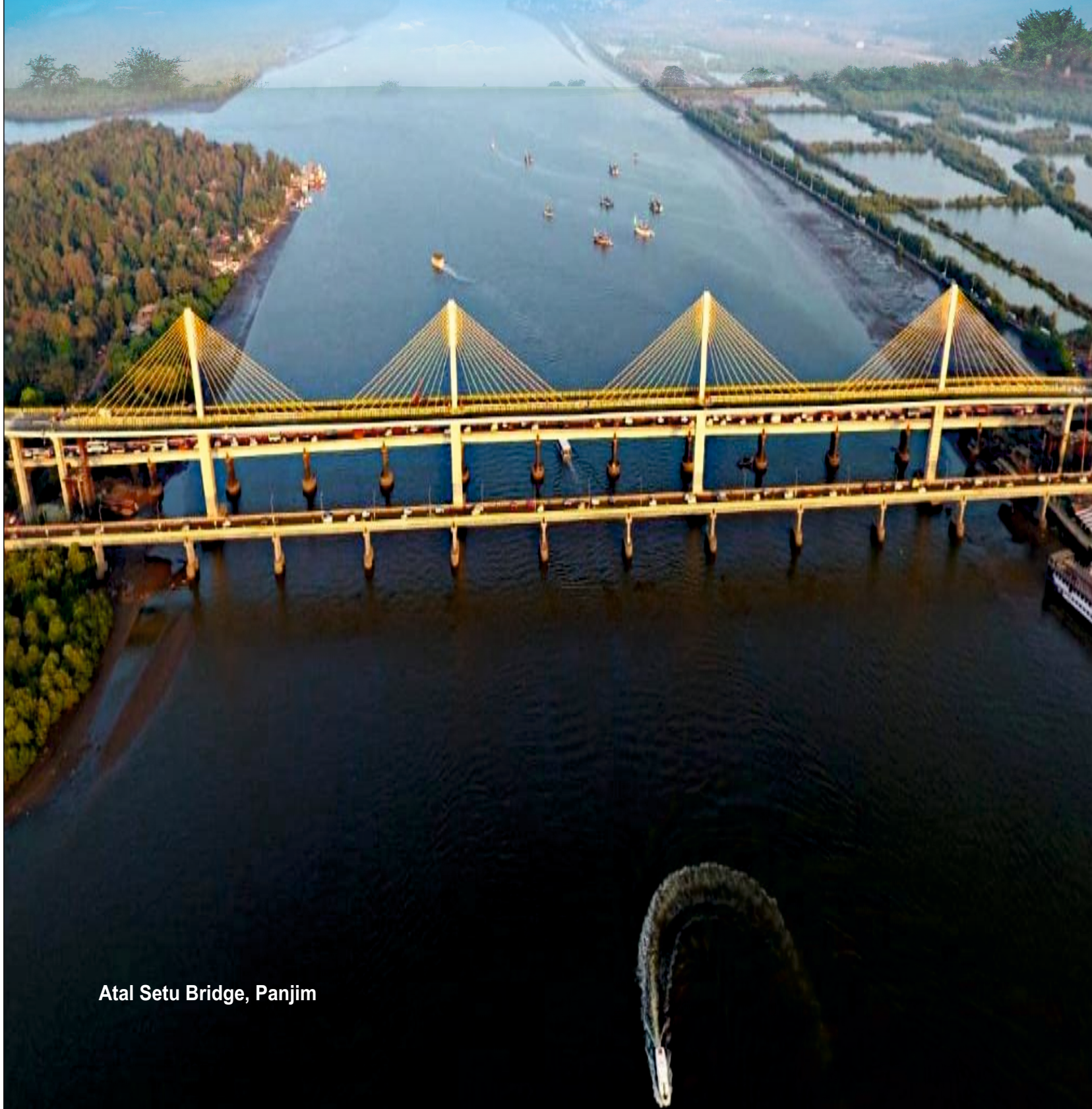




GOA STATE POLLUTION CONTROL BOARD

ANNUAL REPORT 2018-19



Atal Setu Bridge, Panjim

WHAT ARE THE SOURCES OF AIR POLLUTION?

Outdoor air pollution affects urban and rural areas and is caused by multiple factors:



Countries cannot tackle air pollution alone.
It is a global challenge we must all combat together.

India is home to 22 of the 50 most polluted cities globally!
_"I" can change that

SOLUTIONS



CLEAN AIR FOR HEALTH

#AirPollution



World Health Organization

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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Chairman



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CHAIRMAN'S MESSAGE:

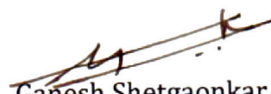
Since its foundation in 1988, the GOA STATE POLLUTION CONTROL BOARD has strived to achieve a harmony between development and environmental concerns under The Air (Prevention & Control of Pollution) Act, 1981, Water (Prevention & Control of Pollution) Act, 1974 and The Environment (Protection) Act, 1986 as amended and their related Rules. 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 scheme that is being pursued for industries. This will help improve preservation, protection of the environment and promote sustainable development in the state of Goa.

In its pursuit of paperless functioning, the Board has taken a decision to adopt OCMMS (On-Line Consent Management and Monitoring System) to create a more user friendly and dynamic platform for both Board and CPCB.

In continuation to the capacity building initiative of the Board, the year was also marked by the successful acceptance of some more Board's staff to the M.Tech. Environmental Engineering Degree, through an ongoing MoU between the Board and Birla Institute of Technology (BITS)-Goa. This along with the Board's Quality System Certification to the ISO standards of ISO 9001:2015 (Quality Management Systems), ISO 14001:2015 (Environment Management Systems), and ISO 45001:2018 (Occupational Health and Safety Assessment Standard) has provided a more constructive path forward.

I also take this opportunity to extend my sincere appreciation to the Board staff and the people of Goa for sharing in our endeavour of maintaining the clean and fresh air 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 the Goa State Pollution Control Board, it is my pleasure in sharing the performance of the Board through this GSPCB Annual Report for the year 2018-19.


Ganesh Shetgaonkar
Chairman-GSPCB

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CHAPTER 1

INTRODUCTION

1.1 GENERAL INTRODUCTION

The Goa State Pollution Control Board 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 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 Goa State Pollution Control Board, after its constitution, established its office in the Goa Medical College 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 in September 1991.

On 15th August, 2002 the Board acquired 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 were 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, IT and Technical section to the new Board premises located at Saligao, Bardez – Goa on 8th August, 2018; while the laboratory continues to operate from the 4th Floor in Dempo Tower at Patto Plaza, Panaji.

1.2 THE BOARD OFFICE

The Goa State Pollution Control Board is presently operating from its own premises in Saligao and the fourth floor of Dempo Towers, EDC Patto Plaza, Panaji-Goa. The Offices of the Chairman, Member Secretary, Technical Section, Legal Section, Accounts Section, Administrative Section, IT Section and part of the Scientific Section are operating from the new premises at Saligao, Bardez - Goa and the laboratory is located on the fourth floor of Dempo Towers, Patto, Panaji, 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 MoEF (Ministry of Environment & forests) and NABL (National Accreditation Board for Testing & Calibration Laboratories).

Presently, there are one hundred and twenty eight 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 4th floor of Dempo Towers having a

built up area of about 311.86 sq.mts. The laboratory is well equipped with instruments and equipments needed for carrying out analysis of water, air and soil samples of industrial effluents, rivers, wells, etc for chemical, physical and bacteriological parameters including trace and toxic metals, pesticides and organic components. The Board laboratory is MoEF and NABL accredited and follows the procedures and guidelines in accordance with the said accreditations. The laboratory conducts 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 MoEF requirement.

The Board has set up 18 ambient air quality monitoring stations and 61 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 18 air stations, 14 are outsourced to MoEF approved laboratories and 4 are operated by the GSPCB. These stations are monitored at defined intervals and the samples collected are analysed at the Board laboratory for physical, chemical, metals, pesticides and microbiological parameters.

During the year under report the Board laboratory collected 1,360 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. Also, a number of complaints regarding dust pollution have been attended to by the laboratory and have conducted ambient air quality monitoring programmes. A number of Stack emission Monitoring programmes have also been conducted during the year.

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 XGN and OCMMS software which are scrutinized by the Technical Committee and subsequently approved by the Chairman upon which consents under the relevant acts and rules are issued. During the year under report, 1763 consents have been granted for operation and establishment of the above facilities under the Water and Air Acts, Hazardous Waste Rules, Bio-Medical Rules, Municipal Solid Waste Rules.

Besides, periodic inspections to monitor red category industries are also conducted to check the 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. 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, 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 and matters related to Right to Information Act are also looked after by this Section.

1.3.4 ADMINISTRATIVE AND ACCOUNTS SECTION

The Administrative Section deals with all the administrative matters of the Board such as service matters of the staff which includes creation of posts, appointments, promotions, leave, tours, stores, calculation of retirement benefits of the employees, etc. 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.

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, processing of all files where in financial implications are involved. Advices the Board on financial matters in accordance with the Government Rules and Procedures for smooth functioning. Conduct periodical Audit of the Board Accounts through a Registered Chatered Accountant nominated by the Comptroller and Auditor General of India (CAAG).

1.3.5 OTHER FACILITIES

1.3.5.1 LIBRARY FACILITIES

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

1.3.5.2 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.

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 Sahastrabhudhe, 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 Sauntha
14. President, Travel & Tourism Association of Goa
15. Managing Director, Goa State Infrastructure Development Corporation
16. Managing Director, Goa Tourism Development Corporation

Member Secretary

14. Shri. Levinson Martins, Goa Civil Services (upto 17/07/2018).
15. Dr. Shamila Monteiro, (w.e.f. 18/07/2018)

CHAPTER 3

MEETINGS OF THE BOARD

- 3.1** During the year under report, the Goa State Pollution Control Board held five 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.	133rd	29/06/2018	Conference Hall of the Chief Secretary	12
2.	134th (Special Meeting)	21/08/2018	Conference Hall of the Chief Secretary	10
3.	135th	02/11/2018	Conference Hall of the Chief Secretary	14
4.	136th	13/02/2019	Conference Hall of the Chief Secretary	15
5.	137th	21/02/2019	Conference Hall of the Chief Secretary	07
6.	138th	29/03/2019	Conference Hall of the Chief Secretary	09

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

MINUTES OF 133 BOARD MEETING HELD ON 29TH JUNE, 2018, (Refer Annexure XI)

MINUTES OF THE 134th (Special) BOARD MEETING HELD ON 21st AUGUST, 2018

1. The 134th (Special) meeting of the Goa State Pollution Control Board was held on 21st August, 2018 at 3.30 p.m. in the Conference hall of the Goa State Pollution Control Board.
 - II. At the outset, Member Secretary welcomed the Board members for the Special meeting which was held in the new premises of the Board at Saligao. Thereafter, the Member Secretary introduced herself to the members present by giving a brief introduction of her academic qualifications and work experience.

She further informed that this Special meeting was convened to discuss the agenda pertaining to fixing of rent for the first floor of Board premise at Dempo Towers, Panaji.

Agenda item no. 01 - Confirmation of the Minutes of the 133rd meeting of the Board held on 29th June, 2018

The minutes of the 133nd meeting of the Board held on 29th June, 2018, meeting duly signed were forwarded vide this office letter no. 4/133/18-PCB/Admn/8007 dated 05/07/2018. The same were confirmed so as to enter in the minutes Book.

Agenda item no. 02. - Follow up action on the decision taken at the 133rd meeting of the Board held on 29/06/2018.

Agenda item no. 4 - The members noted that Consent to Operate under the Water and Air Act has been issued to M/s Mormugao Port Trust (mooring dolphin 1, 2 and 3), has been issued, imposing stringent pollution control measures.

Agenda item no. 05 - The members noted that Consent to Operate under Water Act and Air Act to M/s South West Port for handling of cargo has been issued subject to the condition M/s SWPL submits a Bank Guarantee of Rs. 1 Crore for ensuring compliance of Consent and its conditions including condition of capping and to ensure connectivity of CAAQMS to the Board server.

Agenda item no. 06 - The members noted that Consent to Operate under Water Act and Air Act has been issued to M/s Mormugao Port Trust – berth no. 10/11 for enhancement of handling of general cargo from 2.5 MMTA to 6.0 MMTA, subject to submission of clarifications submitted by the handler with respect to quantity of sand and wood chips.

Agenda item no. 07 - The members noted that Consent to Operate under Water and Air Act has been issued to M/s Deccan Fine Chemicals (I) Pvt. Ltd. for change in product mix, subject to the conditions that the Board shall monitor water quality i.e ETP water periodically, at the cost of the unit.

Agenda item no. 08 – The members noted that amendment in the Consent to Operate and Authorization has been granted to M/s Adani Mormugao Port Terminal Pvt. Ltd.

Agenda item no. 09 – The members noted that amendment in Consent to Operate under Water and Air Acts has been issued to M/s Mormugao Port Trust – berth no. 9 for handling all types of bulk, break bulk, liquid bulk, container and general cargo, issued subject to the condition the handler submits the quantum and type of cargo.

Agenda item no. 10 – The members noted that 150 copies of the Annual Reports of the Board of the year 2017-2018 were forwarded to the Director, Department of Environment, Govt. of Goa, for placing the same before the Goa Legislative Assembly. Member Secretary further informed that the same were placed during the last Legislative Assembly

Agenda item no. 11 – The members noted that the revised validity of the Consent for industries as forwarded by Central Pollution Control Board have been forwarded to the Director, Department of Environment, Govt. of Goa, for issue of a suitable Notification.

Agenda item no. 16 – The members noted that the draft recruitment rules for the Chairman and Member Secretary as forwarded by Central Pollution Control Board have been forwarded to the Director, Department of Environment, Govt. of Goa, for further action in the matter.

Agenda item no. 17 – The members noted that Consent to Establish under the Water and Air Acts have been issued to M/s Deccan Fine Chemicals (I) Pvt. Ltd. for setting up of pilot plant with a capacity of 10 TPA.

Agenda item no. 18 – The members noted that same.

Agenda item no. 19 – Rent Assessment – Member Secretary informed the members that the Board appointed Valuer, Mr. Paresh Gaitonde to carry out the valuation of the Board premises

considering the furniture and the fixtures. The Valuer has submitted property valuation report dated 16/07/2018 and as per the property valuation report, the total value of the Board premises is Rs. 12,93,88,620.00 and the probable monthly rent on the 1st floor is Rs. 6,00,000/- and that of the 4th floor is Rs. 3,00,000/-. She further informed that letters were also forwarded to the buildings in the surrounding areas in Patto to get a feedback on the prevailing rates charged by them for renting of the premises, however, till date no reply has been received.

Member Secretary further informed that the Board in the year 2011-2012 had temporarily hired on rent a space admeasuring approximately 100 sq. mtrs. on the 7th floor of the Dempo Towers building to accommodate the Technical section of the Board. The rent amount was between Rs. 70,000 /- – 75,000/-. She also informed that website of magicbricks.com. / 99 acres.com was also perused to know the probable rent for the Patto area, it is seen that the value is between Rs. 62,000/- to 77,000/- per 100 sq. mtrs..

