                | GREEN | 7/9/2020   |
| 294 | Prabhu Smaran Rest House                       | GREEN | 7/9/2020   |
| 295 | Goa holiday guest house                        | GREEN | 8/13/2020  |
| 296 | Hotel Mary joey                                | GREEN | 7/21/2020  |
| 297 | M/s. SIOLIM HOTELS PVT. LTD                    | GREEN | 7/13/2020  |
| 298 | NomadGao                                       | GREEN | 7/29/2020  |
| 299 | DE BAGA DECK COMFORTS                          | GREEN | 7/20/2020  |
| 300 | MIRANDA BEACH RESORT                           | GREEN | 7/15/2020  |
| 301 | MIRANDA BEACH RESORT                           | GREEN | 7/15/2020  |
| 302 | Elite Lodge, Bar & Restaurant                  | GREEN | 7/15/2020  |
| 303 | White Castles Villa B                          | GREEN | 8/5/2020   |
| 304 | The Moonlight Restaurant and Bar               | GREEN | 7/27/2020  |
| 305 | B.R. HOLIDAY RESORT                            | GREEN | 9/16/2020  |
| 306 | Wellness Spa                                   | GREEN | 7/16/2020  |
| 307 | M & M GOA HOTELS AND RESORTS                   | GREEN | 9/13/2020  |
| 308 | PAMELA PALMS                                   | GREEN | 7/27/2020  |
| 309 | Sunil Gupta Guest House                        | GREEN | 7/25/2020  |
| 310 | Johnny Oommen Guest House                      | GREEN | 7/22/2020  |
| 311 | Parkin Ashok Kamdar Guest House                | GREEN | 7/23/2020  |
| 312 | Dinesh Verma Guest House A1                    | GREEN | 7/23/2020  |
| 313 | Dinesh Verma Guest House A2                    | GREEN | 7/23/2020  |
| 314 | AMANCIOS'                                      | GREEN | 9/9/2020   |
| 315 | D'lila                                         | GREEN | 7/22/2020  |
| 316 | BLUE BIRD GUEST HOUSE BAR AND RESTAURANT       | GREEN | 7/29/2020  |
| 317 | Madhur Jain Guest House                        | GREEN | 7/25/2020  |
| 318 | SAIDISHA PACKAGING                             | GREEN | 9/16/2020  |
| 319 | Forwest Estates Private Limited                | GREEN | 7/24/2020  |
| 320 | Marsierra (Jaglux Reality Pvt Ltd Villa 1,2,8) | GREEN | 7/27/2020  |
| 321 | Marsierra (Jaglux Hospitality LLP))            | GREEN | 7/27/2020  |
| 322 | KRISHNA POLYPLAST                              | GREEN | 9/9/2020   |
| 323 | MACVAL GUEST HOUSE                             | GREEN | 9/2/2020   |
| 324 | COSME COSTA INDUSTRIES LLP                     | GREEN | 8/31/2020  |
| 325 | SHREE BRAHMANAND PETROLEUM                     | GREEN | 9/16/2020  |
| 326 | Guest House-Casa Neemo                         | GREEN | 9/1/2020   |
| 327 | The sea side                                   | GREEN | 9/30/2020  |

|     |                                           |       |            |
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| 328 | WELCOME SALOON (SIDDHARTH AZGAONKAR)      | GREEN | 7/28/2020  |
| 329 | VIEGAS GUEST HOUSE                        | GREEN | 7/28/2020  |
| 330 | MOONLIGHT RESTAURANT ,GUEST HOUSE AND BAR | GREEN | 8/13/2020  |
| 331 | POLY'S GUEST HOUSE                        | GREEN | 8/3/2020   |
| 332 | EMMANUEL'S GUEST HOUSE                    | GREEN | 7/23/2021  |
| 333 | D'lila Open Air & Banquette               | GREEN | 7/30/2020  |
| 334 | CREATIVE PACKS INC                        | GREEN | 9/16/2020  |
| 335 | M/S CREATIVE PACKS INC                    | GREEN | 9/16/2020  |
| 336 | Felicidade Pires                          | GREEN | 8/19/2020  |
| 337 | Stawil Guest House                        | GREEN | 9/16/2020  |
| 338 | JAPAAAN RESTAURANT                        | GREEN | 8/3/2020   |
| 339 | DOM CARLOS RESORT                         | GREEN | 11/9/2020  |
| 340 | F203 MONARCH PALMS                        | GREEN | 9/16/2020  |
| 341 | Villa De Saipem By The River              | GREEN | 8/25/2020  |
| 342 | M/s Vailankanni Guest House               | GREEN | 9/16/2020  |
| 343 | VEL-VIN PACKAGING PVT LTD                 | GREEN | 9/7/2020   |
| 344 | LUIZA GUEST HOUSE                         | GREEN | 11/4/2020  |
| 345 | Valletta                                  | GREEN | 11/12/2020 |
| 346 | MINI DUNES                                | GREEN | 8/25/2020  |
| 347 | Mermaids Guest House (Agnes Fernandes)    | GREEN | 4/8/2021   |
| 348 | Jalindar Residency                        | GREEN | 9/14/2020  |
| 349 | Villa Ming Maria                          | GREEN | 10/8/2020  |
| 350 | Antonio Guest House                       | GREEN | 8/19/2020  |
| 351 | LITTLE INDIA BEACH COTTAGES               | GREEN | 8/18/2020  |
| 352 | ALEPAS GUEST HOUSE                        | GREEN | 8/19/2020  |
| 353 | M/s. OCTOPUS GUEST HOUSE BAR & RESTAURANT | GREEN | 8/25/2020  |
| 354 | Pearl e Shell guest house                 | GREEN | 8/18/2020  |
| 355 | Martin's Guest House                      | GREEN | 9/1/2020   |
| 356 | Summer Hill                               | GREEN | 8/18/2020  |
| 357 | PAPAYAA FARM                              | GREEN | 11/13/2020 |
| 358 | VILLA DE ALUIZIO                          | GREEN | 8/25/2020  |
| 359 | NAVELCAR ENTERPRISES(SALLE 59)            | GREEN | 8/21/2020  |
| 360 | SHREE RAMESHWAR LODGE                     | GREEN | 8/20/2020  |
| 361 | JOSHUAS HOLIDAY HOMES                     | GREEN | 8/21/2020  |
| 362 | POLLUTION TESTING CENTER (PUC)            | GREEN | 9/16/2020  |
| 363 | Elsewhere                                 | GREEN | 9/22/2020  |
| 364 | Ponda Municipal Council                   | GREEN | 10/23/2020 |
| 365 | Mrs Maria Yolanda Rodrigues               | GREEN | 9/17/2020  |
| 366 | M/S THAKUR GUEST HOUSE                    | GREEN | 9/16/2020  |
| 367 | DIAS VILLA GUEST HOUSE                    | GREEN | 8/31/2020  |
| 368 | NAVDURGA NIWAS                            | GREEN | 9/25/2020  |