Member Secretary informed that the rent of Rs. 6,00,000/- per month for the 1st floor on the Dempo Towers bldg. and Rs. 3,00,000/- per month for the fourth floor premises evaluated by the Valuer appears to be reasonable, considering the life of the building and the market rate of the surrounding / nearby area. The members agreed for the same.

Table Item no. 01 – The members noted that an Office order incorporating the decision taken by the Board has been issued to Adv. S.B. Faria.

Agenda item no. 03 - Renting of the office premises at 1st and 4th floor of the Dempo Towers Bldg. at Patto, Panaji Goa.

Member Secretary informed that Directorate of Municipal Administration has expressed their willingness to take the premise of the Board located at Dempo Towers on the first floor, admeasuring approximately 603.74 sq. mtrs on rent of Rs. 6,00,000/- per month.

After deliberations it was decided to rent the Board premises located at Dempo Towers on the first floor, admeasuring approximately 603.74 sq. mtrs. to Directorate of Municipal Administration, Government of Goa for a period of five years on a monthly rent of Rs. 6,00,000/- per month, with an increase in 10% annually, after following the due process of signing of the Agreement, which could be got vetted by the Law Department, Govt. of Goa.

Member Secretary further informed that the office premise on the fourth floor of Dempo Towers building admeasuring approximately 327 sq. mtrs will also be vacated once the Board laboratory is shifted to the new premises at Saligao. She further stated that the work of the laboratory on the 1st and 2nd floors at the new premise at Saligao is in progress.

After deliberations it was decided to rent the Board premise located at Dempo Towers on the fourth floor, admeasuring approximately 327 sq. mtrs. Subsequent to shifting the laboratory to the new premises at Saligao, to any Government Department for a period of five years on a monthly rent of Rs. 3,00,000/- per month, with an increase in 10% annually.

III. With the permission of the Chair, the following was discussed:

Shri Shawn Martins, Board member stated that the Board is charging fees to hotels / guest houses having less than 10 rooms, and with regard to charging of fees for the establishments established in 1988 was also discussed. He further informed that tattoo shops should also be covered under the ambit for obtaining Consent of the Board, as these units utilise ink, which is considered as

Hazardous waste and syringes, which fall under the Bio-medical Waste Authorisation. He informed that he will submit the list of tattoo shops in Calangute for needful by the Board.

It was clarified that the same is as per the order of the National Green Tribunal, where all establishments are required to obtain Consent of the Board. As regards the fee structure it was informed that the unit has to submit the value of the land existing when the project proponent purchased the land and / or as per the Sale Deed / Valuer or Valuation cost. It was also submitted that those units which were operating without the Consent of the Board and have now applied for Consent are required to pay late fees for the years of operation.

It was informed that adequate publicity through news papers regarding the requirement for payment of late fees by the units was issued by the Board.

Shri Savio Messias, Board member has requested to fix a site visit of the Board members, as decided in the last Board meeting to the unit of M/s Adani Mormugao Port Terminal Pvt. Ltd., to oversee the loading and unloading activities at the Port, so as to get information on the activities carried out, with respect to pollution.

Chairman informed that the visit will be scheduled after the Ganesh festival and the members will be intimated accordingly.

IV. The meeting ended with thanks to the Chair.

MINUTES OF THE 135th BOARD MEETING HELD ON 2nd NOVEMBER, 2018, AT 3.00 PM.

1. The 135th meeting of the Goa State Pollution Control Board was held on 2nd November, 2018 at 3.00 p.m. in the Conference hall of the Goa State Pollution Control Board.
- II. At the outset, Member Secretary welcomed the Board members for the meeting. Thereafter the agenda items were taken for discussions.

Agenda item no. 01 - Confirmation of the Minutes of the 134th (Special) meeting of the Board held on 21st August, 2018

The minutes of the 134th meeting of the Board held on 21st August, 2018, meeting duly signed were forwarded vide this office letter no. 4/134/18-PCB/Admn/11433 dated 10/09/2018. The same were confirmed so as to enter in the minutes Book.

Agenda item no. 02. - Follow up action on the decision taken at the 134th (Special) meeting of the Board held on 21st August, 2018.

Agenda item no. 03 – Renting of the office premises at 1st and 4th floors of the Dempo Towers Bldg. at Patto, Panaji Goa. – The members noted that the draft agreement prepared by the Board office is been sent to the Law Department, Govt. of Goa for vetting

Items discussed with the permission of the Chair - A site visit of the Board members was scheduled to the Mormugao Port Terminal Pvt. Ltd. to oversee the loading and unloading activities at the Port on 21/09/2018.

The Managing Director (GSIDC) suggested that the Board that since the report is not available on record a comprehensive agenda be placed before the Board indicating all the observations made by

the members who visited the site including all AAQM reports and status of court cases and compliance / non compliance of various directions issued by the Board.

The Member Secretary informed that the visit was a long pending visit and no report was generated. Member Secretary requested the members to share their experience of the visit.

The Members shared their experience of the visit to the unit of M/s Jindal South West Port, it is was informed by the members that they were satisfied by the work carried out by the unit at the Port, it was further informed that they walked the entire berth and found it to be well maintained. The members suggested that the Continuous Monitoring station of JSW which is close to the berth requires to be re-located, as the same is very close to the handling activities. Mr.Raj Singh Rane mentioned that the NAMP Station is also situated very close to M/s Adani Port and road, and may need to be shifted.

Further the members also suggested that measures needs to be taken by M/s Adani to minimize the dust pollution. Members were informed that officials of the Central Pollution Control board had visited the site for this purpose.

The Chairman informed the members that the Port was also visited by the members of the Technical Advisory Committee on 20/09/2018, and a report in this regard has been prepared. Members desired to have a report prepared by the TAC of the Board. Chairman agreed to submit a copy of the same.

Agenda item no. 03. - Approval of the Revised Budget Estimates of the Goa State Pollution Control Board for the financial year 2018-2019

At the request of the Member Secretary, the Assistant Accounts Officer of the Board presented the Revised Estimate for the financial year 2018-2019, amounting to Rs. 2,377.71 lakhs.

Member of the board desired to know if any grants are received by the Board for the financial years. It was informed that no grants were received for the current financial year. However, the share of the Board towards the Water Cess is also stopped by the Ministry of Environment and Forests, Govt. of India, consequent to the implementation of GST

Agenda item no. 4 - Complaint of Mr. Gabriel Fernandes against M/s Jolly Metals (a stone crushing unit)

The brief facts of the issue were placed before the Board as follows:

Mr. Gabriel Fernandes had preferred Application no. 130/2015 before the National Green Tribunal (NGT), Western Zone at Pune, alleging that the stone crushing unit of M/s Jolly Metals (Respondent No. 3) located at Mullem, Paroda. Quepem - Goa, was being operated in violation of conditions as contained in Consent to Establish order dated 13/10/2006 issued by the Board to it under the Water Act and the Air Act and without Consent to Operate by the Board which is required under the Water Act and Air Act.

The Applicant vide the said application has alleged that the Respondent stone crushing unit was being operated in a manner that was causing dust and noise pollution in the vicinity. Vide the said application, the applicant prayed that the Tribunal direct the closure of the stone crushing unit.

Subsequently, the Board had issued Show Cause Notice dated 18/08/2016 to the Respondent

stone crushing unit directing it to show cause as to why action under the Water Act and Air Act should not be initiated against the unit for violation of the conditions of Consent to Operate as granted to it by the Board.

Accordingly, the parties were heard by the Complaint Committee of the Board on this show cause notice, upon which the Complaint Committee placed the recommendations before the Member Secretary.

The Board vide letter dated 07/02/2017 informed the Applicant and the Respondent stone crushing unit that the recommendations of the Complaint Committee had been accepted, further stringent legal action was decided to be initiated against the unit for initially operating without the Board's Consent and that the unit would be randomly monitored to ensure compliance of the Board's Consent conditions.

The Respondent stone crushing unit then preferred Writ Petition no. 227/2017 before the High Court of Bombay at Goa challenging the Board's decision dated 07/02/2017. The Hon'ble High Court vide order dated 12/04/2017 was pleased to quash and set aside the Board's decision dated 07/02/2017 and granted the Board liberty to give a hearing to the Petitioner and concerned parties with regard to Show Cause notice dated 20/08/2016 and to take a fresh decision in accordance with the Law.

The stone crusher unit i.e. M/s. Jolly Metals filed an application no. 130/2015, before the NGT at Pune. The Hon'ble NGT vide order dated 27/10/2017 disposed off, with a direction that the Goa State Pollution Control Board hears all the concerned parties on all grievances raised by Mr. Gabriel Fernandes in application no. 130/2015. It is further informed that the parties have waived notice of hearing on all grounds mentioned in the application and they were to appear before the Board on 05/11/2017 at 4.30 pm .

The parties were directed to appear before the Chairman on 08/11/2017, 06/12/2017 and 19/01/2018. During the hearing held on 19/01/2018, both the parties requested that the matter be heard before the Board. Accordingly, both the parties were called to submit their say before the Board so as to take an appropriate decision.

Adv. Kaif Noorani appeared before the Board on behalf of M/s. Jolly Metals while Adv. Jeetendra Supekar appeared before the Board on behalf of the complainant Shri. Gabriel Fernandes.

The Member Secretary requested both the parties to submit their say on the grievances raised in application no. 130/2015 filed before the NGT and with regard to the contents of the additional affidavit dated 11/07/2016 filed before the NGT in the said matter, in terms of the directions of the NGT (Western Zone Bench) as contained in Order dt. 27/10/2017 passed in OA/130/2015.

Adv. Supekar on behalf the complainant submitted as follows:-

1. He states that the unit of M/s. Jolly Metals which is a stone crushing unit categorized as a Red Category Industry was operating without the mandatory Consent to Operate of the Board as required under the Water Act and the Air Act from the year 2006 upto 2015. He stated that such operation by the unit was illegal and amounted to a violation of the Water Act and the Air Act and was a punishable offence under these Acts. He stated that the Board has not initiated any action against the unit operator for this violation in spite of being aware of the same.

2. He stated that the Consent to Operate granted to the unit was not placed before the GSPCB at its regular meeting and was granted by some officer of the Board without authority.
3. He stated that Consent to Establish was issued to the unit by the Board in 2006 which subsequently lapsed; however the GSPCB in spite of the Consent to Establish having lapsed has granted the unit Consent to Operate in 2015. He stated that the GSPCB is itself on record stating that the unit in question is operating in violation of the Consent to Operate order issued in the year 2015, pertaining to non submission of AAQM reports.
4. He stated that the unit in question has produced material in excess of the quantity stipulated in the Consent to Operate Order issued in 2015. He relies on an inspection report dt. 21/10/2015 submitted by the Board to the NGT vide its affidavit filed in OA no. 130/2015. Vide the said affidavit it is stated that the granite boulders for a quantity of 825 MT per month was produced. However he states that Consent to Operate Order dt. 19/11/2015 indicates that Consent was granted for production of 375 M3/month of granite.

Adv. Kaif Noorani on behalf of stone crushing unit of M/s. Jolly Metals submits as follows:-

1. He states that the Consent Order issued by the Board in 2015 has not been challenged by the complainant till date.
2. He states that the issue regarding initiating action for operation without Consent by the unit was recommended by the Boards Compliant Committee and accepted by the GSPCB vide letter dated 7/2/2017.
3. He states that this decision of the Board dt. 7/2/2017 for initiating action on the unit for operating without Consent was challenged by him before the High court of Bombay at Goa vide WP/227/2017.
4. He states that Hon'ble High court vide judgment dt. 12/4/2017 was pleased to quash and set aside the Board's decision dt. 7/2/2017 and granted liberty to the Board to give a hearing to the unit and the complainant with regard to a Show cause Notice dated 18/8/2016 and to take a fresh decision in accordance with law.
5. He states that the unit has complied with all the requirements of the Consent to Operate order issued in 2015.
6. He further states that as far as issue of Consent to Operate in the year 2015 is concerned the same is valid as it is issued by the Member Secretary of the Board who is a responsible official of the Board.

The Board members desired to know the present status of implementation of pollution control measures at the site of the unit and queried both the parties as to whether they would consent to conducting of a joint site inspection of the unit along with the Board officials to ascertain the present site condition.

Both the parties agreed to participate in a joint site inspection.

The Board members informed the parties that the date of the site inspection would be communicated to them and after receiving the report of inspection the Board would take a further decision in the matter.

Agenda item no. 5 - Application cum request for conduct of Environmental Public Hearing with regards to establishment of a Marina Ahoy Marina to facilitate small boats / yachts/ craft parking and maintenance in MPT water spread area at Nauxim, District North Goa, of M/s Kargwal Construction Pvt. Ltd. from MoEF&CC

The Member Secretary informed the members that M/s Kargwal Constructions Pvt. Ltd. had submitted an application to the Board with a request to conduct Environmental Public hearing with respect to establishment of a Marina Ahoy Marina to facilitate small boats / yachts/ craft parking and maintenance in MPT water spread area at Nauxim, District North Goa. The office vide letter dated 07/11/2017 directed the project proponent to clarify with regards to the details of land allotted for access to Marina or land in their possession for access to the Marina. The project proponent vide letter dated 15/11/2017 clarified on the queries raised by the Board. Further, vide letter dated 11/06/2018 Ministry of Environment, Forests and Climate Change (MOEF&CC) was asked to clarify if the Board can conduct the Environmental Public hearing in view of the decision of the Principal Bench of National Green Tribunal (NGT) in the matter of M/s Mehdad & Anr v/s MOEF&CC and ors. which stated that “ It is suggested by MOEF&CC that the States should not grant Environmental Clearance for development activity which falls within the permissible area/regulated area as that may result in defeating the entire exercise.” MOEF&CC vide letter dated 19/09/2018 has stated that there is no embargo/injunction in the process of Environmental or CRZ Clearances, by the order dated 22/11/2017 of the Hon'ble NGT in the stated matter and the process for Environmental hearing should continue.

The Managing Director (GSIDC) pointed out that this is an old application submitted to the SPCB to conduct EPH and matter is placed now for decision. He also raised concern if the project proponent has in possession of land on landward side and approach road including ownership of proposed project site under reference.

As the GSPCB has no role to play in verification of documents submitted with regard to EC at this juncture, it was decided to forward the proposal to the District Magistrate / District Collector to fix a suitable date for conduct of the Environmental Public Hearing.

Agenda item no. 6 - Categorisation of the unit of M/s MRF Ltd., Usgao in Orange Category

The Member Secretary informed the members that the Central Pollution Control Board had classified the industries into Red Orange, Green and White classified. The industries / sectors which are not categorised are required to be calculated based on the guidelines issued by CPCB regarding the water Air and Hazardous pollutant levels.

She further informed the members that the tyre manufacturing unit which was earlier classified under red category in 2011 was not featuring in the revised classification. It was therefore required to categorise this industry on the scores calculated with regard to the pollutants based on the scoring methodology specified under the revised classification of the year 2016 by CPCB.