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|-----|--------------------------------------------------|-------|------------|
| 369 | Laxman Bakery                                    | GREEN | 8/31/2020  |
| 370 | Hotel Shakti Palace                              | GREEN | 11/27/2020 |
| 371 | EMA GUEST HOUSE                                  | GREEN | 10/31/2020 |
| 372 | Aquamarine Holidays Goa (HNO - 112/2-RV1)        | GREEN | 9/1/2020   |
| 373 | VELINA VILLA                                     | GREEN | 9/4/2020   |
| 374 | Woke Morjim                                      | GREEN | 2/26/2021  |
| 375 | AVNG Goan Holidays                               | GREEN | 9/2/2020   |
| 376 | SAI TYRES & POLLUTION CHECK CENTRE               | GREEN | 9/30/2020  |
| 377 | Mrs Graciana Fernandes                           | GREEN | 9/17/2020  |
| 378 | Viana Design Hotels LLP                          | GREEN | 9/4/2020   |
| 379 | MACLVINS GUEST HOUSE                             | GREEN | 9/8/2020   |
| 380 | ISHA VILAS                                       | GREEN | 11/10/2020 |
| 381 | Aquamarine Holidays Goa (112-2-B-A/UGFD1))       | GREEN | 9/4/2020   |
| 382 | Jolly Jolly Lester                               | GREEN | 9/30/2020  |
| 383 | SHIV KRUPA BAKERY                                | GREEN | 9/8/2020   |
| 384 | BLUE MARINE RESORT                               | GREEN | 9/8/2020   |
| 385 | DELTA HOUSE                                      | GREEN | 11/12/2020 |
| 386 | Aquamarine Holidays Goa (UGF-B1))                | GREEN | 9/8/2020   |
| 387 | M/s. La Sunila Suite Apartments                  | GREEN | 11/16/2020 |
| 388 | Aquamarine Holidays Goa (RV7)                    | GREEN | 9/11/2020  |
| 389 | M/S MAUREEN LODGE                                | GREEN | 10/13/2020 |
| 390 | Hotel Virashree                                  | GREEN | 9/10/2020  |
| 391 | MARIGOLD FLORESTA                                | GREEN | 10/12/2020 |
| 392 | HOTEL A CANOA                                    | GREEN | 9/23/2020  |
| 393 | OCTOPUS GUEST HOUSE                              | GREEN | 9/23/2020  |
| 394 | VAGATOR RETREAT                                  | GREEN | 9/24/2020  |
| 395 | MANSION HAUS COLLECTIVE LLP                      | GREEN | 10/23/2020 |
| 396 | Maria Guest House                                | GREEN | 10/9/2020  |
| 397 | CASA SUMANJO                                     | GREEN | 12/8/2020  |
| 398 | NITIN GEORGE (RAINFORST ENCLAVE)                 | GREEN | 9/15/2020  |
| 399 | Aishwaryas's Guest Inn                           | GREEN | 9/23/2020  |
| 400 | JERRISA PARADISE GUEST HOUSE, BAR AND RESTAURANT | GREEN | 12/9/2020  |
| 401 | Manvins Inn                                      | GREEN | 10/9/2020  |
| 402 | SEVERINA GUEST HOUSE                             | GREEN | 12/2/2020  |
| 403 | Hotel Kismat Mahal                               | GREEN | 6/11/2021  |
| 404 | Aditya Builders                                  | GREEN | 10/29/2020 |
| 405 | Down Da Village                                  | GREEN | 10/7/2020  |
| 406 | Morjim Pride                                     | GREEN | 10/1/2020  |
| 407 | Emperor Resort & Spa                             | GREEN | 9/22/2020  |
| 408 | The Heritage Hotel                               | GREEN | 10/29/2020 |
| 409 | Budhvilas                                        | GREEN | 9/23/2020  |

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| 410 | JP Eco Resorts Pvt Ltd                                                  | GREEN | 10/7/2020  |
| 411 | Rafik Chowhan/Hindustan En Harmonie Guesthouse                          | GREEN | 11/24/2020 |
| 412 | Prakruti Panchakarma Centre                                             | GREEN | 10/14/2020 |
| 413 | BEACH WAY HOME STAY                                                     | GREEN | 9/24/2020  |
| 414 | Darisa Builders                                                         | GREEN | 10/9/2020  |
| 415 | Shirodkar Guest House                                                   | GREEN | 9/24/2020  |
| 416 | Fish N Feni Restaurant                                                  | GREEN | 9/25/2020  |
| 417 | Paying Guest House (V1)                                                 | GREEN | 9/26/2020  |
| 418 | Paying Guest House (V-3)                                                | GREEN | 9/26/2020  |
| 419 | Paying Guest House (V-2)                                                | GREEN | 9/26/2020  |
| 420 | CASA TINA                                                               | GREEN | 9/25/2020  |
| 421 | VILLA FERNS                                                             | GREEN | 9/25/2020  |
| 422 | Prakash Guest House                                                     | GREEN | 9/25/2020  |
| 423 | DELMAS GUEST HOUSE                                                      | GREEN | 9/26/2020  |
| 424 | FITNES PLUS INN GUEST HOUSE                                             | GREEN | 9/26/2020  |
| 425 | PAULO CANDIDO GUEST HOUSE                                               | GREEN | 9/26/2020  |
| 426 | M/S. BLISS WATER RESORT                                                 | GREEN | 10/1/2020  |
| 427 | CASA TIPRI                                                              | GREEN | 9/30/2020  |
| 428 | M/s. Krishna Industries                                                 | GREEN | 10/20/2020 |
| 429 | SALUS GUEST HOUSE                                                       | GREEN | 9/30/2020  |
| 430 | BLUE MARINE BEACH RESORT                                                | GREEN | 10/1/2020  |
| 431 | Ruth holiday homes                                                      | GREEN | 10/1/2020  |
| 432 | JO'S PLACE GUEST HOUSE                                                  | GREEN | 11/18/2020 |
| 433 | MARINA GUEST HOUSE                                                      | GREEN | 10/1/2020  |
| 434 | BALAJI INN GUEST HOUSE                                                  | GREEN | 10/5/2020  |
| 435 | GIA INDUSTRIES                                                          | GREEN | 10/14/2020 |
| 436 | Vailankanni Guest House Block A                                         | GREEN | 10/16/2020 |
| 437 | Vincy's Place Inn                                                       | GREEN | 10/16/2020 |
| 438 | Vailankanni Guest House Block B                                         | GREEN | 10/14/2020 |
| 439 | Cardozo Holiday Inn                                                     | GREEN | 10/16/2020 |
| 440 | Filomena Guest House                                                    | GREEN | 10/14/2020 |
| 441 | PRESTIGE HOTELS Unit of Shivhira Hotels and Hospitality Private Limited | GREEN | 10/19/2020 |
| 442 | J. K. Hotel Bar & Restaurant                                            | GREEN | 10/20/2020 |
| 443 | Shivani Builders & Real Estate Developers                               | GREEN | 10/22/2020 |
| 444 | ARUN SAIGAL (GUEST HOUSE)                                               | GREEN | 10/7/2020  |
| 445 | D'Silva's Guest House                                                   | GREEN | 10/8/2020  |
| 446 | Aaria Hills                                                             | GREEN | 10/8/2020  |
| 447 | Aaria Residency                                                         | GREEN | 10/8/2020  |
| 448 | GOAN COMFORT GUEST HOUSE                                                | GREEN | 10/23/2020 |
| 449 | Calangute Beach Holiday Inn                                             | GREEN | 10/14/2020 |
| 450 | KESAR GUEST HOUSE                                                       | GREEN | 10/11/2020 |