Based on the details of the water, air & hazardous waste pollutants, and also referring to the Comprehensive Industry Document Series COINDS/67/2007 issued by Central Pollution Control Board, the scores were calculated which stand as follows:

1.	Water Pollution Score (W)			
	Scores	Waste Water Category	Value	
	Score on W1	W13	20	
	Score on W2	-	0	
Water Pollution Score = W1+W2				
2.	Air Pollution Score (A)			
	Scores	Air Pollutant Category	Value	
	Score on A1	A1D	15	
	Score on A2	--	10	
Air Pollution Score = A1+A2				
3.	Hazardous Waste Score (HW)			
	Score	HW Category	Value	
	HW	HW4	10	
Grand Total = W + A + HW				55

Member Secretary further informed the members sign ehte activity

The Member Secretary brought to the notice of the members that this was forwarded to Central Pollution Control Board. A reply was received from Central Pollution Control Board mentioning that a committee consisting of technical and scientific members be constituted and the scores be calculated based on the procedures defined in the classification.

Since such a committee consisting of technical and scientific members already existed in the form of Technical Advisory Committee, the matter was placed before TAC.

It was further informed that the Industrial sectors having Pollution Index score of 41 to 59 are required to be categorised as Orange category, and TAC of the board has recommend for the unit to be categorised under Orange Category.

Shri Srinet Kothwale, Managing Director, Goa State Infrastructure Development Corporation pointed out that the unit as a whole cannot be categorised in orange category as specified in the agenda items but the activity of industry needs to be examined in terms of the modified directions of CPCB dated 07/03/2016 and thereafter including OSHA limits for rubber dust, rubber fumes etc. He pointed out that the product under orange category “manufacture of tyres tubes and flaps” and “manufacture of rubber products should be categorised as Red category industries so as to maintain uniformity in categorisation.

The Chairman opined that such kind of industry manufacturing tyres tubes flaps etc having a much higher scale of operation and having overall waste water generation of 100 KLD or more could be classified in Red category.

After deliberations, it was agreed to classify the unit of M/s. MRF Ltd., Usgao engaged in the process of tyre manufacture under Orange category, based on the pollution index score as per the guidelines of Central Pollution Control Board.

Agenda item no. 7- Applications received by the Board from private shack/huts owners for obtaining Consent to Establish of the Board.

The Member Secretary informed the members that Board receives applications from private shacks/huts owners for obtaining Consent to Establish under Water and Air Acts, without the NOC of Village Panchayat, and GCZMA. In this regard the Environmental Engineer clarified that under the CRZ Notification, NOC from Pollution Control Board is mandatory to grant CRZ clearance for these shacks/huts. Further, Panchayat does not issue the NOC without NOC from CRZ hence the Board may consider the processing the application for grant of Consent to Establish as they are temporarily structures and consider the Panchayat NOC and GCZMA NOC to grant Consent to Operate.

Shri. Srinet Kothwale, Managing Director, Goa State Infrastructure Development Corporation pointed out that dispensing with the requirement of NOC from local bodies would be violation of the Air Rules and Water Rules and this would be taken as precedent for industries/activities seeking Consent to Establish/Operate outside industrial estate.

The Members were of the opinion that since obtaining permissions from Village Panchayat and Goa Coastal Zone Management, take some time it is not possible to submit the NOC of the two authorities when applying for Consent to Establish.

After deliberations it was decided that since the shack/huts are temporary structures and seasonal, the Board shall grant provisional Consent to Establish for a period of three months, during which time the shack owner is required to obtain the required clearances, and apply for Consent to Operate with pre-requisite documents, prior to commencement of the activity.

Agenda item no. 8 - Categorization of Cement Godowns in White category

The Member Secretary informed that members that the Central Pollution Control Board had classified the industries. As for industries which are not categorised, scores are required to be calculated for such industries and approved by the Board.

She further informed the members that the activity of cement godowns are not specifically categorised, the process details alongwith the details of emissions and waste water were placed before TAC, based on the said details the scores were calculated, which stand as follows:

1.	Water Pollution Score (W)			
	Scores	Waste water category	Value	
	Score on W1	-	0	
	Score on W2	-	0	
	Water Pollution score = W1 + W2			0
2.	Air Pollution Score (A)			
	Score	Air Pollutant category	Value	
	Score on A1	AIF	10	
	Score on A2	-	0	
	Air pollution score = A1 + A2			10
3.	Hazardous Waste score (HW)			
	Score	HW category	Value	
	HW	-	0	0
	Grant Total = W + A + HW			10

It was further informed that the Industrial sectors having Pollution Index score upto 20 are required to be categorised as White category, and TAC of the Board has recommend for the same.

The Managing Director GSIDC pointed out that loading and Unloading points of cement are full of dust pollution and such storage units should be located outside residential zone. Further the board should suggest dust mitigation measures to the planning and local authorities.

After deliberations, it was decided to classify cement godowns under White category, based on the pollution index score as per the guidelines of Central Pollution Control Board. It was further decided that the Board shall not accept any complaints with regard to cement godowns and the same shall be referred to the Town and Country Planning Department and local authorities for necessary action.

Agenda item no. 9 - Application for Consent to Operate (for the operation of pilot plant with a capacity of 15 TPA) under the Air Act and the Water Act of M/s Deccan Fine Chemicals (I) Pvt. Ltd. located at Survey No 28, Santa Monica Works, Corlim, Ilhas-Goa.

The Member Secretary informed the members that M/s Deccan Fine Chemicals (I) Pvt. Ltd. has submitted an application for Consent to Operate under the Water Act and the Air Act for operation of pilot plant with capacity of 15 TPA.

She further informed that the said application was placed before Technical Advisory Committee of the Board on 24/09/2018 and the Committee has recommended for grant of Consent to Operate.

After deliberations members approved for grant of Consent to Operate under the Water Act and the Air Act to M/s Deccan Fine Chemicals for their pilot plant with a capacity of 15 TPA.

Agenda item no. 10 - Application for Consent to Operate under the Air Act and the Water Act of M/s Deccan Fine Chemicals (I) Pvt. Ltd. (change in product mix.) located at Survey No 28, Santa Monica Works, Corlim, Ilhas-Goa.

The Member Secretary informed the members that M/s Deccan Fine Chemicals (I) Pvt. Ltd. has submitted an application for Consent to Operate under the Water Act and the Air Act for change in product mix. i.e the unit has capacity to manufacture 3500 TPA Thiamethoxam and 2300 TPA Pretilachlor. The unit intends to utilise production capacity of 500 TPA Pretilachlor out of 2300 TPA and manufacture 500 TPA Thiamethoxam thereby increasing production quantity of Thiamethoxam to 4000 TPA and reducing quantity of Pretilachlor to 1800 TPA

She further informed that the said application was placed before Technical Advisory Committee of the Board on 24/09/2018, and the Committee has recommended for grant of Consent to Operate upon submission of certificate from Birla Institute of Technology & Science, Pilani, Goa campus for no increase in pollution load.

After deliberations members approved for grant of Consent to Operate under the Water Act and the Air Act to M/s Deccan Fine Chemicals (change in product mix.)

Agenda item no. 11 - Application for Consent to Operate (change in product mix – 2000 TPA CPTAP and in lieu of 1400 TPA Cuman and 600 TPA Pretilachlor) under the Air Act and the Water Act of M/s Deccan Fine Chemicals (I) Pvt. Ltd. located at Survey No 28, Santa Monica Works, Corlim, Ilhas-Goa.

The Member Secretary informed the members that M/s Deccan Fine Chemicals (I) Pvt. Ltd. has submitted an application for Consent to Operate under the Water Act and the Air Act for change

in product mix. i.e change in product mix – 2000 TPA CPTAP and in lieu of 1400 TPA Cuman and 600 TPA Pretilachlor.

She further informed that the said application was placed before Technical Advisory Committee of the Board on 24/09/2018, and the Committee has recommended for grant of Consent to Operate

Agenda item no. 12 - Application of M/s M. K. Aromatics (Project Goa Polymer) Survey no. 310/1A, Pernem Municipal Council Solid Waste Management Facility, for Consent to Establish under the Water Act and the Air Act.

The Member Secretary informed the members that the Board is in receipt of an application from M/s M.K. Aromatics (Project Goa Polymer), for Consent to Establish under the Water Act and the Air Act, for the Manufacture of synthetic crude polymer oil – 300 tons/month from waste plastic.

The Members approved for grant of Consent to Establish under the Water Act and the Air Act to M/s M.K. Aromatics (Project Goa Polymer).

Agenda Item no. 13 - Operation of mine unit namely Shakti Bauxite Mine TC no 4/NSD/BAUX located at Villages Betul, Naqueri, Quitol, Morpila, Fatorpa & Velim, Quepem Taluka,.

The Member Secretary informed the members that the unit of Shri Pravin Kumar Gosalia – Shakti Bauxite Mine, as per the decision taken by the Board during the 133rd meeting held on 29/06/2018 was directed to submit a Bank Guarantee for Rs. 50,00,000/- for carrying out Short and Medium Term measures at his mine site. Since the unit has not complied with the directions of the Board for initiating short and medium term measures, the Bank Guarantee submitted by the mine unit was en-cashed. Shri. Pravin Kumar Gosalia also filed Writ Petition no. 903/2018 against the Board before the Hon'ble High Court and the same is presently pending.

A brief Chronology of events regarding the issue was presented to the Board as follows:-

1. A renewed Consent to Operate, under the Water Act and the Air Act was granted on 06/11/2017 to the mine unit of Shri. Pravin Kumar Gosalia (Shakti Bauxite mine, bearing TC no. 4/NSB/BAUX) located at Betul Village Naqueri, Quitol, Morpila, Fatorpa and Velim at Quepem Taluka south Goa for the extraction, processing and transportation of 1 Million Tons of bauxite (metallurgical grade/non metallurgical grade).
2. This renewed Consent to Operate was granted by the Board with a specific condition as follows: '.... (xxvi) . The mining company shall submit Bank Guarantee amounting to Rs.50 lakhs within a period of 10 days of receipt of this Consent for ensuring compliance of Short Term and Medium Term plan of action as submitted in consultation with IIT Dhanbad with stipulated time limits. In the event the Bank Guarantee is not submitted within 10 days the Consent shall be revoked. ...'
3. Subsequently, the mine unit has submitted Bank Guarantee bearing no.00512BG0000075 dt 10/11/2017 for an amount of Rs. 50/- lakhs (Rupees fifty lakhs only).
4. Thereafter, a site inspection of the mine unit was conducted on 29/11/2017 and 15/02/2018, at which time of point it was observed that the mine unit has not complied with the Short Term and the Middle Term measures as stipulated in the conditions of the renewed consent to operate order dated. 06/11/2017.

5. Thereafter, the mine unit was issued a Show Cause Notice dated 30/05/2018 directing it to show cause as to why the Bank guarantee bearing no.00512BG0000075 dt 10/11/2017 for an amount of Rs. 50/- lakhs (Rupees fifty lakhs only) should not be forfeited.
6. The mine unit had submitted a reply to the Show Cause Notice dt. 21/06/2018.
7. This issue was placed before the Board at its 133rd meeting held on 29/06/2018. During the said meeting the Board after considering the above has decided that the mine unit had not complied with the Short Term and Medium Term measures and as such the Bank Guarantee submitted by them would required to be forfeited. Thereafter, the Board proceeded to forfeit the said Bank Guarantee.
8. The Board was then in receipt of legal notice dated. 31/08/2017 from the Advocate of the mine unit requesting the Board to refund/reimburse the mine unit the amount of Rs.50/- lakhs (Rupees fifty lakhs) failing which the mine unit would be constrained to approach the court of law to seek reimbursement of the amount within an interest at the rate of 24% from the date of its forfeiture till actual payment.
9. In this regard, the Board vide letter dt. 12/09/2018 requested the Advocate of mine unit to remain present before the Member Secretary for a Personal Hearing on the matter on 20/09/2018. However, vide email dt. 20/09/2018 the Advocate conveyed his inability to attend the said Personal Hearing and requested for a further date. Accordingly the Personal hearing was scheduled before the Member Secretary on 26/10/2018.
10. Thereafter, the mine unit preferred a Writ Petition no. 903/2018 before the Hon'ble High Court of Bombay at Goa seeking directions for setting aside the Board's decision and order, forfeiting its Bank Guarantee. Vide Order dated 30/10/2108 passed in WP/903/2018 the Hon'ble High Court observed that there is a meeting of the Board scheduled on 02/11/2018 which may have a bearing on the controversy.
11. During the said hearing the unit submitted written reply/submissions to the Personal Hearing dt. 26/10/2018. On hearing the representative of the unit the Member Secretary decided that since the decision for forfeiting the Bank Guarantee was taken by the Board during its 133rd meeting held on 29/6/2018, the unit would require to remain present before the Board for submission of their say at the next meeting of the Board to be held on 2/11/2018, so as to enable the Board to deliberate and taken an appropriate action.
12. Accordingly the unit has been directed to remain to present before the board at today's meeting in order to submit their say on the issue of revocation of the Bank Guarantee.

Shri. Pravin Gosalia along with his Adv. Kaif Noorani appeared before the Board .

At the outset the unit representative stated that he reiterates the submissions made in the Writ Petition bearing no. 903/2018 and in his written submissions dated 26/10/2018 filed before the Member Secretary. The unit representative briefly submitted as follows:-

- a. The Board has not followed the principles of natural justice while forfeiting the Bank Guarantee in question.
- b. The Board does not have any authority in law for revoking the Bank Guarantee or for even imposing the same.

- c. The Bank Guarantee was encashed by the Board as penalty which cannot be imposed by the Board as the same does not fall under the provisions of the Chapter vii and chapter vi of the water Act and the air Act.
- d. The unit representative specifically submitted that the Bank Guarantee in question have been forfeited by the Board on account of alleged violation of Consent condition no. 6 (xvi) i.e. non compliance Short Term and Medium Term plan of action. However he submits that this condition has to be read along with condition no. 6(xiv) i.e. the mining company should jointly/severally complete the Short Term/Medium Term measures before commencement of mining operations.

To a specific question from the Board members as to whether the mine unit was in operation after grant of Consent to Operate on 06/11/2017 the unit representative submitted that the mine unit has not been operated since the grant of Consent and as such on a bare reading of Consent condition no 6(xvi) 6 (xiv) the Bank Guarantee could not have been forfeited as the mine unit could be required to carry out the Short Term and Medium Term measures only after commencement of mining operations.

The Member Secretary of the Board specifically directed the mine unit owner Shri. Pravin Gosalia to state before the Board as to whether the mine unit had carried out transportation of bauxite after issue of Consents dated. 6/11/2017 Shri. Gosalia acknowledged that the mine unit had in fact carried out transportation of bauxite after receipt of the Consent to Operate Order dtd. 06/11/2017. This statement was taken on record before the Board.

The mine unit was further queried by the members as to why condition for the Bank Guarantee as imposed in the Consent to Operate order was not objected to by them at the time of grant of Consent; to which the mine representative replied that his failure to object would not amount to a waiver of his rights and contentions.

The Mine unit representatives thereafter noted their presence at the hearing and left.

Thereafter, the Board members deliberated and discussed the issue in detail particularly all the aforesaid documents placed before it as well as the submissions made by the unit and its representative. The Board members were of the firm opinion that the documents available with the Board clearly indicates that the mine unit was required to carry out Short Term and Medium Term plan of action/measures for which the Bank Guarantee in question was submitted. These measures primarily related to Air pollution control measures for controlling of pollution caused by the extraction, processing & transportation of bauxite (for which the Consent was granted).

By the units own submissions these measures were required to carry out by the mine unit only after commencement of mining operations.

The mine owner himself admitted that he has carried out transportation of bauxite after grant of the Consent to Operate.

It is abundantly clear from the reading of the Consent Order that the Consent in question dated 06/11/2017 was granted for the extraction, processing and transportation of bauxite by the mine owner. The admission by the mine unit that he had transported bauxite is a clear admission that it had commenced operation without complying with/implementing the Short Term and Medium Term measures.

This is a clear violation of Consent conditions and as such was a valid ground for revocation of the Bank Guarantee.

Further the members noted that the documents with the Board and submissions by the mine unit clearly indicate that the short term and medium term measures were not complied with.

In light of the above the Board members decided to reject the submissions of the unit representative and decided to uphold the decision of the Board for revocation of the Bank Guarantee in question.

Agenda item no. 14 - Revision of the Delegation of powers by the Board to its Officers

The Member Secretary informed that members that the Board at its 121st (Special) meeting of the Board held on 29th June, 2016 had delegated powers to certain officials of the Board for better operation and smooth functioning of the Board as being followed by other State Boards. The powers have been delegated by the Board in terms of the provisions of section 15 of the Air (Prevention and Control of Pollution) Act, 1981 and section 12 (3-B) of the Water (Prevention and Control of Pollution) Act, 1974, as being presently followed by the other State Boards. Accordingly, vide office order no. 1/5/15-PCB/Vol.XXII/Admn/9274 dated 19/08/2016, Amendment no. 1/5/15-PCB/Vol.XXII/Admn/9642 dated 26/08/2016 and office order no. 1/5/15-PCB/Vol.XXII/Admn/13212 dated 19/10/2016.

She further informed that since the Board had migrated to the new software i.e OCMMS (On line Consent Management and Monitoring System), which is presently being followed by other State Boards, it is required to ensure smooth and timely functioning of the Board. As such it was required to re-delegate the powers to the Board officials 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.	1. With respect to Red category units (Large - New) – Member Secretary with approval of the Board. (Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary.)
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.	Red category units (Large) – MS with approval of Chairman (Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary.)
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.	Red Category units (Medium, Small and all Renewals of Consents of all Red Category units) – Member Secretary. (Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary)
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.	2. All Orange Category units (Small, Medium, Large and all Renewals) – Environmental Engineer (Dr. Mohan Girap, Scientist 'C' shall be the Link Officer for the Environmental Engineer in this regard and shall be authorized to exercise these powers in absence of the Environmental Engineer)
		3. All Green Category units (Small, Medium, Large and all Renewals) – Scientist 'C' (Dr. Mohan Girap) (Smt. Jenica Sequeira, Scientist 'C', shall be the Link Officer for the Scientist 'C' Dr. Mohan Girap, Scientist 'C' In this regard and shall be authorized to exercise these powers in absence of the Dr. Mohan Girap, Scientist 'C')

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	<p>1. Member Secretary shall be the authorized officer 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 Red category units. (Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary.)</p> <p>2. Environmental Engineer shall be the authorized officer 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 Orange category units. (Dr. Mohan Girap, Scientist 'C' shall be the Link Officer for the Environmental Engineer in this regard and shall be authorized to exercise these powers in absence of Environmental Engineer)</p> <p>3. Dr. Mohan Girap, Scientist 'C' shall be the authorized officer 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. (Smt. Jenica Sequeira, Scientist 'C' shall be the Link Officer for the Scientist 'C', Dr. Mohan Girap in this regard and shall be authorized to exercise these powers in absence of Dr. Mohan Girap, Scientist 'C')</p>
7.	Power to carry out certain works section 30 of the Water Act	Member Secretary
8.	Power to take emergency measures section 32 of the Water Act and Section 23 of the Air Act	Member Secretary
9.	Power to give sanction to make application to the Court for restraintment of the Board section 33 of the Water Act & section 22 of the Air Act	Chairman
10.	Power to give direction section 33 (A)-of the Water Act & Section 31 (A) of the Air Act, with regard to subjects other than those related to Consent to Operate.	Member Secretary with approval of Chairman.
11.	Sanction for making complaint to the Court Under Section 49 of the Water Act & Section 43 of the Air Act.	Chairman

11. a	Officer authorized to file complaint before appropriate Court of Law under provisions of the Water Act and the Air Act including under section 49 of the water Act and Section 43 of the Air Act in respect of matters other than those that relate to Red, Orange or Green category of industrial units.	Member Secretary
12.	BIO MEDICAL WASTE (MANAGEMENT AND HANDLING) RULES	
a.	Conduct enquiry on applications for authorization	Miss Connie Fernandes (Scientist 'C') (Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes Scientist 'C')
b.	Power to grant, refuse, renew, suspend or cancel authorization	
c.	Power to ensure compliance with all provisions of the BMW Rules pertaining to the GSPCB.	
13.	SOLID WASTE MANAGEMENT RULES	
a.	Conduct enquiry on applications for authorization	Miss Connie Fernandes (Scientist 'C') (Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')
b.	Power to grant, refuse, renew, suspend or cancel authorization	
c.	Power to ensure compliance with all provisions of the SMW Rules pertaining to the GSPCB.	
14.	PLASTIC WASTE RULES	
a.	Monitoring of implementation of rules by local bodies and authorities, preparation and submission of annual report to CPCB and State Governments	Miss Connie Fernandes (Scientist 'C') (Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')
b.	Granting of authorizations to CDW processing facility	
c.	Power to ensure compliance with all provisions of the C and D Waste Rules pertaining to the GSPCB.	
15.	NOISE POLLUTION RULES	
a.	Collection, compiling, publishing technical and statistical data reg. noise pollution and devising measures for prevention control and abatement.	Miss Connie Fernandes (Scientist 'C') Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')
b.	Noise monitoring	
c.	Power to ensure compliance with all provisions of the Noise Rules pertaining to the GSPCB.	
17.	BATTERIES (MANAGEMENT AND HANDING) RULES	
a.	Accepting yearly and half yearly report from battery manufacturer, importer, assembler, reconditioned, dealer, recycler, bulk consumer and bulk purchaser	Miss Connie Fernandes (Scientist 'C') Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')

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.	E-WASTE MANAGEMENT RULES	
a.	Conduct enquiry on clearance applications rule 13	Miss Connie Fernandes (Scientist 'C') Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')
b.	Power to grant, refuse, renew, suspend or cancel authorization '	
19.	NODAL OFFICER FOR STP AND ETP	
a.	Performance Evaluation	Shri. Sanjay Kankonkar, Scientist 'B'. Smt. Francisca Pereira, Scientist 'B' shall be link officer for Sanjay Kankonkar, Scientist 'B'. and shall be authorized to exercise these powers in absence of Smt. Francisca Pereira, Scientist 'B'
b.	National Water Monitoring Prorgamme	Dr. Mohan Girap, Scientist 'C'. Mrs. Francisca Pereira, Scientist 'B' shall be link officer for Dr. Mohan Girap, Scientist 'C'
c.	National Ambient Air Monitoring Programme	Mrs. Francisca Pereira, Scientist 'B' Mr. Ganpat Naik, S.A shall be Link Officer to Mrs. Francisca Pereira, Scientist 'B'.
20.	CONTINUOUS MONITORING OF AMBIENT AIR QUALITY AND SAMPLE JOB ALLOCATION	Smt. Jenica Sequeira, Scientist "C". Miss Connie Fernandes, Scientist 'C' shall be link officer for Smt. Jenica Sequeira, Scientist 'C' and shall be authorized to exercise these powers in absence of Smt. Jenica Sequeira, Scientist 'C'
21.	ISSUE OF ANALYSIS REPORT	
a.	Carrying out analysis	All analyst accredited by the Board of National Board of Accreditation of laboratory. Authorized signatory Scientist 'B' and/ or accredited analyst recognized under Environment Protection Act, 1986 and NABL and under NABL Scientist 'C', Scientist 'B'.
b.	Purchase and issue of Purchase Orders of chemicals, equipments, maintenance of equipments, annual maintenance of contract and glassware and certification of bills.	
i.	*upto Rs. 1 lakh	Smt. Jenica Sequeira, Scientist 'C' with approval of AAO
ii.	* above Rs. 1 lakh upto 2 lakhs * 2 lakhs and above	A.A.O with approval from M.S or Chairman A.A.O with approval from M.S and Chairman
c.	Issue of letters, communications, inquiry with regards to the Scientific section	Smt. Jenica Sequeira, Scientist 'C'
d.	Board Water Laboratory	
e.	Board Air Laboratory	

f.	Verification of the analysis, compilation and analysis of report of Water, Air and other reports and forwarding the same to “CPCB under NWMP.	Smt. Jenica Sequeira, Scientist ‘C’. Miss Connie Fernandes, Scientist ‘C’ shall be link officer for Smt. Jenica Sequeira, Scientist ‘C’ and shall be authorized to exercise these powers in absence of Smt. Jenica Sequeira, Scientist ‘C’
g.	Verification of the analysis, compilation and analysis of report of Air and forwarding the same to “CPCB under NAAQM	
h.	Verifying the online water monitoring report and initiating necessary action	
i.	Verifying the online air monitoring report and initiating necessary action	
j.	Verifying the Water monitoring report submitted by the industries and providing inference/opinion on the same.	
k.	Verifying the Air monitoring report submitted by the industries and providing inference/opinion on the same.	
l.	In charge of Conducting Stack monitoring	Smt. Francisca Pereira Scientist ‘B’ with the approval of Smt. Jenica Sequeira, Scientist ‘C’
m.	Submitting scientific opinion/ submission/inputs to the delegated authorities in-charge of granting Consents, Legal section, Member Secretary and Chairman as and when requested.	Smt. Jenica Sequeira, Scientist ‘C’. (Miss Connie Fernandes, Scientist ‘C’ shall be link officer for Smt. Jenica Sequeira, Scientist ‘C’ and shall be authorized to exercise these powers in absence of Smt. Jenica Sequeira, Scientist ‘C’
22.	TECHNICAL SECTION	
a.	Repairs, maintenance of vehicles, maintenance of boat, payment of petrol and diesel bills for vehicles and boat and certification of bills	E.E with approval of the A.A.O
b.	Maintenance of building	
23.	ACCOUNTS SECTION	
a.	Issue of letter for returning Bank Guarantees with approval of MS and Chairman,	AAO
b.	Payments of electricity/ water/ telephone bills, House tax, Building maintenance fees	A.A.O
c.	Maintenance of Bank Guarantee register, Return and forfeiture of Bank Guarantee	A.A.O
24.	ADMINISTRATIVE SECTION	
a.	Booking of tickets, Booking of accommodation at Goa Sadan, Goa Bhawan, booking of accommodation for attending Court matters	O.S
	Maintenance of attendance, approval of leaves of all staff except Section Heads	O.S

	Scrutiny of applications for posts	O.S.
	Training/Workshops	Section In-charge with approval of M.S/Chairman
25.	LEGAL SECTION	
a.	Attending of matters before courts of Law	S.L.O/ALO and Scientist 'C', Scientist, 'B', EE and only as and when required.
b.	Briefing of Boards Advocates.	S.L.O/ALO and Scientist 'C', Scientist, 'B', EE only as and when required.
c.	Issue of orders for appointment of Advocates	S.L.O
d.	Certification and approval of Advocate bills for appearance, Hotel accommodation, hiring of vehicles and other bills related to the court matter with after due verification by concerned officials and with approval of Chairman	S.L.O/A.L.O
e.	Processing and disposal of RTI applications	S.L.O/A.L.O
f.	Coordination and assistance to legal retainer of the Board.	JLO with approval of SLO
g.	Legal drafting vetting of legal documents, submissions of legal opinion/advice	ALO/SLO
26.	INFORMATION TECHNOLOGY SECTION	
a.	Purchase of all hardware and software	
i.	* upto Rs. 1 lakh	I.T Head with approval of A..A.O/M.S
b.	Issue of purchase orders	I.T Head with approval of A.A.O/M.S
c.	Annual maintenance	I.T Head with approval of A.A.O/M.S
i.	* upto Rs. 1 lakh	I.T Head with approval of A.A.O/M.S
ii.	* above Rs. 1 lakh	A.A.O/M.S with approval of Chairman.

- * Power to conduct personal hearings of parties / members of the public / representatives of units / complainants etc. in terms of the principles of Natural Justice, to effectively decide various issues pending for decision with the Board including decisions on public complaints and Consent applications have been delegated to the officials who have been delegated power to grant Consent under the Water and Air Act for various category of Industry.
- * In case of directives of the Courts/ Judicial Forums, the Chairman will hear the parties on behalf of the Board.
- * Link Officers:- wherever not specifically mentioned about the link officers for the following officials of the Board who will exercise the powers delegated to the aforesaid officials in their absence shall be as follows.

Name of the Officer	Link Officer
Member Secretary	Environmental Engineer
Environmental Engineer	Dr. Mohan Girap
Smt. Jenica Sequeira, Scientist 'C'	Miss Connie Fernandes, Scientist 'C'

Dr. Mohan Girap, Scientist 'C'	Smt. Jenica Sequeira, Scientist 'C'.
Ms. Connie Fernandes, Scientist 'C'	Smt. Jenica Sequeira, Scientist 'C'.
Smt. Francisca Pereira, Scientist 'B'	Shri Sanjay Kankonkar, Scientist 'B'.
Shri.Sanjay Kankonkar, Scientist 'B'.	Smt. Francisca Pereira, Scientist 'B'
Sr. Law Officer	Asst. Law Officer
Asst. Law Officer	Sr. Law Officer

- * Present handling of M. R functions with reference to Quality system/OSHAS and with reference to NABL system remain unchanged.
- * All other duties and responsibilities of the officers not specified in the order shall continue to remain in force..
- * In case of any minor discrepancies in the above, Chairman, GSPCB shall have discretion to make necessary changes.

The Members perused and approved the delegation of powers to its officials, so as to forward the same to the Department of Environment, Govt. of Goa, for issue of suitable Notification.

III. With the permission of the Chair, the following Table items were taken for discussions.

Table item no. 01

Deviated amount towards the construction of office cum building premises of the Board at Saligao.

At the request of Member Secretary, the Environmental Engineer placed before the members the progress of the construction of the office building. He further informed that there is a deviation in the tendered rates, due to the construction of the attic floor Attic floor which was missed out during estimation stage. Suspension of attic floor from roof beams resulted in heavier section for roof beams, to ventilate atrium. Aluminium sheets have been replaced with aluminium louvers which needed additional steel members etc. The deviated amount of civil and plumbing works till RA bill no. 08 works out to Rs. 85,98,796/-.

To pointed questions by the Board Member it is informed that the total cost of the roof is approximately Rs. 5.50 crores and the expected date of completion of the works is 31/12/2018, and the total expenditure incurred towards the construction of the building is approximately Rs. 17,14,23,002/- till date.

After deliberations members approved for incurring expenditure on the deviated amount towards the construction of the office cum laboratory building of the Board.

Table item no. 02

Application for Consent to Establish (expansion) under the Air Act and the Water Act of M/s Sukraft Re-cycling Pvt. Ltd., located at plot no. 26, Honda Industrial Estate, Honda, Sattari Goa.