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|-----|--------------------------------------------------------|-------|------------|
| 451 | ADARA PRIME                                            | GREEN | 10/11/2020 |
| 452 | DIVINE GUEST HOUSE                                     | GREEN | 10/11/2020 |
| 453 | PANDUS GUEST HOUSE                                     | GREEN | 10/11/2020 |
| 454 | Villa 'Casa Bottu' (The Island Pool Villa)             | GREEN | 10/14/2020 |
| 455 | Bleisure Global                                        | GREEN | 10/13/2020 |
| 456 | Rose and Seby                                          | GREEN | 11/10/2020 |
| 457 | FRANCISCO'S GUEST HOUSE                                | GREEN | 10/16/2020 |
| 458 | STUDIO 7                                               | GREEN | 12/17/2020 |
| 459 | PEDRO'S GUEST HOUSE                                    | GREEN | 10/16/2020 |
| 460 | DEEPTI GUEST HOUSE                                     | GREEN | 10/13/2020 |
| 461 | KINARA CLASSIC                                         | GREEN | 10/13/2020 |
| 462 | SANDEEP KUMAR JAIN (ACASA VIBE)                        | GREEN | 10/14/2020 |
| 463 | DADOS GUEST INN                                        | GREEN | 10/14/2020 |
| 464 | MR VIKRAM SINGH & MRS SHASHI SINGH (RES-TANTO CANTO)   | GREEN | 10/14/2020 |
| 465 | BALJEET SINGH MAMIK & SATINDER KAUR MAMIK (ACASA VIBE) | GREEN | 10/14/2020 |
| 466 | PRITI GUEST HOUSE                                      | GREEN | 10/14/2020 |
| 467 | RADHA GUEST HOUSE                                      | GREEN | 1/23/2021  |
| 468 | VIHAAN INN GUEST HOUSE                                 | GREEN | 10/15/2020 |
| 469 | PEACEFUL STUDIO (GUEST HOUSE)                          | GREEN | 10/15/2020 |
| 470 | SHIV SHAKTI GUEST HOUSE                                | GREEN | 10/15/2020 |
| 471 | Sea Rock Guest House                                   | GREEN | 10/15/2020 |
| 472 | HOTEL TRIMURTI                                         | GREEN | 11/13/2020 |
| 473 | OCIO INN HOSPITALITY                                   | GREEN | 11/12/2020 |
| 474 | Construction of New Market Complex at Porvorim Goa     | GREEN | 10/30/2020 |
| 475 | Maria Claudina D'Souza Guest House                     | GREEN | 10/29/2020 |
| 476 | ANGELA P FERNANDES GUEST HOUSE                         | GREEN | 10/19/2020 |
| 477 | Aldeia Siesta                                          | GREEN | 11/4/2020  |
| 478 | ROSEDALE VILLA                                         | GREEN | 10/19/2020 |
| 479 | SAI GUEST HOUSE (HOUSE NO 7/182-B)                     | GREEN | 10/20/2020 |
| 480 | SAI GUEST HOUSE (HOUSE NO 7/182)                       | GREEN | 10/20/2020 |
| 481 | OM SAI GUEST HOUSE (HOUSE NO 7/182-A)                  | GREEN | 10/20/2020 |
| 482 | Maria Claudina D'Souza Guest House 2                   | GREEN | 10/29/2020 |
| 483 | Mamata Guest House                                     | GREEN | 10/29/2020 |
| 484 | Mamata Courtyard Guest House                           | GREEN | 11/10/2020 |
| 485 | MORJIM BANAYAN RESORT                                  | GREEN | 3/16/2021  |
| 486 | CASA DE CARDOSO                                        | GREEN | 12/2/2020  |
| 487 | Sunita Guest House & Restaurant                        | GREEN | 10/20/2020 |
| 488 | GANGA TRADERS                                          | GREEN | 1/6/2021   |
| 489 | M/s EBO'S JETTY POINT                                  | GREEN | 10/27/2020 |
| 490 | Ashok Bar & Restaurant                                 | GREEN | 11/4/2020  |



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| 491 | RAJASHREE HOUSE                                                    | GREEN | 11/12/2020 |
| 492 | Hotel Maurya Residency                                             | GREEN | 10/22/2020 |
| 493 | HOTEL PARADSE INN                                                  | GREEN | 10/28/2020 |
| 494 | Dona Cristalina Guest House and hair cutting Saloon-Hairport Salon | GREEN | 11/12/2020 |
| 495 | Highland Heritage - I                                              | GREEN | 10/23/2020 |
| 496 | HAPPY TO YOU VILLA                                                 | GREEN | 10/23/2020 |
| 497 | CASA GOA APARTMENT                                                 | GREEN | 10/23/2020 |
| 498 | SALSON FERNS NEST                                                  | GREEN | 10/23/2020 |
| 499 | BELEM VILLA                                                        | GREEN | 10/23/2020 |
| 500 | THE ANCHORAGE                                                      | GREEN | 10/23/2020 |
| 501 | Highland Heritage - II                                             | GREEN | 10/25/2020 |
| 502 | RAJESHREE GUEST HOUSE                                              | GREEN | 6/15/2021  |
| 503 | St. Anthony Guest House                                            | GREEN | 12/5/2020  |
| 504 | DAVID GUEST HOUSE                                                  | GREEN | 12/2/2020  |
| 505 | Sunita Kocchar                                                     | GREEN | 10/29/2020 |
| 506 | Akshay Kocchar                                                     | GREEN | 10/29/2020 |
| 507 | KEVIN HENRY MASCARENHAS                                            | GREEN | 11/11/2020 |
| 508 | MR. WILFRED MASCARENHAS                                            | GREEN | 10/31/2020 |
| 509 | RODRICKS GUEST HOUSE                                               | GREEN | 11/2/2020  |
| 510 | Mermaid restaurant and bar                                         | GREEN | 11/27/2020 |
| 511 | Sri Vasuprada Polyfilms Pvt. Ltd.                                  | GREEN | 10/29/2020 |
| 512 | SAI DHAM BAKERY                                                    | GREEN | 10/27/2020 |
| 513 | PAVITRA BEACH HOME                                                 | GREEN | 11/4/2020  |
| 514 | RAJESHREE GREEN HOUSE                                              | GREEN | 6/15/2021  |
| 515 | THE BEACH HOUSE                                                    | GREEN | 10/28/2020 |
| 516 | VICTORIA VILLA                                                     | GREEN | 10/28/2020 |
| 517 | Vibrations (T.B Lal & Company)                                     | GREEN | 10/28/2020 |
| 518 | Panvelim Floating Jetty                                            | GREEN | 10/28/2020 |
| 519 | JANAK HIRANAND MAHBOOBANI GUEST HOUSE                              | GREEN | 10/28/2020 |
| 520 | SEVERINA GUEST HOUSE                                               | GREEN | 11/5/2020  |
| 521 | Hotel Vinanti Bar & Restaurant                                     | GREEN | 11/24/2020 |
| 522 | Marbella Guest House                                               | GREEN | 11/12/2020 |
| 523 | HALF Hotel                                                         | GREEN | 2/19/2021  |
| 524 | Peter's Guest House                                                | GREEN | 11/2/2020  |
| 525 | Pitruchaya White House                                             | GREEN | 11/17/2020 |
| 526 | Aurita Paiva                                                       | GREEN | 11/11/2020 |
| 527 | SAPPHIRE FOODS INDIA PVT LTD(PIZZA HUT) BAGA                       | GREEN | 1/22/2021  |
| 528 | CASA DE GUY GUEST HOUSE                                            | GREEN | 10/30/2020 |
| 529 | Monty guest house                                                  | GREEN | 11/3/2020  |
| 530 | M/s. SUNSET BAR AND RESTAURANT                                     | GREEN | 6/15/2021  |
| 531 | Hotel Morjim Paradise                                              | GREEN | 11/2/2020  |