The Member Secretary informed the Board that M/s Sukraft Re-cycling Pvt. Ltd. has submitted an application for Consent to Establish (expansion) in the manufacturing capacity of kraft paper, white kraft liner, water repellent and virgin top liner from 3000 MT/month to 7500 MT/month

After deliberations members approved for grant of Consent to Establish (expansion) under the Air Act and the Water Act to M/s Sukraft Re-cycling Pvt. Ltd

IV. Shri Shawn Martins, Board member brought the issue with regards to Guest houses having less than 10 rooms requiring to obtain Consent of the Board. He further stated that since the owners of the guest houses are small times households, they be exempted from submission of Affidavit, which they find it time consuming as the same has to be got notarised from a Notary. He also opined that the guest houses may be given the option to pay fees for 3, 5, 7, 10 and 15 years.

The Member Secretary clarified that the fees are being charged w.e.f. the date of Hon'ble NGT Order i.e. 2013. She also informed the members that the Board is in financial crisis and sought assistance of the Board members in generation of income to the Board. After deliberations it was decided that the fees for Consent to Operate from the Board may be charged as per the Circular issued in this respect. Further instead of an affidavit an undertaking may be obtained from such business, which will be included in the On-line Consent Management and Monitoring System.

Shri Shawn Martins also brought to the notice of the Board of the article published in the local news papers stating that as per the list issued by Central Pollution Control Board, 11 rivers in Goa are polluted.

It was informed that the Board monitors the water quality of the rivers in Goa and the findings have been brought to the notice of implementing department such as Public Works Department and Department of Environment for needful action.

V. The meeting ended with thanks to the Chair.

MINUTES OF THE 136th BOARD MEETING HELD ON 13th FEBRUARY, 2019.

1. The 136th meeting of the Goa State Pollution Control Board was held on 13th February, 2019 at 3.00 p.m. in the Conference hall of the Goa State Pollution Control Board.

II. At the outset, Member Secretary welcomed the Board members for the meeting.

Member Secretary informed the Members present that as per the Water (Prevention and Control of Pollution) Act, 1974, the members of the Board are nominated by their name and designation and that the meeting notice was sent to the members to remain present for the meeting in person.

Members informed that since the Government nominated members i.e the Directors cannot be present for the meeting due to their pre-occupation, they depute their sub-ordinates to attend the meeting.

Thereafter the agenda items were taken for discussions.

Agenda item no. 01 - Confirmation of the Minutes of the 135th meeting of the Board held on 2nd November, 2018

The minutes of the 135th meeting of the Board held on 2nd November, 2018, duly signed forwarded vide this office letter no. 4/135/18-PCB/Admn/15243 dated 23/11/2018 were confirmed so as to enter in the minutes Book.

Agenda item no. 02 - Follow up action on the decision taken at the 133rd meeting of the Board held on 29/06/2018

Agenda item no. 05 – Application of M/s South West Port Ltd. for Consent to Operate under Air Act and Water Act -

The Goa State Pollution Control Board has granted M/s Adani Mormugao Port Terminal Pvt. Ltd., Renewal Consent to dated 23/01/2018.

The said Renewed Consent Order, at condition no. 3(xiv), stipulates as follows;

“The Unit shall install a Continuous Ambient Air Quality System (CAAQMS) to measure parameters like PM₁₀, PM_{2.5}, CO, SO₂, NO₂, and submit Real Time Data to this Office’

M/s Adani Mormugao Port Terminal Pvt. Ltd installed a CAAQMS at MPT Colony, D Type Quarters, at Sada Vasco.

The Renewed Consent Order, at condition no. 4(vi), mandates that M/s Adani Mormugao Port Terminal Pvt Ltd is required to take adequate mitigation measures to control emissions and to achieve Ambient Air Quality Standards as follows;

PM₁₀ not to exceed 100 micrograms per m³ (24 hours average).

PM_{2.5} not to exceed 60 micrograms per m³ (24 hours average).

On perusal of the CAAQMS Real Time data from the CAAQMS installed by M/s Adani Mormugao Port Terminal Pvt. Ltd at MPT Colony, D Type Quarters, at Sada Vasco, as placed before the Board, it is seen that the values of PM₁₀ recorded on, 9/2/2019 is 168.47micrograms per meter cube, on 10/02/2019 is 171.01 47 micrograms per meter cube, on 11/2/2019 is 139.747 micrograms per meter cube and on 12/02/2019 is 132.974 micrograms per meter cube. These readings indicate that the Ambient Air Quality at Sada Vasco is exceeding the permissible limits of 100 micrograms per meter cube thereby indicating that M/s Adani Mormugao Port Terminal Pvt. Ltd has violated condition no. 4(vi) of the Renewed Consent to Operate Order dated 23/01/2018 issued to you by this Board.

The Board also carries out independent Ambient Air Quality Monitoring at Fuse Call station at Vasco and at MPT Fire Brigade Station. The reports of the this AAQM, as placed before the Board, indicate that the values of PM₁₀ on 5/2/2019 and 7/2/2019 at Fuse Call station at Vasco are 249 micro grams per meter cube and 126 micro grams per meter cube respectively and at MPT Fire Brigade Station the values of PM₁₀ on 5/2/2019 and 7/2/2019 are 390 micro grams per meter cube and 437 micro grams per meter cube.

These readings indicate that the Ambient Air Quality at Fuse Call station at Vasco and at MPT Fire Brigade Station is exceeding the permissible limits of 100 micrograms per meter cube thereby indicating that M/s Adani Mormugao Port Terminal Pvt. Ltd has violated condition no. 4(vi) of the Renewed Consent to Operate Order dated 23/01/2018 issued to them by this Board.

The Board also observed that there were windy conditions at Vasco from 1/02/2019 that continues till date and that M/s Adani Mormugao Port Terminal Pvt. Ltd has been carrying out handling of Coal at their facility at Berth no. 7 from 1/02/2019 till date, during the aforestated windy conditions.

After detailed discussions and deliberation and after considering the reports of monitoring as aforestated the Members concluded that M/s Adani Mormugao Port Terminal Pvt. Ltd. handling of Coal

at their facility at Berth No. 7 during the prevalent windy conditions has resulted in the deterioration of Ambient Air Quality standards at Vasco City which is indicated by the exceedances of PM10 as aforestated in the reports of monitoring.

Hence, the members have decided that in light of the deteriorating air quality in Vasco city, and the aforestated and enclosed reports of monitoring of AAQ, M/s Adani Mormugao Port Terminal Pvt. Ltd should be directed to temporarily suspend the handling of coal at their facility at Berth No. 7 forthwith. Members also decided that the management of M/s Adani Mormugao Port Terminal Pvt. Ltd should be directed to appear before the Board at its next meeting that is fixed on 21/02/2019 at 11:30 a.m. in order to Show cause as to why the Renewed Consent to Operate order dated 23/01/2018 issued to M/s Adani Mormugao Port Terminal Pvt. Ltd by this Board under the Air (Prevention and Control of Pollution) Act, 1981, should not be revoked.

It was further decided that the Member Secretary of the Board immediately convey the aforestated decisions of the Board to M/s Adani Mormugao Port Terminal Pvt. Ltd by way of directions under section 31(A) of the Air Act.

With respect to M/s South West Port Ltd, located at Berth no. 6(A), at MPT, Members observed that the Board had granted the unit Renewal Consent to Operate under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 dated 06/07/2018.

The said Renewed Consent Order, at condition no. 4(x), stipulates as follows;

“The Unit shall maintain and operate a Continuous Ambient Air Quality System (CAAQMS) and the data so generated shall be transferred to GSPCBs server on Real Time Basis.”

In this regard M/s South West Port Ltd has installed a CAAQMS at Berth no. 6(A).

The said Renewed Consent Order, at condition no. 4(xi), mandates that M/s South West Port Ltd is required to take adequate mitigation measures to control emissions and to achieve Ambient Air Quality Standards as follows;

PM₁₀ not to exceed 100 micrograms per m³ (24 hours average).

PM_{2.5} not to exceed 60 micrograms per m³ (24 hours average).

On perusal of the CAAQMS Real Time data from the CAAQMS installed by M/s South West Port Ltd at Berth no. 6(A), as placed before the Board, Members observed that the values of PM10 recorded on, 6/2/2019 and 7/02/2019 is 124.93 micrograms per meter cube and 155.61 micrograms per meter cube respectively. Further the members also observed that the above readings indicate that the Ambient Air Quality at Berth no. 6(A) is exceeding the permissible limits of 100 micrograms per meter cube thereby indicating that M/s South West Port Ltd has violated condition no. 4(xi) of the Renewed Consent to Operate Order dated 06/07/2018 issued to them by this Board.

The Board members observed that the Board also carries out independent Ambient Air Quality Monitoring at Fuse Call station at Vasco and at MPT Fire Brigade Station. The reports of the aforesaid AAQM as placed before the Board indicate that the values of PM10 on 5/2/2019 and 7/2/2019 at Fuse Call station at Vasco are 249 micro grams per meter cube and 126 micro grams per meter cube respectively and at MPT Fire Brigade Station the values of PM10 on 5/2/2019 and 7/2/2019 are 390 micrograms per meter cube and 437 micrograms per meter cube respectively.

The Board members observed that the above readings indicate that the Ambient Air Quality at Fuse Call station at Vasco and at MPT Fire Brigade Station is exceeding the permissible limits of 100 micro grams per meter cube thereby indicating that SWPL has violated condition no. 4(xi) of the Renewed Consent to Operate Order dated 06/07/2018 issued to them by this Board.

Members also perused the CAAQMS Real Time data from the CAAQMS installed by M/s Adani Mormugao Port Terminal Pvt. Ltd, at MPT Colony, D Type Quarters, at Sada Vasco, as placed before the Board. It was observed that the values of PM10 recorded on, 9/2/2019 is 168.47micrograms per meter cube, on 10/02/2019 is 171.01 47micrograms per meter cube, on 11/2/2019 is 139.747 micrograms per meter cube and on 12/02/2019 is 132.974 micrograms per meter cube. Members observed that these readings indicate that the Ambient Air Quality at Sada Vasco is exceeding the permissible limits of 100 micrograms per meter cube thereby indicating that SWPL has violated condition no. 4(xi) of the Renewed Consent to Operate Order dated 06/07/2018 issued to you by this Board.

Members also observed that there were windy conditions at Vasco from 1/02/2019 that continues till date.

Board members further observed that SWPL has been carrying out handling of Coal at its facility at Berth no. 6(A) from 1/02/2019 till date, during these windy conditions.

The Board at its 136th Meeting has discussed the aforesaid issue at length and has concluded that the handling of Coal at the facility at Berth No. 6(A) by SWPL during the prevalent windy conditions has resulted in the deterioration of AAQ standards at Vasco City which is indicated by the exceedances of PM10 at the aforesaid locations.

After detailed discussions and deliberation and after considering the reports of monitoring as aforesaid and as viewed by the members at the power point presentation, the members concluded that M/s SWPL handling of Coal at their facility at Berth No. 6(A) during the prevalent windy conditions has resulted in the deterioration of Ambient Air Quality standards at Vasco City which is indicated by the exceedances of PM10 as aforesaid.

Hence the members have decided that in light of the deteriorating air quality in Vasco city, and the aforesaid and enclosed reports of monitoring of AAQ, SWPL should be directed to temporarily suspend the handling of coal at their facility at Berth No. 6(A) forthwith. Members also decided that the management of SWPL should be directed to appear before the Board at its next meeting that is fixed on 21/02/2019 at 11:30 a.m. in order to Show cause as to why the Renewed Consent to Operate order dated 6/07/2018 issued to SWPL by this Board under the Air (Prevention and Control of Pollution) Act, 1981, should not be revoked.

It was further decided that the Member Secretary of the Board immediately convey the aforesaid decisions of the Board to SWPL by way of directions under section 31(A) of the Air Act.

Members also decided that the Officials of the Board conduct a discreet surprise inspection of the facilities of SWPL and M/S Adani at MPT to verify the factual situation as regards to pollution control measures and site conditions and submit this report to the Board at its next meeting on 21/02/2019.

In so far as the pending application for grant of Renewal of Consent to operate received from SWPL and placed before the Board is concerned; the Members decided that this application should be considered after taking a decision on the aforesaid Show cause notice/directions issued by the Board to SWPL.

Agenda item no. 03 - Follow up action on the decision taken at the 134th (Special) meeting of the Board held on 21/08/2018

Items discussed with the permission of the Chair - Member Secretary placed the report as prepared by the Technical Advisory Committee of the Board with regard to their visit to Port on the Table for perusal of the members.

Agenda item no. 04. - Follow up action on the decision taken at the 135th meeting of the Board held on 2nd November, 2018

Agenda item no. 3- Members noted that the Revised Estimates of the Goa State Pollution Control Board for the financial year 2018-19 were forwarded to the Department of Environment.

Agenda item no. 4 – Complaint of Mr. Gabriel Fernandes against M/s Jolly Metals – Members perused the inspection report of the inspection carried on 24/12/2018, as submitted by the officials of the Board. Member Secretary also placed on record the letter received by the Board from the Water Resource Department vide no. WRD/WDXII/Tech/F.15/1063/2018-19 dated 11/02/2019 stating as follows:

a.	The crusher is located within a distance of less than 5 metres from D2 – D3 Distributory canal of Salaulim irrigation Project
b.	Mandatory NOC is not obtained from WRD even though the crusher is located in close vicinity of the canal
c.	Encroachment and trespassing has been established upon WRD land by crushing unit and a complaint has been filed with Quepem Police Station for necessary action and FIR has been registered
It is further stated in the said letter that if there is a request from M/s Jolly Metals requesting for Consent to operate, the same may be denied or if Consent to operate is already awarded the same may be withdrawn immediately.	

Both the parties were called before the Board for hearing based on the inspection conducted by the Board officials. Representatives of M/s. Jolly Metals and the complainant, Mr. Gabriel Fernandes were present before the Board, They have stated that they reiterated the submissions made by them during the 135th meeting of the Board held on 2nd November, 2018.

The members deliberated on the issue and have concluded as follows:-

1. The Board is required to hear the parties on all the grievances raised by Mr. Gabriel Fernandes in Application No. 130/2015 filed before the Principal Bench of the National Green Tribunal Accordingly the parties were heard at the 135th meeting of the Board and their submissions recorded.
2. After considering the submissions of the complainant Mr. Gabriel Fernandes as made at the 135th meeting, it is observed that the primary objection of the complainant is that the unit of M/s Jolly Metals has been in operation from 2006 to 2015 without the Consent of the Board and that inspite of this being a punishable offence under the Water Act and Air Act, no action has been initiated by the Board. The complainant also alleges that the unit has produced material in excess of the consented quantity.

3. On the contrary, the representative of the stone crushing unit M/s Jolly Metals states that as far as the decision of the Board dated 07/02/2017 for initiating action on the unit for operating without Consent is concerned the same was challenged by him before the High Court of Bombay at Goa vide W.P. 227/2017.

It is further stated that the Hon'ble High Court vide Judgment dated 12/4/2017 quashed and set aside the Board's decision dated 7/2/2017 and granted the Board liberty to give a hearing to the unit and the complainant with regard to Show Cause Notice dated 18/8/2016 and to take a fresh decision in accordance with Law.

4. It is clear from the proceedings of this Board that the unit has been heard on the issue of operation of the unit from 2006 to 2015 without Consent in terms of the Directions of the Principal Bench of the NGT.
5. After considering the submissions of the parties, the members have concluded that as there is no specific denial by way of submissions or documentation by the unit of M/s Jolly Metals to the fact of it initially being operated without the Consent of the Board. It is decided that the present facts of the case constitute a fit case for the Board to initiate criminal proceedings against the operators of the stone crushing unit of M/s Jolly Metals for initially operating without the Consent of the Board and for violating the provisions of the Water and Air Acts respectively.
6. Further as regards to the letter received by the Board from the Water Resource Department vide no. WRD/WDXII/Tech/F.15/1063/2018-19 dated 11/02/2019; the Members decided that this information would be ground for issuing the stone crushing unit of M/s Jolly Metals a Show cause notice as to why the Consent to Operate issued to it should not be revoked by the Board.

Agenda item no. 5 – Application cum request of M/s Kargwal Construction Pvt. Ltd. to conduct Environmental Public Hearing with regard to establishment of a Marina Ahoy Marina – Members noted that letter is forwarded to the District Magistrate / District Collector to fix a suitable date for conduct of the Environmental Public Hearing.

Agenda item no. 6 – Categorisation of the unit of M/s MRF Ltd., Usgao in Orange category – Members noted that the decision of the Board has been conveyed to the Central Pollution Control Board.

Agenda item no. 7 – Applications received by the Board from private shack / hut owners for obtaining Consent to Establish of the Board – Members noted that Circular has been issued by the Board and Consents are issued as per the Circular.

Agenda item no. 9 – Application for Consent to Operate of M/s Deccan Fine Chemicals (for operation of the pilot plant)- Members noted that Consent to Operate to M/s Deccan Fine Chemicals has been granted.

Agenda item no. 10 – Application for Consent to Operate of M/s Deccan Fine Chemicals (I) Pvt. Ltd. (change in product mix) – Members noted that Consent to Operate to M/s Deccan Fine Chemicals has been granted.

Agenda item no. 11 – Application for Consent to Operate of M/s Deccan Fine Chemicals (change in product mix) – Members noted that Consent to Operate to M/s Deccan Fine Chemicals has been granted.

Agenda item no. 12 – Application of M/s M.K. Aromatics for setting up of a solid waste management facility – Members noted that Consent has been granted to M/s M.K. Aromatics.

Agenda item no. 13 – Operation of the mine unit of Shakti Bauxite Mine – Members noted that the decision taken by the Board has been conveyed to the Board Advocate.

Agenda item no. 14 – Revision of the delegation of powers by the Board to its officers – Members noted that Office order has been issued delegating powers to its Officers / Officials which has been forwarded to the Department of Environment, for issue of suitable Notification.

Member Secretary informed the members since Office Order is issued in general only the delegated authorities as follows be forwarded to the Government for Notification, as other work allocation are purely internal administration matters of the Board and dynamic in nature.

1. Delegation of powers under Red category of units
2. Delegation of powers under orange category of unit
3. Delegation of powers under Green category of units
4. Delegation of powers under Hazardous Waste/ Bio-medical Waste/ Solid Waste / Plastic Waste / Batteries / E-waste Rules.

Further Member Secretary informed the members that work allocation of subjects being internal administration matters of the Board can undergo continuous changes depending upon work exigencies, which are restricted to internal Circulation which could be determined and decided by the Member Secretary with the approval of the Chairman.

Members agreed to the above.

Table item no. 01 - Member Secretary informed the members that the deviated amount towards the Civil and plumbing works till RA bill no. 08 for Rs. 85,98,796/- and the deviated amount towards fire fighting works till R.A bill no. 03 for Rs. 6,99,383/- was placed at the Board meeting. The minutes were recorded that approval for deviated amount of Rs. 85,98,796/- for R.A bill no. 8 as approved. The deviated amount towards fire fighting till R.A bill no. 03 amounting to Rs. 6,99,383/- was placed at the meeting, however the same was not recorded in the minutes due to oversight. Members approved for rectification of the minutes.

Table Item no. 02 – Consent to Establish of M/s Sukraft Re-cycling Pvt. Ltd. (expansion) – Members noted that Consent to Establish to M/s Sukraft Re-cycling has been granted.

Agenda item no. 05 - Condemnation of office vehicles bearing nos. GA-01-S-6346 (Toyota Qualis) and no. GA-01-S-9684 (Tata sumo).

Member Secretary informed the members that two office vehicles no. GA-01-S-6346 - Toyota qualis, which was purchased in the year 2003 has completed 15 years on road and has covered 2,91,474 kms. and vehicle no. GA-01-S-9684 - Tata Sumo, which was purchased in the year 2006 has completed 13 years on road and has covered 1.63 lakh kms. The said vehicles require major works pertaining to the body and other repairs to be carried out, further the R.T.O clearance of the vehicle is not obtained after completion of 15 years. Since the vehicle has already covered more than 1.50 lakh kms. It was proposed for condemnation of the vehicle after obtaining clearance and upset value of the vehicle from the Public Works Dept.

Members noted that since the vehicles have already crossed their life span these vehicles may not adhere to the pollution norms. It was decided to get the upset value of the vehicle from the

Public Works Dept and condemn the vehicles, which could be sold as scrap by call of quotations from the open market.

As regards to purchase of two new vehicles replacing the above condemned vehicles, the members were of the opinion that the Board shall not go for purchase of new vehicles, as cost involvement towards maintenance is high.

Member of the Board suggested that Goa Tourism Development Corporation gives vehicles on hire and the services of the Corporation could be utilised by the office.

Member Secretary informed the members that the Board is required to carry out monitoring on a 24 hours shift, as a result of which Drivers were recruited on contract basis to transport the staff to the locations. She further informed if the Board hires vehicles, the Drivers so recruited on contract basis will be provided with some training and their services will be utilised in the monitoring activities. The members agreed for the same.

Agenda item no. 06 - Application for Consent to Establish (expansion) under the Air Act and the Water Act of M/s Goa Glass Fibre Ltd located at Survey no. No. 218/220 (part), Village Colvale, Tal- Bardez, Goa.

Members perused the proposal of M/s Goa Glass Fibre Ltd located at Survey no. No. 218/220 (part), Village Colvale, Tal- Bardez, Goa for Consent to Establish (expansion) under the Air Act and the Water Act for Increase in manufacturing capacity of Chopped Strand Mat, Roving, Woven Roving and Chopped Strand from 1,352 MT/Month to 2,120 MT/Month.

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

Agenda item no. 07 - Application from Directorate of Health Services, Govt. of Goa, for setting up a 500 bedded District Hospital Health Care Facility, Margao, for Consent to Establish under the Air Act and the Water Act.

Members perused the proposal for Consent to Establish under the Air Act and the Water Act of Directorate of Health Services, Govt. of Goa for setting up a 500 bedded District Hospital Health Care Facility at Margao,.

Member Secretary informed the members that the hospital is nearing the stage of completion and the Consent to Establish was not obtained earlier from the Board.

After deliberations, members approved for grant of Consent to Establish under the Air Act and the Water Act

Agenda item no. 08 - Grant of ex post facto approval for providing Internet Service provider on end to end optic fibre at the office premises at Saligao.

Member Secretary informed the members that Board had invited open quotations by E-mail for carrying out the work of high speed internet leased line with 1:1 10 mbps high speed with static IPs for the office building at Saligao, due to urgency of the nature of requirement, as the office was due to shift to its new premises. Quotations as follows were received and work order was issued to M/s G-Wave for an amount of Rs. 3,02,080/- (i.e Rs. 24190/- x 12 + Rs. 11,800/-).

1.	M/s G – Wave – Goa Broadband Network (GBBN) (M/s United Telecoms Ltd.)	Rs. 24,190/- per month + Rs. 11,800/- as one time installation charges.
2.	M/s Ethernet Express	Rs. 27,140/- per month
3.	M/s Vodafone	Rs. 31,467/- per month
4.	M/s BSNL	Rs. 32,450/- per month

Chairman further informed the members since the purchases were urgently required for the functioning of the office, the same had to be carried out at a short time, as the functioning of the office would have been stalled due to non connectivity.

Member Secretary informed the members that since the purchases were effected through quotations received by e-mail which is not as per the Financial Rules, the same is placed before the Board to accord ex post facto approval for making payments to the party i.e M/s G – Wave – Goa Broadband Network (GBBN) (M/s United Telecoms Ltd.) amounting to Rs. 3,02,080/-.

Members approved ex post facto for making payments to M/s G – Wave – Goa Broadband Network (GBBN) (M/s United Telecoms Ltd.) amounting to Rs. 3,02,080/-.

Agenda item no. 09 - Consents issued under OCMMS Software (On-line Consent Management and Monitoring System) and Notification of the digitised signatures.

Members perused the details of Consents issued by the Board under OCMMS Software (On-line Consent Management and Monitoring System) from 10th October, 2018 to 5th February, 2019, by the Delegated Authorities for grant of Consents under Red, Orange and Green categories

Member Secretary informed the members that with the introduction of OCMMS, Consents are issued on-line with digitized signature of the Delegated Authority. Since the Consents are outwarded and digitally signed, the system is required to be notified in the Gazette to hold grounds in the Court of Law.

Members agreed to forward the proposal to the Department of Environment for notifying in the Official Gazette.

Agenda item no. 10 - Categorisation of the units:

(a) M/s Automobile Corporation of Goa Ltd. Honda Industrial Estate, Sattari Goa.

The Member Secretary informed the members the office is in receipt of an application from the unit, requesting for change in category from Red category to Orange category. The unit deals in bus body building. As per the categorisation list, industries associated in automobile manufacturing (integrated facilities) is categorised under Red category. The unit has informed that have discontinued the primer paint shop and as such request for change in categorisation.

Based on the details of the water, air & hazardous waste pollutants, and also referring to the Comprehensive Industry Document Series COINDS/67/2007 issued by Central Pollution Control Board, the scores were calculated which stand as follows:

1.	Water Pollution Score (W)			
	Scores	Waste water category	Value	
	Score on W1	W13	20	
	Score on W2	-	0	
	Water Pollution score = W1 + W2			20
2.	Air Pollution Score (A)			
	Score	Air Pollutant category	Value	
	Score on A1	A1D	15	
	Score on A2	-	0	
	Air pollution score = A1 + A2			15
3.	Hazardous Waste score (HW)			
	Score	HW category	Value	
	HW	HW1	20	20
	Grant Total = W + A + HW			55

Member Secretary informed the members that the industrial score of the unit is 55, the unit is categorised under Orange category. She further informed that the matter was placed before the TAC of the Board and TAC has recommended the unit to be categorised under Orange category subject to approval of the Board.

Members approved for categorisation of the unit under Orange category

(b) M/s Crompton Greaves Ltd. – Kundaim Industrial Estate

The Member Secretary informed the members that the Central Pollution Control Board had classified the industries into Red Orange, Green and White classified. The industries / sectors which are not categorised are required to be calculated based on the guidelines issued by CPCB regarding the Water, Air and Hazardous pollutant levels.

The unit deals in manufacture of FHP motors. As per the categorisation list, industries associated in electrical and electronic item assembling (completely dry process) is categorised under White category. Since the unit also deals in painting activity, the score was calculated and is as under:

1.	Water Pollution Score (W)			
	Scores	Waste water category	Value	
	Score on W1	W13	20	
	Score on W2	-	0	
	Water Pollution score = W1 + W2			20
2.	Air Pollution Score (A)			
	Score	Air Pollutant category	Value	
	Score on A1	A1D	15	
	Score on A2	-	0	
	Air pollution score = A1 + A2			15
3.	Hazardous Waste score (HW)			
	Score	HW category	Value	
	HW	HW1	20	20
	Grant Total = W + A + HW			55

Member Secretary informed the members that the industrial score of the unit is 55, the unit is categorised under Orange category. She further informed that the matter was placed before the TAC of the Board and TAC has recommended the unit to be categorised under Orange category subject to approval of the Board.

Member approved for categorisation of the unit under Orange category

(c) Categorisation of Stone quarries

The Member Secretary informed the members that the Central Pollution Control Board had classified the industries into Red Orange, Green and White classified. The industries / sectors which are not categorised are required to be calculated based on the guidelines issued by CPCB regarding the Water, Air and Hazardous pollutant levels. As per revised categorisation, stone quarries are not categorised specifically. Hence, calculations of the score was done, which is as under

1.	Water Pollution Score (W)			
	Scores	Waste water category	Value	
	Score on W1	W16	12	
	Score on W2	-	0	
	Water Pollution score = W1 + W2			12
2.	Air Pollution Score (A)			
	Score	Air Pollutant category	Value	
	Score on A1	A1D	15	
	Score on A2	-	0	
	Air pollution score = A1 + A2			15
3.	Hazardous Waste score (HW)			
	Score	HW category	Value	
	HW	HW4	10	10
	Grant Total = W + A + HW			37

Member Secretary informed the members that the industrial score for the stone quarry activity is 37, the unit is categorised under Green category. She further informed that the matter was placed before the TAC of the Board and TAC has recommended the unit to be categorised under Green category (mistakenly recorded as Orange category in the agenda notes) subject to approval of the Board.

After deliberations the members noted that since the pollution levels from the stone quarries is very high, which also involves transportation, the activity be categorised under Orange category.

Members approved for categorisation of the Stone quarries under Orange category.

Agenda item no. 11 - Re-designation of the First Appellate Authority under the RTI Act

Member Secretary informed the members that the Board at its 125th meeting held on 23rd June, 2017 had designated, the Chairman of the Board as First Appellate Authority under the Right to Information Act and it was now proposed to re-designate the First Appellate Authority as follows:

First Appellate Authority be the Member Secretary, GSPCB

Members approved the re-designation, so as to forward to the Director (Environment), Govt. of Goa for amendment in the order dated 1st August, 2017.

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

Table item no. 01 - Order passed by the National Green Tribunal vide order no. 95/2018 and 1038/2018

Member Secretary informed the members that the Board is in receipt of letter dated 08/01/2019 from the Central Pollution Control Board (CPCB) enclosing a copy of order dated 22/11/2018 passed by the Principal Bench of the National Green Tribunal (NGT) in OA no 353/2016 in which the CPCB was directed to convey the following direction of the NGT;

‘We may also clarify at this stage that apart from prosecution, the statutory authorities under the Environment (Protection) Act, 1986, the Air (Prevention and Control of Pollution) Act 1981 and Water (Prevention and Control of Pollution) Act, 1974 must, in exercise of their incidental powers, prescribe scale of compensation to be collected from the polluters on the ‘Polluter Pays’ Principle. Such scale which may be laid down at various levels having regard to the local conditions or as per directions in the hierarchy of the Authorities.’

The Principal Bench of the NGT in OA no 1038/2018 has stated as follows:

‘Needless to say that it will be open to the SPCB’s and CPCB to take coercive measures including recovery of compensation for the damage to the environment on Polluter Pays principle as well as also direct taking off such precautionary measures as may be necessary on the basis of precautionary principle.’