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| 532 | SAI LEELA GUEST HOUSE                                 | GREEN | 11/3/2020  |
| 533 | SHREE RESIDENCY                                       | GREEN | 11/3/2020  |
| 534 | MARTINET VAGATOR GUEST HOUSE                          | GREEN | 12/2/2020  |
| 535 | GURU GUEST HOUSE AND BAR & RESTAURANT                 | GREEN | 11/3/2020  |
| 536 | GREEN FIELD VIEW                                      | GREEN | 11/3/2020  |
| 537 | VILLA GORVAD GUEST HOUSE                              | GREEN | 11/23/2020 |
| 538 | SAPPHIRE FOODS INDIA PVT LTD(PIZZA HUT)               | GREEN | 12/15/2020 |
| 539 | DOM JOAO GUEST HOUSE                                  | GREEN | 12/7/2020  |
| 540 | SAPPHIRE FOODS INDIA PVT.LTD.(PIZZA HUT)<br>porvorim  | GREEN | 12/15/2020 |
| 541 | SHARVANI PLASTIC INDUSTRY                             | GREEN | 4/5/2021   |
| 542 | CASA KIARA                                            | GREEN | 1/6/2021   |
| 543 | PAVITRA BEACH HOME                                    | GREEN | 11/4/2020  |
| 544 | VAISHO GUEST HOUSE                                    | GREEN | 11/4/2020  |
| 545 | Yellow House Residency                                | GREEN | 11/4/2020  |
| 546 | M/s. NKS Mining Limited                               | GREEN | 11/26/2020 |
| 547 | MARINA GUEST HOUSE                                    | GREEN | 11/25/2020 |
| 548 | Antares (Robust Resorts & Hospitality LLP))           | GREEN | 11/26/2020 |
| 549 | Stonewood Resort & Spa                                | GREEN | 12/1/2020  |
| 550 | VILLA COSTA                                           | GREEN | 11/13/2020 |
| 551 | Aditya Polymers                                       | GREEN | 12/15/2020 |
| 552 | LAND MARK DAWN                                        | GREEN | 11/6/2020  |
| 553 | LAND MARK DAWN                                        | GREEN | 11/6/2020  |
| 554 | LAND MARK DAWN                                        | GREEN | 11/6/2020  |
| 555 | LAND MARK DAWN                                        | GREEN | 11/6/2020  |
| 556 | DALRINE GUEST HOUSE                                   | GREEN | 11/6/2020  |
| 557 | DALRINE GUEST HOUSE                                   | GREEN | 11/6/2020  |
| 558 | CASA DE KRIS                                          | GREEN | 11/9/2020  |
| 559 | McGoa Holidays                                        | GREEN | 11/18/2020 |
| 560 | ROCKET GUEST HOUSE                                    | GREEN | 11/27/2020 |
| 561 | Casa de Laura                                         | GREEN | 11/13/2020 |
| 562 | Villa in Palms by vescares ( VRSM ENTERPRISES<br>LLP) | GREEN | 11/12/2020 |
| 563 | ZANZIBAR                                              | GREEN | 11/11/2020 |
| 564 | Vineeta Wiggins Guest House                           | GREEN | 11/19/2020 |
| 565 | NEHA GUEST HOUSE                                      | GREEN | 11/12/2020 |
| 566 | NATALIA GUEST HOUSE                                   | GREEN | 11/12/2020 |
| 567 | Ms Chico's Palace                                     | GREEN | 1/11/2021  |
| 568 | PRATIBHA APARTMENTS (RAMSONS INTERNA-<br>TIONAL LTD)  | GREEN | 11/16/2020 |
| 569 | ALTHA GUEST HOUSE                                     | GREEN | 11/16/2020 |
| 570 | Hotel Saiprabhavati                                   | GREEN | 1/12/2021  |
| 571 | Neomis Hair & Beauty Salon and Spa, Patto, Panaji     | GREEN | 1/27/2021  |

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| 572 | IORA BAGA BEACH                                                | GREEN | 11/17/2020 |
| 573 | SHIRODKAR GUEST HOUSE                                          | GREEN | 11/17/2020 |
| 574 | GOD GIFTED NEST                                                | GREEN | 3/13/2021  |
| 575 | GUARDIAN ANGEL GUEST HOUSE                                     | GREEN | 12/2/2020  |
| 576 | Memorare                                                       | GREEN | 11/27/2020 |
| 577 | Antonio Guest House                                            | GREEN | 11/23/2020 |
| 578 | ROMALDO GUEST HOUSE                                            | GREEN | 11/21/2020 |
| 579 | HOTEL CHANDRAGEET                                              | GREEN | 11/23/2020 |
| 580 | Life Bora Bora Hotels and Restaurant Pvt Ltd (Bora Bora Shack) | GREEN | 11/19/2020 |
| 581 | Cafe Morjim (Shack)                                            | GREEN | 11/19/2020 |
| 582 | Silver sand shack                                              | GREEN | 11/19/2020 |
| 583 | Rainbow Shack                                                  | GREEN | 11/19/2020 |
| 584 | Mama Mids Home                                                 | GREEN | 11/24/2020 |
| 585 | HELEN FISHERMEN GUEST HOUSE                                    | GREEN | 11/28/2020 |
| 586 | SAFILS BEACH SHACK                                             | GREEN | 11/23/2020 |
| 587 | BLUE COCONUT SHACK                                             | GREEN | 11/23/2020 |
| 588 | TROPICANO BEACH RESORT                                         | GREEN | 11/23/2020 |
| 589 | ELVINS PLACE                                                   | GREEN | 11/23/2020 |
| 590 | PLANET GOA SHACK                                               | GREEN | 11/27/2020 |
| 591 | BROTHERS GUEST HOUSE                                           | GREEN | 12/2/2020  |
| 592 | SRK'S Baga Along Resort & Spice Farm                           | GREEN | 3/16/2021  |
| 593 | CHERON SALON & SPA                                             | GREEN | 12/1/2020  |
| 594 | Mac Mohan Guest House                                          | GREEN | 11/25/2020 |
| 595 | Rashdeep Restaurant                                            | GREEN | 11/25/2020 |
| 596 | VALANKANI GUEST HOUSE                                          | GREEN | 11/26/2020 |
| 597 | VALANKANI GUEST HOUSE                                          | GREEN | 11/26/2020 |
| 598 | VALANKANI GUEST HOUSE                                          | GREEN | 11/26/2020 |
| 599 | IVY'S NOOK GUEST HOUSE                                         | GREEN | 11/26/2020 |
| 600 | REMEDIANA GUEST HOUSE (A)                                      | GREEN | 12/10/2020 |
| 601 | M/s. Khedekar Industries                                       | GREEN | 12/23/2020 |
| 602 | CASA DOS REBELOS                                               | GREEN | 12/9/2020  |
| 603 | REMEDIANA GUEST HOUSE (B)                                      | GREEN | 12/10/2020 |
| 604 | Doris Beach House                                              | GREEN | 12/17/2020 |
| 605 | Waterscape Beach Resort                                        | GREEN | 12/16/2020 |
| 606 | Romeo DSouza Guest House 1                                     | GREEN | 1/28/2021  |
| 607 | Romeo DSouza Guest House 2                                     | GREEN | 1/27/2021  |
| 608 | SASHA'S                                                        | GREEN | 2/11/2021  |
| 609 | Heritage the Bosque(Heritage Princes Real Estate Developers)   | GREEN | 12/7/2020  |
| 610 | ADHIRAJ OCEAN VISTA                                            | GREEN | 12/2/2020  |
| 611 | M/s. MILAN GRANITE & MARBLE                                    | GREEN | 12/29/2020 |
| 612 | Koteshwar Residency                                            | GREEN | 3/5/2021   |

|     |                                              |       |            |
|-----|----------------------------------------------|-------|------------|
| 613 | SPORTSMAN GUEST HOUSE                        | GREEN | 12/10/2020 |
| 614 | SAM SHACK                                    | GREEN | 12/5/2020  |
| 615 | VILLA MARIA GUEST HOUSE                      | GREEN | 12/7/2020  |
| 616 | JULIA GUEST HOUSE                            | GREEN | 12/7/2020  |
| 617 | MARIAH GUEST HOUSE                           | GREEN | 12/7/2020  |
| 618 | FLORA VILLA                                  | GREEN | 12/7/2020  |
| 619 | SABINA GUEST HOUSE                           | GREEN | 12/7/2020  |
| 620 | CAFE GOA BEACH SHACK                         | GREEN | 12/7/2020  |
| 621 | COCO BAY                                     | GREEN | 12/7/2020  |
| 622 | Joe's Haven                                  | GREEN | 12/7/2020  |
| 623 | M/s. Hill View (Mr. Andre Antonio Fernandes) | GREEN | 1/6/2021   |
| 624 | BEACH QUEEN GUEST HOUSE(6/258-E)             | GREEN | 12/8/2020  |
| 625 | LARIOS BEACH SHACK                           | GREEN | 12/8/2020  |
| 626 | BEACH QUEEN GUEST HOUSE (6/258)              | GREEN | 12/8/2020  |
| 627 | MR. SANJAY DHALL                             | GREEN | 12/9/2020  |
| 628 | TASTE OF GOA                                 | GREEN | 12/9/2020  |
| 629 | Bliss Holiday inn                            | GREEN | 12/10/2020 |
| 630 | Hotel Arcadia                                | GREEN | 5/24/2021  |
| 631 | Shalom Resort                                | GREEN | 2/23/2021  |
| 632 | CASA PRUDENCIA                               | GREEN | 12/11/2020 |
| 633 | Francis House                                | GREEN | 12/17/2020 |
| 634 | HEMI BAWA                                    | GREEN | 12/11/2020 |
| 635 | ROSA KUBER MANDОВI BAY NORTH GOA             | GREEN | 12/11/2020 |
| 636 | SHRI'S PRIDE INN                             | GREEN | 12/11/2020 |
| 637 | Silent Valley Nest                           | GREEN | 12/11/2020 |
| 638 | Gajanan Kerkar                               | GREEN | 12/15/2020 |
| 639 | ANGEL BAR AND RESTAURNT                      | GREEN | 12/16/2020 |
| 640 | MAHAMAYA KALIKA GUEST HOUSE                  | GREEN | 12/14/2020 |
| 641 | BEACH BOX HOTEL                              | GREEN | 1/8/2021   |
| 642 | Madeira Mansion                              | GREEN | 12/15/2020 |
| 643 | ALBANO'S BEACH SHACK                         | GREEN | 12/21/2020 |
| 644 | La Papa Resort Pvt Ltd                       | GREEN | 1/22/2021  |
| 645 | La Alphonso Marina Resort                    | GREEN | 1/12/2021  |
| 646 | Golden Goa Bar & Restaurant                  | GREEN | 12/15/2020 |
| 647 | JARDIN D'ULYSSE GUEST HOUSE                  | GREEN | 12/23/2020 |
| 648 | Casa Verde Villa                             | GREEN | 12/16/2020 |
| 649 | HOUSE OF MA GUEST HOUSE                      | GREEN | 12/17/2020 |
| 650 | SUBHASH GUEST HOUSE                          | GREEN | 12/17/2020 |
| 651 | FAGUND CARDOZO GUEST HOUSE                   | GREEN | 12/17/2020 |
| 652 | MORJIM SEA WAVES                             | GREEN | 12/23/2020 |
| 653 | SUSHILA GUEST HOUSE                          | GREEN | 12/18/2020 |
| 654 | LOBO'S GUEST HOUSE                           | GREEN | 1/28/2021  |

|     |                                                         |       |            |
|-----|---------------------------------------------------------|-------|------------|
| 655 | M/S. SOMUYA COMPUTECH PRIVATE LTD.                      | GREEN | 1/14/2021  |
| 656 | MARIA HOUSE                                             | GREEN | 2/5/2021   |
| 657 | M/s. R. R. Boutique (Rajneet Bhatia)                    | GREEN | 2/1/2021   |
| 658 | Oasis Anjuna Villa                                      | GREEN | 12/29/2020 |
| 659 | Madeiras Home                                           | GREEN | 6/24/2021  |
| 660 | LUSH BEACH SHACK                                        | GREEN | 12/21/2020 |
| 661 | SHALINI DATTA FLOUR MILL                                | GREEN | 12/22/2020 |
| 662 | Gomes Guest House                                       | GREEN | 12/21/2020 |
| 663 | Joyce Guest House                                       | GREEN | 12/21/2020 |
| 664 | Gomes Restaurant                                        | GREEN | 12/21/2020 |
| 665 | Daji Apa Guest House                                    | GREEN | 12/21/2020 |
| 666 | Carona House                                            | GREEN | 2/13/2021  |
| 667 | Xavier's Restaurant                                     | GREEN | 12/24/2020 |
| 668 | Xavier's Guest House                                    | GREEN | 12/24/2020 |
| 669 | Harish Sawant                                           | GREEN | 12/30/2020 |
| 670 | Gulabi S. Shetgaonkar Guest House                       | GREEN | 1/1/2021   |
| 671 | DITOSA                                                  | GREEN | 1/13/2021  |
| 672 | CAPE TOWN CAFE                                          | GREEN | 1/1/2021   |
| 673 | Morjim Palms Homestays                                  | GREEN | 12/28/2020 |
| 674 | M/s. SURFACE COATING INDUSTRIES                         | GREEN | 3/6/2021   |
| 675 | THE GOA STAY                                            | GREEN | 6/1/2021   |
| 676 | HILDA CARDOZ GUEST HOUSE                                | GREEN | 12/29/2020 |
| 677 | Nine Bar & Restaurant                                   | GREEN | 12/29/2020 |
| 678 | SHRI KAMAKSHI KRUPA GUEST HOUSE                         | GREEN | 12/30/2020 |
| 679 | CAFE BAGA BEACH SHACK                                   | GREEN | 12/30/2020 |
| 680 | Serenity By The Sea                                     | GREEN | 1/8/2021   |
| 681 | CHARANJIT SINGH BAGGA AND MANEET KAUR BAGGA GUEST HOUSE | GREEN | 1/1/2021   |
| 682 | VCM CUBO PVT LTD                                        | GREEN | 1/1/2021   |
| 683 | GOLDEN NEST                                             | GREEN | 1/1/2021   |
| 684 | LAXMI BAR & RESTAURANT                                  | GREEN | 1/1/2021   |
| 685 | HOTEL VICTORIA                                          | GREEN | 1/1/2021   |
| 686 | LOBOS                                                   | GREEN | 1/1/2021   |
| 687 | GOLDEN NEST DELUX RESORT                                | GREEN | 1/1/2021   |
| 688 | CAFE SANDBAR BEACH SHACK                                | GREEN | 1/1/2021   |
| 689 | VALANKANI GUEST HOUSE                                   | GREEN | 1/1/2021   |
| 690 | XAVIERS BEACH CAFE                                      | GREEN | 1/4/2021   |
| 691 | ST. ANTHONY BEACH CAFE                                  | GREEN | 1/4/2021   |
| 692 | SHRI HARI GUEST HOUSE                                   | GREEN | 1/18/2021  |
| 693 | MILAGRINA GUEST HOUSE                                   | GREEN | 1/7/2021   |
| 694 | CONSCIENT INFRASTRUCTURE PRIVATE LIMITED                | GREEN | 2/11/2021  |
| 695 | BHARAT LODGE                                            | GREEN | 1/6/2021   |