The Principal Bench of the NGT vide order dated 11/01/2019 passed in OA no 95/2018 has held that SPCB’s are required to take stringent action as required which can act as deterrent against violation of pollution norms. Simply issuing notices has not brought about results. The NGT has held that in the instant case there was a failure by the Gujarat PCB to control pollution as no closures nor prosecution were launched against the defaulting units and no adequate preventing and remedial measures including assessment and recovery of damages was taken by the PCB.

It was also held that the Polluter Pays principle is an accepted norm within the purview of regulatory regime. Pollution cannot be allowed to be a profitable activity and deterrent action must be taken wherever pollution is found so as to render causing of pollution unprofitable and unacceptable. Any polluter must be subjected to heavy and deterrent economic sanctions.

The NGT has held that this is not happening for which failure the Regulatory authority cannot disown responsibility. It is further observed that even a regulatory authority may be held accountable if it is pollutes with polluters by being required to pay damages or errant Officers being held liable for action including prosecution.

Member Secretary informed the members that Goa State Pollution Control Board (GSPCB) is required to ensure that violators of the Environmental norms including the Environment Protection Act, Air Act and Water Act are required to be prosecuted and prescribed scale of compensation from these violators and from any person/unit that causes pollution, is required to be collected by the GSPCB in exercise of its incidental powers on the Polluter Pays principle. As such the Board is required to

prescribe scale of compensation to be collected from the Polluters on the Polluter Pays principle, which are required to be laid down at various levels having regard to the local conditions or as per the directions in the hierarchy of the authorities.

She further informed that Central Pollution Control Board has developed the criteria of categorization of industrial sectors based on the Pollution Index which is a function of the emissions (air pollutants), effluents (water pollutants), hazardous wastes generated and consumption of resources. The Pollution Index PI of any industrial sector is a number from 0 to 100 and the increasing value of PI denotes the increasing degree of pollution load from the industrial sector. Based on the series of brain storming sessions among CPCB, SPCBs and MoEFCC, the following criteria on 'Range of Pollution Index' for the purpose of categorization of industrial sectors is finalized.

Red category	has a score above 60
Orange Category	between 41 to 59
Green Category	between 21 to 40
White Category	including and upto 20

Further, the Board prescribes late fees to the establishment who fail to apply for Renewal of Consent prior to expiry of validity or the establishments who are operating without the Consent of the Board which are 50% of the Fees applicable.

After deliberations, it was proposed to levy penalty for violations observed which is proposed as follows:

1.	Operating without the Consent of the Board		
	Red Category	40% of fees/year	for score above 100
	Red Category	20% of fees/year	for score between 60 - 100
	Orange Category	15% of fees/year	
	Green Category	10% of fees/year	
2.	Violations observed during inspection		
	a.	Discharge/Emission/Burning of Waste/Disposal of solid waste	
		Red Category	20% of fees/incident or Rs. 40,000/- whichever is higher
		Orange Category	15% of fees/incident or Rs. 20,000/- whichever is higher
		Green Category	10% of fees/incident or Rs. 10,000/- whichever is higher
	b.	Discharge + Emission /Discharge + Noise / Emissions + Disposal of Solid waste	
		Red Category	30% of fees/incident
		Orange Category	25% of fees/incident
		Green Category	20% of fees/incident
	c.	Exceeding prescribed limits for Air / Water/ Noise	
		Red Category	40% of fees
		Orange Category	30% of fees
		Green Category	20% of fees

This penalty will be in addition to the late fees charged by the Board as stated at who fail to apply for Renewal of Consent prior to expiry of validity or the establishments who are operating without

the Consent of the Board which are 50% of the Fees applicable and if the unit is found to be operating without the Consent of the Board.

It was further decided that if the establishment is still found violating, then the penalty will be double for every additional violation .

As regards to Green category of units it was decided that the violations be put up before the Board for decision, which could be decided on case to case basis.

The penalty as stated above is approved by the members so as to forward the same to the Director, Dept. of Environment, Govt. of Goa, for issue of a suitable Notification.

Table item no. 02 - Applications received by the Board for Material Recovery Facility.

Member Secretary informed the members that the Board issues Authorisation under Solid Waste Management Rules, 2016 for Garbage Disposal Facility to Local Bodies. The Board had formulated Guidelines under Rural Garbage Scheme, 2005 for identification of sites for the Garbage Disposal Facility at its 117th Board meeting held on 12/03/2015. The Local Bodies had applied for approval of sites under the Rural Garbage Scheme and applications were rejected as the site was found to be non-complying to above guidelines of the Board. The local bodies informed the Hon'ble High Court regarding the rejection of applications of site approvals by the Board. The Board directed the Directorate of Municipal Administration and Directorate of Panchayat to re-apply for Material Recovery Facility and informed the Court accordingly.

Member Secretary further informed that presently the Board is in receipt of applications from 10 Panchayats and 2 Municipal Councils for Material Recovery Facility (MRF). However, the Board may receive more such applications from the Village Panchayats and Municipal Councils

After deliberations, it was decided to grant approvals for the said sites with terms and Conditions as stated below:

1.	The Local Body should organise collection of source segregated waste on regular pre-informed timings.
2.	The Local Body/Operator should construct non permeable concrete platform for storage of the non-biodegradable waste and ensure that leachate/wash water should not be let out on open ground.
3.	The storage area should be properly covered to prevent ingress of rain water in to the waste as per the Template of the Goa Waste Management Corporation./ alternatively, container of a suitable size could be used.
4.	The leachate/wash water should be collected in collection tank and disposed as per norms.
5.	No foul/ offensive odour shall emanate from the facility
6.	The dry waste collected should be manually sorted in various sections such as glass, paper, plastic, metal etc
7.	Recyclable waste to be given to recyclers.
8.	Facilities like bailing, shredding are proposed for dry waste with minimum noise levels.
9.	The Local Body/Operator should construct a compound wall along the boundary of the site.
10.	The Local Body/Operator should carry out plantation along the periphery of the facility. The green belt should be a minimum of 3 metres around the facility along the boundary and should include vegetation shrubs, indigenous trees and leaves with high green density greenery for serving as green banner and noise reduction.

11.	There should be adequate drainage system so as to prevent any storm water from entering the premises.		
12.	This NOC from pollution angle is only for suitability of the site for material recovery facility and is granted without any prejudice to any other permission(s) required under any laws by laws and regulations in force.		
13.	Any violation of the provisions of the Solid Waste Management Rules, 2016, will attract the penal provisions of the Environment (Protection) Act, 1986		
14.	The Approval for site suitability is for a period of ONE year from the date of issue of the approval. The Local Body should apply for renewal of approval 60 days prior to expiry of the approval.		
15.	The shed should be adequately ventilated to meet work place standards prescribed by Inspectorate of Factories and Boilers.		
16.	Good house-keeping should be maintained with zero littering		
17.	Define time lines for waste pick up from facility should be identified and maintained strictly so as to prevent overloading of available storage space.		
18.	Daily waste records to be maintained for industrial waste categories i.e re-cycleable, non re-cycleable etc. under individual headers.		
19.	There will be complete prohibition on open burning of waste anywhere within your area jurisdiction; for each such incident, violators including the Village Panchayat / Municipality or any person responsible for such burning shall pay a fine towards environmental compensation of Rs. 5,000/- (Rupees five thousand only) in case of simple burning and Rs. 25,000/- (Rupees Twenty five thousand only) in case of bulk waste burning in the form of arrears of land revenue to the District Authority.		
20.	There will be a complete prohibition on open littering of waste anywhere within your area of jurisdiction. For each such incident, violator including the Village Panchayat / Municipality or any person responsible for such littering shall pay a fine towards environmental compensation of Rs. 3,000/- (Rupees three thousand only) in case of simple littering or Rs. 5000/- (Rupees five thousand only) in case of bulk littering to the concerned Authority.		
21	The approval is granted for collection, segregation and bailing of:		
	Sr. No.	Type of waste	Qty./month
	1.	Re-cycleable	
	2.	Non re-cycleable	

Agenda item no. 03 - Delegation of financial powers to the Chairman in respect of purchases

Member Secretary informed the members that the Board in respect to placing of work orders / purchase of any item / instrument etc. follows Government procedures by inviting quotations from the open market / issues tenders in the local newspapers, for which a minimum of three quotations / tenders should be received for opening the bid/ quote. A comparative statement is then prepared and the lowest bidder is issued work order / supply order.

She further informed that there are instances, when the office is unable to get three quotes, as a result of which the same are required to be re-invited, which is time consuming, further only quotes are received from single suppliers / two suppliers, where it becomes difficult to place orders and do the procedure again resulting in time loss.

Members noted the above and empowered the Chairman to accept single quote / two quotations after following the codal formalities upto the value of Rs. 10,000,00/-.

III. With the permission of the Chair, Members raised the following:

a. Shri Shubham Chodankar, Councillor of Corporation of City of Panaji and member of the Board informed that the Sewage treatment Plant at Patto is discharging its untreated waste in the river. Chairman informed that the Board is in receipt of the complaint and that the Executive Engineer was called to this office on two occasions for which he has failed to appear. He informed that he will take up the matter once again.

b. Members desired to know with regard to implementation of the recommendations of the VIIth Pay Commission to the Staff of the Board. Member Secretary clarified that presently only the staff on deputation from the Government to the Board are given the benefits of the VIIth Pay Commission. As regards to implementing the same to the Board staff, she informed that the same is under consideration, as presently the financial resources of the Board is not so sound. She further informed that the Board sustains through its own funds received through the fees for Consent applications, which were notified in 1988. Presently the fee structure is under revision and the same is forwarded to the Law Department, Govt. of Goa for vetting. It was agreed to pursue the matter with the Law Department

Member Secretary further informed that once the revised fees structure is notified and the Board gets sufficient revenue, recommendations of the VIIth Pay Commission could be implemented to the staff of the Board.

c. Members informed that there are many scarp yards, mostly which are located in the fields / reclaimed land and are causing serious threat, as scarp of different nature is collected. Chairman informed that inspections of such scarp yards will be conducted and the same shall be placed before the Board for decision

IV. Chairman informed the members that the next Board meeting is scheduled on 21st February, 2019 at 11.30 am, during which the inspection report and the air monitoring reports are to be placed before the Board for decision on the directions to be issued to M/s South West Port Ltd. and M/s Adani Mormugao Port Terminal Pvt. Ltd.

V. The meeting ended with thanks to the Chair.

MINUTES OF THE 137th MEETING (SPECIAL MEETING) HELD ON 21ST FEBRUARY, 2019.

1. The 137th meeting (Special meeting) of the Goa State Pollution Control Board was held on 21th February, 2019 at 11.30 a.m. in the Conference hall of the Goa State Pollution Control Board.

II. At the outset, Member Secretary welcomed the Board members for the meeting. She informed that this special meeting has been called for discussions on the inspection report and the air monitoring reports before the Board for decision on the directions issued to M/s South West Port Ltd. and M/s Adani Mormugao Port Terminal Pvt. Ltd.

Agenda item no. 01 - Confirmation of the minutes of the 136th meeting of the Board held on 13th February, 2019.

The minutes of the 136th meeting of the Board held on 13th February, 2019 duly signed forwarded vide this office letter no. 4/136/18-PCB/Admn./19736 dated 18/02/2018 were confirmed so as to enter in the minutes Book.

As regards to Table item no 01 – with regard to Order passed by the National Green Tribunal vide Order no 95/2018 and 1038/2018, with regard to enforcing the Polluter Pay Principle, the members desired that the penalty for violations is revised as follows:

1.	Operating without the Consent of the Board		
	Red Category	40% of fees/year	for score above 100
	Red Category	20% of fees/year	for score between 60 - 100
	Orange Category	15% of fees/year	
	Green Category	10% of fees/year	
2.	Violations observed during inspection		
	a.	Discharge/Emission/Burning of Waste/Disposal of solid waste	
		Red Category	20% of fees/incident or Rs. 40,000/- whichever is higher
		Orange Category	15% of fees/incident or Rs. 20,000/- whichever is higher
		Green Category	10% of fees/incident or Rs. 10,000/- whichever is higher
	b.	Discharge + Emission /Discharge + Noise / Emissions + Disposal of Solid waste	
		Red Category	30% of fees/incident or Rs. 50,000/- for small units, whichever is higher
			30% of fess or Rs. 1 lakhs for medium units, whichever is higher
			30% of fess/incident or Rs. 2 lakhs for large units, whichever is higher
		Orange Category	25% of fees/incident or Rs. 25,000/- for small units, whichever is higher
			25% of fees/incident or Rs. 40,000/- for medium units, whichever is higher
			25% of fees/incident or Rs. 60,000/- for large units, whichever is higher
		Green Category	20% of fees/incident
	c.	Exceeding prescribed limits for Air / Water/ Noise	
		Red Category	40% of fees or Rs. 1 lakh for small units, whichever is higher
			40% of fess or Rs. 5 lakhs for medium units, whichever is higher
			40% of fess or Rs. 10 lakhs for large units, whichever is higher
		Orange Category	30% of fees or Rs. 25,000/- for small units, whichever is higher
			30% of fees or Rs. 50,000/- for medium units, whichever is higher
			30% of fees or Rs. 1 lakh for large units, whichever is higher
		Green Category	20% of fees

Agenda item no. 02 -Follow up action on the decision taken at the 136th meeting of the Board held on 13th February, 2019.

Agenda item no. 2 - Follow up action on the decision taken at the 133rd meeting of the Board held on 29/06/2018 - Agenda item no. 05 – Application of M/s South West Port Ltd. (SWPL) for Consent to Operate under Air Act and Water Act -

In terms of the decision taken at the 136th meeting, the Member Secretary issued Directions under section 31 A of the Air (Prevention and Control of Pollution), Act, 1981 to M/s South West Port Limited (SWPL) and M/s Adani Mormugao Port Terminal Pvt. Ltd. (AMPTL). Vide the said directions, the units were directed to temporarily suspend handling of coal at their facilities and to appear before the Board today to show cause as to why the Consent to Operate orders issued to them under the Air Act should not be revoked, and action under the Air Act initiated against them.

These directions were issued after considering the reports of the CAAQMS data submitted by the companies and AAQM data from the Board air monitoring station, that indicated high levels of particulate matter on 06/02/2019, 07/02/19, 09/02/19 and 10/02/19 to 12/02/2019. The directions were also issued as these units were carrying out coal handling operations during abnormally high windy conditions at Vasco City.

Both the units namely M/s SWPL and M/s AMPTL have submitted replies dated 15/02/2019 to the Board directions.

Officials of the Board have conducted a detailed site inspection of the coal handling facilities of M/s SWPL and M/s AMPTL on 19/02/2019. During this inspection the Board official have submitted that both the units have complied with all the conditions contained in the Consent orders issued to them by the Board. The report also indicated that the units had suspended operations in compliance with the Board directions. The report has further recommended monitoring of the dust fall in the Vasco city and surrounding habitations. The report has also recommended conducting trial of GRP liquid polymers for dust suppression to check effectiveness in dust control. The report also recommends stoppage of operations during dusty windy conditions.