|     |                                 |       |           |
|-----|---------------------------------|-------|-----------|
| 696 | CASA MARY                       | GREEN | 1/5/2021  |
| 697 | M/S. NISHA INDUSTRY             | GREEN | 1/6/2021  |
| 698 | M/s AAA Energy Reserves Pvt Ltd | GREEN | 1/6/2021  |
| 699 | OCEANIC SHACK                   | GREEN | 1/6/2021  |
| 700 | AGGIS SHACK                     | GREEN | 1/15/2021 |
| 701 | CASA OBRIGADO                   | GREEN | 1/12/2021 |
| 702 | Aroma Beauty Salon              | GREEN | 3/4/2021  |
| 703 | WINGBIRD MANAGEMENT             | GREEN | 1/8/2021  |
| 704 | Fantasy Guest House             | GREEN | 1/10/2021 |
| 705 | Infinity Exclusive              | GREEN | 1/10/2021 |
| 706 | J Rentals and Sales 1           | GREEN | 1/20/2021 |
| 707 | J Rentals and Sales 2           | GREEN | 1/20/2021 |
| 708 | J Rentals and Sales 3           | GREEN | 1/20/2021 |
| 709 | S2 Beach Shack                  | GREEN | 1/11/2021 |
| 710 | CAFE HORIZON BEACH SHACK        | GREEN | 1/11/2021 |
| 711 | AFFORDABLE STAY                 | GREEN | 1/11/2021 |
| 712 | BEACH WAY HOME STAY             | GREEN | 1/11/2021 |
| 713 | NATURES GIFT                    | GREEN | 1/12/2021 |
| 714 | WEATHER SPOON CAFE              | GREEN | 1/12/2021 |
| 715 | SHRUSHTHEE GUEST HOUSE          | GREEN | 1/26/2021 |
| 716 | Casa De Arambol                 | GREEN | 1/12/2021 |
| 717 | UMA HOTEL                       | GREEN | 1/21/2021 |
| 718 | M/s PRISM JOHNSON LIMITED       | GREEN | 4/6/2021  |
| 719 | IMMACULAOA GUEST HOUSE          | GREEN | 1/14/2021 |
| 720 | Laxmi Sunshine Restaurant       | GREEN | 1/14/2021 |
| 721 | Baga Grande                     | GREEN | 1/22/2021 |
| 722 | 930 Candolim Villa              | GREEN | 2/12/2021 |
| 723 | Mahalakshmi Residency           | GREEN | 1/22/2021 |
| 724 | PREMA GUEST HOUSE               | GREEN | 1/19/2021 |
| 725 | PREMA GUEST HOUSE               | GREEN | 1/19/2021 |
| 726 | SHREE SAI GUEST HOUSE           | GREEN | 1/19/2021 |
| 727 | SHREE SAI GUEST HOUSE           | GREEN | 1/19/2021 |
| 728 | PRINCESS THE GOA                | GREEN | 1/19/2021 |
| 729 | BOMBAY ADDA BEACH CLUB          | GREEN | 1/21/2021 |
| 730 | Square One Agro Foods           | GREEN | 1/21/2021 |
| 731 | Marin Shack                     | GREEN | 1/21/2021 |
| 732 | Aaron Guest House               | GREEN | 2/5/2021  |
| 733 | M/s Moon Star Guest House       | GREEN | 1/22/2021 |
| 734 | D'souza's Place                 | GREEN | 1/24/2021 |
| 735 | ISHA VILAS                      | GREEN | 2/18/2021 |
| 736 | REGINALDO'S GUEST HOUSE         | GREEN | 2/5/2021  |
| 737 | Antonio Guest House             | GREEN | 2/11/2021 |

|     |                                                           |       |           |
|-----|-----------------------------------------------------------|-------|-----------|
| 738 | THE MOONLIGHT STREAM                                      | GREEN | 2/2/2021  |
| 739 | ASSENCAO FERNANDES                                        | GREEN | 7/16/2021 |
| 740 | AMTHANE INDUSTRIES                                        | GREEN | 2/3/2021  |
| 741 | MANJUSHA GUEST HOUSE                                      | GREEN | 2/3/2021  |
| 742 | NUNES GUEST HOUSE                                         | GREEN | 2/3/2021  |
| 743 | Casa Timothy Guest House                                  | GREEN | 2/3/2021  |
| 744 | HOTEL BOM SUCESSO                                         | GREEN | 2/15/2021 |
| 745 | Mon Paradis Guest House                                   | GREEN | 3/6/2021  |
| 746 | NV BEACH RESORT                                           | GREEN | 4/7/2021  |
| 747 | JOLNICK HOME STAY                                         | GREEN | 2/4/2021  |
| 748 | Villa Angerosa Guest House                                | GREEN | 2/5/2021  |
| 749 | CASA DE BAMBOLIM                                          | GREEN | 2/5/2021  |
| 750 | ROMANUELS GUEST HOUSE                                     | GREEN | 2/8/2021  |
| 751 | Purple Orchid                                             | GREEN | 2/7/2021  |
| 752 | Vishwamukta Enterprises Unit Copperleaf                   | GREEN | 2/8/2021  |
| 753 | Vilanova                                                  | GREEN | 2/8/2021  |
| 754 | Casa Montana                                              | GREEN | 2/8/2021  |
| 755 | Paul's Cottages                                           | GREEN | 2/9/2021  |
| 756 | TOSIGOS                                                   | GREEN | 2/9/2021  |
| 757 | TOSIGOS RESTAURANT                                        | GREEN | 2/9/2021  |
| 758 | Joaquim Luis Fernandes                                    | GREEN | 3/16/2021 |
| 759 | CONNIE DSOUZA GUEST HOUSE                                 | GREEN | 2/9/2021  |
| 760 | La Quinta                                                 | GREEN | 3/25/2021 |
| 761 | Pings Biahoi                                              | GREEN | 2/23/2021 |
| 762 | Rustic Village by Rivasa                                  | GREEN | 2/9/2021  |
| 763 | VILLA ARCADIA                                             | GREEN | 2/27/2021 |
| 764 | Bicholim Municipal Council                                | GREEN | 4/8/2021  |
| 765 | GRANDE ALPINE HOTEL                                       | GREEN | 2/10/2021 |
| 766 | M/S. HERAMB INDUSTRIES                                    | GREEN | 3/1/2021  |
| 767 | SKYE VILLA MR ANIL CHOPRA & MRS SABINA CHOPRA GUEST HOUSE | GREEN | 2/11/2021 |
| 768 | BAPTISTA FERNANDES GUEST HOUSE                            | GREEN | 2/12/2021 |
| 769 | COOKIES BAR AND RESTAURANT                                | GREEN | 2/12/2021 |
| 770 | WILDLIFE AND ECO TOURISM NORTH GOA FOREST DEPARTMENT      | GREEN | 2/23/2021 |
| 771 | Pratiksha Guest House                                     | GREEN | 3/13/2021 |
| 772 | TAVORA VEGTURES                                           | GREEN | 2/22/2021 |
| 773 | TERRA PARAISO BY THE SEA                                  | GREEN | 2/15/2021 |
| 774 | KRISTY                                                    | GREEN | 2/15/2021 |
| 775 | MAYUR BAR & RESTAURANT                                    | GREEN | 2/18/2021 |
| 776 | Maria Rita Fernandes                                      | GREEN | 2/16/2021 |
| 777 | INCREDIBLE FOOD AND BEVERAGES                             | GREEN | 3/16/2021 |
| 778 | Oasis Cafe Restaurant                                     | GREEN | 3/1/2021  |



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|-----|-------------------------------------------------|-------|-----------|
| 779 | Sparadise                                       | GREEN | 2/17/2021 |
| 780 | Vasu Guest House                                | GREEN | 2/18/2021 |
| 781 | Vista Mare                                      | GREEN | 2/18/2021 |
| 782 | Azara Beach House                               | GREEN | 2/26/2021 |
| 783 | Tourism Service Apartments                      | GREEN | 2/18/2021 |
| 784 | DOWN HILL VILLAGE                               | GREEN | 2/19/2021 |
| 785 | Uttam Tourist Resort                            | GREEN | 3/16/2021 |
| 786 | PIKKIE GUEST HOUSE                              | GREEN | 2/19/2021 |
| 787 | Hotel Satyam                                    | GREEN | 3/16/2021 |
| 788 | Varty's the hillside huts                       | GREEN | 3/17/2021 |
| 789 | Hotel Srikamal Park                             | GREEN | 2/23/2021 |
| 790 | Polynova Industries Ltd                         | GREEN | 6/8/2021  |
| 791 | ROSITA GUEST HOUSE                              | GREEN | 2/25/2021 |
| 792 | Rohan Yeshwant Shetgaonkar                      | GREEN | 3/21/2021 |
| 793 | SPECTRUM HUB                                    | GREEN | 2/25/2021 |
| 794 | Megawide Construction DMCC - RMC Batching Plant | GREEN | 3/16/2021 |
| 795 | JONSHA GUEST HOUSE                              | GREEN | 3/16/2021 |
| 796 | Tribe Anjuna                                    | GREEN | 2/27/2021 |
| 797 | The ISLAND SANCTUARY Rock Pool villa            | GREEN | 3/16/2021 |
| 798 | Pompa's Poffertjes                              | GREEN | 3/16/2021 |
| 799 | Krishna Gadekar Guest House                     | GREEN | 3/2/2021  |
| 800 | Rusta Holiday                                   | GREEN | 3/2/2021  |
| 801 | Vailankanni Guest House                         | GREEN | 3/2/2021  |
| 802 | Mahananda Restaurant                            | GREEN | 3/2/2021  |
| 803 | CAMROSE NEST                                    | GREEN | 3/3/2021  |
| 804 | URBAN HARVEST                                   | GREEN | 3/16/2021 |
| 805 | GOLDEN SANDS                                    | GREEN | 3/16/2021 |
| 806 | ZYON'S GUEST HOUSE                              | GREEN | 3/4/2021  |
| 807 | MVR Seaview Homes Pvt. Ltd.                     | GREEN | 3/26/2021 |
| 808 | D'MELLO GUEST HOUSE                             | GREEN | 3/4/2021  |
| 809 | HOTEL SWASTIC                                   | GREEN | 3/22/2021 |
| 810 | DAMUS BAKERY                                    | GREEN | 3/9/2021  |
| 811 | Wonder Restaurant                               | GREEN | 3/9/2021  |
| 812 | NORTHERN HILLYCREST                             | GREEN | 3/15/2021 |
| 813 | MR. VISHAL DHUPAR & RUCHIKA DHUPAR GUEST HOUSE  | GREEN | 3/11/2021 |
| 814 | SHARAD GOYAL GUEST HOUSE                        | GREEN | 3/11/2021 |
| 815 | M/s D'Souza Villa                               | GREEN | 3/31/2021 |
| 816 | Sunshine Restaurant                             | GREEN | 3/17/2021 |
| 817 | Cafe Ritz Bar & Restaurant                      | GREEN | 5/13/2021 |
| 818 | PEREIRA OTHER SIDE BAR AND RESTAURANT           | GREEN | 3/15/2021 |
| 819 | MOTHER VILLA                                    | GREEN | 3/15/2021 |



|     |                                                        |       |           |
|-----|--------------------------------------------------------|-------|-----------|
| 820 | JANET & JOHN'S                                         | GREEN | 3/15/2021 |
| 821 | M/s The Old Mango Tree Bar and Resturant               | GREEN | 3/25/2021 |
| 822 | LOBO'S PURE PUNJABBI FAMILY RESTAURANT                 | GREEN | 3/16/2021 |
| 823 | Antonio's                                              | GREEN | 3/16/2021 |
| 824 | INRABO HOSPITALITIES PVT LTD                           | GREEN | 3/17/2021 |
| 825 | Concio Bar & Restaurant                                | GREEN | 3/19/2021 |
| 826 | Jaglux Realty Pvt Ltd                                  | GREEN | 3/17/2021 |
| 827 | Jaglux Hospitality LLP                                 | GREEN | 3/17/2021 |
| 828 | Kingstork Beach Resort                                 | GREEN | 3/25/2021 |
| 829 | PYRAMID BEACH SHACK                                    | GREEN | 3/18/2021 |
| 830 | M/s HOTEL SUJAY                                        | GREEN | 3/31/2021 |
| 831 | Sky Gate Hospitality Private Limited (Biryani By Kilo) | GREEN | 5/12/2021 |
| 832 | Samarth Enclave                                        | GREEN | 3/30/2021 |
| 833 | HOTEL KISHOR                                           | GREEN | 3/23/2021 |
| 834 | THE MOMS HOME                                          | GREEN | 3/23/2021 |
| 835 | Mrs Leela K Ellis                                      | GREEN | 3/31/2021 |
| 836 | Ana Maria Guest House                                  | GREEN | 4/7/2021  |
| 837 | M/s GOLDENDUNES INFRATECH PVT LTD                      | GREEN | 3/25/2021 |
| 838 | VIRGIN KITCHEN                                         | GREEN | 3/25/2021 |
| 839 | Chawla Restaurant & Fast Food                          | GREEN | 3/25/2021 |
| 840 | BOULANGER                                              | GREEN | 3/26/2021 |
| 841 | TONYS KITCHEN                                          | GREEN | 3/26/2021 |
| 842 | S&A(Suvina & Antonio's Guest House)                    | GREEN | 7/9/2021  |

| Sr. No. | Name of the Industry                    | Category    | Consent issued Date |
|---------|-----------------------------------------|-------------|---------------------|
| 1       | KAMALA POLYCLINIC                       | Bio-Medical | 30-03-2021          |
| 2       | PRABHAKAR PATHOLAB                      | Bio-Medical | 24-03-2021          |
| 3       | Dr Aparajita's Pet Clinic               | Bio-Medical | 15-03-2021          |
| 4       | DR.SARDESAI X-RAY AND ULTRASOUND CLINIC | Bio-Medical | 12/3/2021           |
| 5       | Filbha multi speciality dental clinic   | Bio-Medical | 4/3/2021            |
| 6       | NOBEL HEALTH                            | Bio-Medical | 1/3/2021            |
| 7       | KMAT GOAN DENTAL CARE                   | Bio-Medical | 26-02-2021          |
| 8       | Goa dental clinic                       | Bio-Medical | 18-02-2021          |
| 9       | SAPPHIRE DIAGNOSTICS                    | Bio-Medical | 15-02-2021          |
| 10      | Dr.Yeshwantrao Prabhu Desai             | Bio-Medical | 14-02-2021          |
| 11      | Flex Physiotherapy Clinic               | Bio-Medical | 2/2/2021            |
| 12      | HEALTHCARE PATH LAB                     | Bio-Medical | 20-01-2021          |
| 13      | SALGAOCAR MEDICAL RESEARCH CENTRE       | Bio-Medical | 11/1/2021           |
| 14      | Manipal Hospital                        | Bio-Medical | 4/1/2021            |
| 15      | DR SATYAWAN DATTARAM NAIK               | Bio-Medical | 17-12-2020          |
| 16      | DR DSA MULTISPECIALITY DENTAL CLINIC    | Bio-Medical | 15-12-2020          |

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|----|-----------------------------------------------------|-------------|------------|
| 17 | SUB DISTRICT HOSPITAL PONDA                         | Bio-Medical | 9/12/2020  |
| 18 | Dr Abhishek S Bandekar Clinic                       | Bio-Medical | 8/12/2020  |
| 19 | Sub Centre Bambolim                                 | Bio-Medical | 18-11-2020 |
| 20 | M-s Indoco Remedies Limited (Plant I)               | Bio-Medical | 3/11/2020  |
| 21 | (AYURYOG) AYURVEDA PANCHAKARMA CLINIC               | Bio-Medical | 29-10-2020 |
| 22 | PATHKIND DIAGNOSTICS PRIVATE LIMITED                | Bio-Medical | 27-10-2020 |
| 23 | Tara Homoeopathic Clinic                            | Bio-Medical | 24-10-2020 |
| 24 | Healthcare                                          | Bio-Medical | 16-10-2020 |
| 25 | DR ALBERT DSOUZA                                    | Bio-Medical | 15-10-2020 |
| 26 | KAISARE EYE AND DENTAL HOSPITAL                     | Bio-Medical | 14-10-2020 |
| 27 | SUB centre Khandola                                 | Bio-Medical | 14-10-2020 |
| 28 | Sub centre Jua                                      | Bio-Medical | 14-10-2020 |
| 29 | Sub Centre Bhoma                                    | Bio-Medical | 14-10-2020 |
| 30 | Sub Centre Orgao                                    | Bio-Medical | 14-10-2020 |
| 31 | Lotlikar's Dental Care                              | Bio-Medical | 13-10-2020 |
| 32 | RADIANCE DIAGNOSTICS MARGAO                         | Bio-Medical | 13-10-2020 |
| 33 | Sub Centre Betki                                    | Bio-Medical | 13-10-2020 |
| 34 | Sub centre Savoiverem                               | Bio-Medical | 13-10-2020 |
| 35 | Mahalaxmi Polyclinic                                | Bio-Medical | 13-10-2020 |
| 36 | Sub centre Cumbharjua                               | Bio-Medical | 13-10-2020 |
| 37 | RMD Volvoi                                          | Bio-Medical | 13-10-2020 |
| 38 | RMD St Estevem                                      | Bio-Medical | 13-10-2020 |
| 39 | INDIRA SMRUTI RAIKAR NURSING HOME                   | Bio-Medical | 12/10/2020 |
| 40 | ART Orthodontic Clinic - Sanpurn Polyclinic         | Bio-Medical | 12/10/2020 |
| 41 | RMD Cumbharjua                                      | Bio-Medical | 12/10/2020 |
| 42 | Dr Reha's dental clinic                             | Bio-Medical | 8/10/2020  |
| 43 | Dr. Mrinalis dental centre                          | Bio-Medical | 8/10/2020  |
| 44 | Evolve Dental Clinic                                | Bio-Medical | 7/10/2020  |
| 45 | Dr. Charmaine's pet care clinic                     | Bio-Medical | 5/10/2020  |
| 46 | Asilo District Hospital                             | Bio-Medical | 5/10/2020  |
| 47 | Dr Anil Da Silva Dental Clinics & Implant Center    | Bio-Medical | 23-09-2020 |
| 48 | Dr Anil Da Silva Dental Clinics & Implant Center    | Bio-Medical | 23-09-2020 |
| 49 | Goa Medical College & Hospital                      | Bio-Medical | 23-09-2020 |
| 50 | TATA CONSULTANCY SERVICES LTD. (STP Altinho Office) | Bio-Medical | 21-09-2020 |
| 51 | TATA CONSULTANCY SERVICES LTD.                      | Bio-Medical | 17-09-2020 |
| 52 | Collector South Goa                                 | Bio-Medical | 10/9/2020  |
| 53 | Paes Medical Clinic                                 | Bio-Medical | 9/9/2020   |
| 54 | HS HEALTH                                           | Bio-Medical | 27-08-2020 |
| 55 | CHINCHINIM PATHOLOGY                                | Bio-Medical | 27-08-2020 |
| 56 | WORLDWIDE VETERINARY SERVICE INDIA                  | Bio-Medical | 14-08-2020 |
| 57 | Dr Prithviraj Vithalrao Jadhav                      | Bio-Medical | 5/8/2020   |

|    |                                                                                 |             |            |
|----|---------------------------------------------------------------------------------|-------------|------------|
| 58 | Sai Dental Clinic                                                               | Bio-Medical | 30-07-2020 |
| 59 | Healthcare Clinical Laboratory                                                  | Bio-Medical | 28-07-2020 |
| 60 | Desai Dental Clinic                                                             | Bio-Medical | 27-07-2020 |
| 61 | VICTOR HOSPITALS AND MEDICAL SERVICES LTD                                       | Bio-Medical | 17-07-2020 |
| 62 | Criticare Chldrens Hospital                                                     | Bio-Medical | 14-07-2020 |
| 63 | Savoi Verem                                                                     | Bio-Medical | 6/7/2020   |
| 64 | ROSARY PATHOLOGY                                                                | Bio-Medical | 5/7/2020   |
| 65 | Veterinary Dispensary, Salem                                                    | Bio-Medical | 30-06-2020 |
| 66 | Dr Aldrin Godinho                                                               | Bio-Medical | 30-06-2020 |
| 67 | DR.SEEMA T DIWANI CLINIC                                                        | Bio-Medical | 27-06-2020 |
| 68 | M-JEEVODAYA NURSING HOME                                                        | Bio-Medical | 27-06-2020 |
| 69 | MATRUCHHAYA RUGNASHRAYA                                                         | Bio-Medical | 25-06-2020 |
| 70 | Dr Sharmila Siddhesh Prabhudesai                                                | Bio-Medical | 24-06-2020 |
| 71 | M-s. Godrej & Boyce Manufacturing Company Pvt Ltd.                              | Bio-Medical | 23-06-2020 |
| 72 | shree Rm Pathology Laboratory                                                   | Bio-Medical | 13-05-2020 |
| 73 | Hospicio Hospital                                                               | Bio-Medical | 6/5/2020   |
| 74 | Megawide Construction DMCC - First Aid Centre at Mopa Airport Construction Site | Bio-Medical | 12/4/2020  |

| Sr. no. | Name of the Industry | Category        | Consent issued Date |
|---------|----------------------|-----------------|---------------------|
| 1       | BAVISH               | Municipal Waste | 7/9/2020 0:00       |

| Sr. no. | Name of the Industry                           | Category      | Consent issued Date |
|---------|------------------------------------------------|---------------|---------------------|
| 1       | Modern Plastic Industries                      | Plastic Waste | 13-03-2021          |
| 2       | GOLDY FINEPACKS PVT LTD                        | Plastic Waste | 1/3/2021            |
| 3       | M/S. ONKAR INDUSTRIES                          | Plastic Waste | 10/2/2021           |
| 4       | M/S. HERAMB INDUSTRIES                         | Plastic Waste | 10/2/2021           |
| 5       | Micro Labs Limited                             | Plastic Waste | 1/2/2021            |
| 6       | Aliaxis Utilities and Industry Private Limited | Plastic Waste | 15-01-2021          |
| 7       | BETTS INDIA PRIVATE LIMITED                    | Plastic Waste | 12/1/2021           |
| 8       | JAY KAY PLASTIC                                | Plastic Waste | 9/12/2020           |
| 9       | KRUPA POLYMERS (INDIA) PRIVATE LIMITED         | Plastic Waste | 2/12/2020           |
| 10      | GBC PACKAGING                                  | Plastic Waste | 23-11-2020          |
| 11      | GOPALDAS VISHRAM & COMPANY LIMITED             | Plastic Waste | 23-11-2020          |
| 12      | FILPAK (INDIA) PRIVATE LIMITED                 | Plastic Waste | 16-11-2020          |
| 13      | KAMACOM SYSTEMS PVT LTD                        | Plastic Waste | 27-10-2020          |
| 14      | AMEY ENGINEERS AND PRINTERS                    | Plastic Waste | 9/6/2020            |

|    |                                 |               |            |
|----|---------------------------------|---------------|------------|
| 15 | Shriji Polymers (India) Ltd     | Plastic Waste | 4/6/2020   |
| 16 | Medispray Laboratories Pvt. Ltd | Plastic Waste | 2/6/2020   |
| 17 | M/s. Vivajay Brushes (Goa)      | Plastic Waste | 28-05-2020 |

| Sr. no. | Name of the Industry           | Category | Consent issued Date |
|---------|--------------------------------|----------|---------------------|
| 1       | TATA CONSULTANCY SERVICES LTD. | E-Waste  | 13-08-2020          |
| 2       | SIEMENS LTD.MV2                | E-Waste  | 28-04-2020          |

| Sr. no.  | Name of the Industry | Category      | Consent issued Date |
|----------|----------------------|---------------|---------------------|
| <u>1</u> | Milson Corporation   | Battery Waste | 5/3/2021 0:00       |