The reports of AAQM of the Board monitoring station at Vasco at fuse call office and Fire station as well as CAAQMS reports from the Stations installed by both the units at Vasco and the report of AAQM monitoring from GSPCB's CAAQMS mobile van placed at Sada; for the period on 15th to 19th February, 2019; was placed before the Board. The reports of the same are found to be within the permissible limits.

The Board has also received letters from Mr. Sherwin Correia and others residents of Mormugao and Vasco da Gama dated 18/02/2019 stating that there is gross degeneration of air quality in their locality due to coal handling operations at the Port. Vide the said letter, the complainants have also objected to resumption of coal handling activity at M/s Mormugao Port Trust (MPT) and have demanded to be heard before the Board today. A similar representation is also received from 'Goa First' dated 18/02/2019, containing similar allegations and demand. The Board also received from the Aam Admi Party dated 18/02/2019 requesting the Board to revoke the Consent to Operate issued by it to all the Coal handling units and M/s MPT on the ground that these companies do not have title of ownership on the land they are located upon. They have also requested to be heard before the Board today. A representation dated 12/02/2019 from Mr. Ashley Noronha, President 'Life is beautiful – NGO' has been received by the Board in which concerns regarding health of the people including minor children has been raised. Copies of these representations were placed before the Board for perusal.

Representatives of M/s SWPL and M/s AMPTL have remained present before the Board today in order to submit their say to the show cause notice and directions issued by the Board dated 14/02/2019.

The representative of M/s SWPL submitted as follows:

That have submitted a written reply to the directions issued by the Board that they have

taken requisite measures to maintain the ambient air quality at their berth for prevention of pollution by implementing closed conveying system, in motion weigh loading and covering of all cargo, water sprinklers, deployment of missed cannons and road sweepers. The apparent incidences occurred during 6th to 9th February, 2019 were due to relatively high velocity and gusty wind conditions experienced in the State which were anybody's control. They have submitted that their berth are located at the far end of Mormugao Port and the gusty wind and source have caused dust emissions out of unpaved road and other civil constructions, vehicular traffic and all these external factors have influenced the air quality. They have further stated that the purported exceedances if any were intermedient and transient in nature and would subside with the subduing proactively taken requite additional measures like sprinkling of additional quantity of water almost two and half times more than the ordinary to reduce the fugitive emissions. In abundant caution, they have interpedently halted / stopped the vessel discharging operations at their berths on the dates and timings for which they rely on the statement of facts and daily operation log sheet which were submitted along with the written reply. He stated that the air quality at the fuse call station, Vasco city is affected by any activity at berth no. 5A and 6A, however, it is their submission that other fugitive emissions of dust from unpaved roads, construction activities, vehicle traffic and other Port operations effect the air quality at the Fuse call office. They also submitted that the CAAQM station at 5A and 6A is not as per the Central Pollution Control Board guidelines and Indian Standards Method for Measurement of Air pollution guidelines and the same does not reflect the ambient air quality but reflect the air quality at source. The representative has also submitted that their systems are in synchronisation with environmental, health, and safety guidelines for Ports, Harbours and Terminals, reports of the World Bank. It is their submission that IIT, Mumbai is conducting a Source Apportionment Study and until this Study is completed and findings thereof are arrived at, it would be incorrect to ascribe any pollution to Port operations alone. With this submissions they have requested the Board to visit the coal handling operations as already communicated vide their letter dated 15/02/2019 as the same is causing great prejudice and severe economic hardships on the dependent steel industries. They have also requested for revocation of the directions / suspension operations as the ephemeral contingencies (gusty winds) which then existed have now ceased.

They have submitted that they have adopted all the best practices as per World Bank guidelines and their extend of mechanisation is categorically coal and they have submitted an application for Environmental clearance to erect a shed / dome for storage of coal which is pending before the Ministry of Environment, Forests and Climate Change. They have admitted in their submission that there were almost cyclonic winds ranging from 4 to 8.5 m/sec (14.4 to 30.6 km/hr) were experienced predominantly from the North of the Terminal. Whilst the high wind at the terminal was natural phenomenon beyond the of influence of the terminal, everything possible as done to ensure arresting / minimisation of fugitive emissions

They have stopped their activity from the following date and time:

07/02/2019 from 17.30 hrs. to 23.00 hrs.
 07/02/2019 from 23.00 hrs. to 04.15 hrs
 08/02/2019 from 17.30 hrs. to 20.35 hrs.
 09/02/2019 from 18.15 hrs. to 19.30 hrs.

It was further submitted that M/s SWP Terminal is more than 2 kms from Vasco with thick vegetation in between and is not in the line of sight. Also typical attenuation distances in cases of undulating terrain and heavy vegetation are 500 – 800 m. as concurred by IIT, Mumbai in their Source apportionment Study – February, 2019.

The representative of M/s AMPTL submitted as follows:

That during the period from 7th to 8th February, 2019 the climatic conditions was windy and the

coal was handled taking all required precautionary measures. Further, operations were suspended during these days during the duration when the wind speed was observed on a higher side as part of the Standard operating procedure to avoid dust generation. The frequency of engaging dust suppression system was also increased from 2 hours to 1 hour interval, covering of stack with tarpaulin is followed as standard operating procedure at all the times. He further informed that during this calibration for gaseous component was undertaken from 8th to 12th February, 2019 and the instrument was under observation. During this calibration work on account of some technical fault PM10 sensors became faulty and started showing ambiguous reading. Service Engineers undertook a fresh re-calibration work for PM10 unit and issued fresh certificate on 13th February, 2019. Therefore the PM10 readings from 9th to 12th February, 2019 shows ambiguous values and hence should not be considered.

They further informed that apart from them handling coal at the Port at MPT, M/s South West Port is handling coal at berth no. 5A and 6A. In addition MPT is also handling iron ore, wood chips, lime stone, bauxites and various other bulk cargos. The four lane constriction is going on close to AAQM station, further the Sada road is busy during the day and late evening, A cement mixing plant is situated in Sada and construction of market complex is going on in Sada. In this context he submitted that air quality deterioration cannot be attributed solely to the operations of M/s AMPTL.

M/s AMPTL has stated with the above submissions it is clear that they have not violated any of the conditions of the Consent at Berth no. 7, by taking all mitigation measures so that there is no coal dust pollution.

Dr. Virendra Sethi, Professor, Centre for Environmental Science and Engineering, made a presentation before the Board on the Report submitted by him on 'Particulate Source Apportionment Study for Air Quality in Vasco da Gama, as follows:

Based on the modelling results for the meteorological conditions, the measurements, the contribution of Port activities (coal handling) to the air pollution in Vasco is not significant.

This is supported by the GSPCB NAMP data and CAQMS data on MPT premises.

Road dust in the Port area needs to be controlled to prevent re-suspension by moving vehicles.

The PM10 sampling does not include the potential nuisance value due to the settling of large sized particles. These have not been measured in the present study and would require a separate study with different protocols. The acceptable levels of such dry deposition are not articulated and would need to be investigated.

From the historical data provided by GSPCB, the air pollution levels in Vasco are similar to those in other parts of Goa.

The Source Apportionment Study which is in progress would be useful to identify OTHER sources that are contributing significantly to the PM air pollution at the selected receptor locations in Vasco. The Port activities do not explain the levels of PM as observed in the GSPCB historical datasets.

The members on perusal of the presentations made by M/s SWPL, M/s AMPTL and of (Dr. Sethi of CESE,) and on perusal of the monitoring reports have concluded as follows:

It is an admitted fact that there were very gusty / cyclonic winds at MPT Vasco Port area during the period from 6th February to 9th February, 2019. This is indicated by the data submitted by

M/s SWPL and M/s AMPTL themselves during today's hearing. The wind speeds have ranged from 39.2 kms / hr. to 60.9 kms /hr. It is also an accepted fact that the wind during this period has been from the sea to the land i.e Sada and Vasco city area.

It is also an established fact from the submissions of both the coal handlers that they have continued to carry out coal handling operations at MPT during the afforested period even though gusty / cyclonic winds of such high velocity were blowing towards Sada and Vasco City

Though the units have submitted that they have stopped coal handling operations and attempted pollution control measures during this period, it is clear that they have mainly suspended operations intermediately and have used inadequate measures to control dust pollution. In fact, what was required was a complete suspension of coal handling operations during this period, which has not been done by the units

The Boards recording of high values of particulate matter at its monitoring stations at the Fire station and fuse call at Vasco and high values of particulate matter observed from the CAAQMS located at Sada by M/s AMPTL and the CAAQMS located at M/s SWPL; is clearly on account of coal dust from the coal handling operations at MPT (i.e was carried out during this period) being blow towards the city by the cyclonic winds.

The Board members were of the clear and firm opinion that the coal handling units have acted negligently in continuing to carry out coal handling operations at their facilities as above, inspite of the cyclonic winds. This negligent act by the handlers has added to the deteriorating of the ambits air quality of the Vasco City during the said period.

The Board members have considered the fact that the windy conditions at Vasco have settled post 14/02/2019, in terms of weather monitoring data submitted to the Board by MPT. The members have also considered the ambient air quality monitoring conducted by the Board at its NAMP station in Vasco and the data for the mobile CAAQMS of the Board and the CAAQMS installed by the coal handlers for the period from 15/02/19 to 19/02/2019. (the detailed site inspection report conducted by the Board officials of the facilities of M/s SWPL, M/s AMPTL and M/s MPT have also been considered by the members)

The members have observed that after the normalisation of the windy conditions in the Port area, the ambeithn air quality in the City area has stabilised. Further, the Board members have observed that M/s SWPL and M/s AMPTL have both satisfactorily complied with the conditions as contained in the Consent orders issued to them by the Board.

In view of the above, the Board members have decided as follows:

M/s SWPL and M/s AMPTL have negligently carried out coal handling operations at their facilities at MPT during cyclonic wind conditions from 6th to 13th February, 2019, thereby causing deterioration in the ambient air quality of the Vasco city.

For this default, the Board members have decided that both the coal handling units i.e M/s SWPL and M/s AMPTL be directed to deposit a penalty of an amount of Rs. 10 lakhs to the Board, in terms of the Polluter pays Principle as approved above. As the ambient air quality of the Vasco city has now stabilised, and as both the units are found to be satisfactory complying with the conditions as contained in Consent orders issued to them; it is decided that the coal handlers be now permitted to commence coal handling operations and the show cause notice issued to them dated 14/02/2019 be discharged, subject to the following conditions:

a. Payment of the afore stated penalty amount of Rs. 10 lakhs in terms of the Polluter Pays Principle.

b. Issue of an amendment to Consent to Operate orders of both the handlers to incorporate the following conditions:

- MPT should share the weather forecast to the handlers at the Port immediately on receipt.
- MPT to install cameras at the stacking premises, which could be accessed by the Board.
- The Port handlers shall not carry out activities when the wind speed is more than 10 kms/hr.
- Stacks should be covered and sprinkling should be carried out when loading / unloading activity of coal is in progress.

c. Issue a specific condition in the Consent order issued to M/s AMPTL by way of amendment to the present Consent issued to submit a Bank Guarantee amounting to Rs. 1 Crore with a validity period in line to the Consent issued towards satisfactory compliance of the Consent conditions.

III. The meeting ended with thanks to the Chair.

MINUTES OF THE 138th MEETING (SPECIAL MEETING) HELD ON 29th MARCH, 2019.

1. The 138th meeting (Special meeting) of the Goa State Pollution Control Board was held on 29th March, 2019 at 11.30 a.m. in the Conference hall of the Goa State Pollution Control Board.

II. At the outset Member Secretary informed the members that this particular meeting was scheduled to be held on 15th March, 2019. However, the board was then in receipt of complaints from one Adv. Sunaina Chari levelling allegations that the conduct of the Board meeting was in violation of the Model Code of Conduct. These complaints were forwarded to the Board by the Chief Electoral Officer. The office of the Chief Electoral Officer considering the Board's reply to the allegations of Adv. Sunaina Chari directed the Board to place the matter before the Screening Committee. The approval of the Chief Electoral Officer for convening the Board meeting has now been received. Hence today's meeting was scheduled.

Member Secretary placed the complaints received from Adv. Sunaina Chari on behalf of various organisations before the Members. Members on perusing the allegations in the complaints have found the same to be baseless and untrue and have decided that the genuineness of the complaints and Adv. Sunaina Chari as well as the allegation in the complaint require to be investigated.

Decision: It was resolved that the matter be referred to the State Government for conducting a detailed inquiry in the matter and to probe the veracity of the same.

Agenda item no. 01 - Confirmation of the minutes of the 137th meeting (Special meeting) of the Board held on 21st February, 2019.

The minutes of the 137th meeting (Special meeting) of the Board held on 21st February, 2019 were forwarded to the members vide this office letter no. 4/137/19-PCB/Admn./19961 dated 22/02/2019 were confirmed so as to enter in the minutes Book.

Agenda item no. 02 - Follow up action on the decision taken at the 137th meeting (Special meeting) of the Board held on 21st February, 2019.

Agenda item no. 01 – With reference to the decision taken at the 137th meeting (Special meeting) of the Board, Members have decided to amend the guidelines for imposition of Polluter Pays penalty of the Board as follows:

Operating without Consent of the Board.

1	Operating Without the Consent of the Board		
	Red category	Small	40% of fees /yr OR Rs.10000/yr. whichever is higher
		Medium	40% of fees /yr OR Rs.15000/yr. whichever is higher
		Large	40% of fees /yr OR Rs.20000/yr. whichever is higher
	Orange category	Small	15% of fees /yr OR Rs.5000/yr. whichever is higher
		Medium	15% of fees /yr OR Rs.10000/yr. whichever is higher
		Large	15% of fees /yr OR Rs.15000/yr. whichever is higher
	Green category	Small	10% of fees /yr OR Rs.2000/yr. whichever is higher
		Medium	10% of fees /yr OR Rs.5000/yr. whichever is higher
		Large	10% of fees /yr OR Rs.10000/yr. whichever is higher

Categorization of the industry will be based on the year, violation is observed and not the prevailing categorisation.

2.	Violations observed during inspection		
	a.	Discharge/Emission/Burning of Waste/Disposal of solid waste	
		Red Category	20% of fees/incident or Rs. 40,000/- whichever is higher
		Orange Category	15% of fees/incident or Rs. 20,000/- whichever is higher
		Green Category	10% of fees/incident or Rs. 10,000/- whichever is higher
	b.	Discharge + Emission /Discharge + Noise / Emissions + Disposal of Solid waste	
		Red Category 30% of fess or Rs. 1 lakhs for medium units, whichever is higher 30% of fess/incident or Rs. 2 lakhs for large units, whichever is higher	30% of fees/incident or Rs. 50,000/- for small units, whichever is higher
		Orange Category 25% of fees/incident or Rs. 40,000/- for medium units, whichever is higher 25% of fees/incident or Rs. 60,000/- for large units, whichever is higher	25% of fees/incident or Rs. 25,000/- for small units, whichever is higher
		Green Category	20% of fees/incident or Rs. 25,000/-, whichever is higher
	c.	Exceeding prescribed limits for Air / Water/ Noise/ Inefficient working of pollution control devices	

	Red Category 40% of fees or Rs. 5 lakhs for medium units, whichever is higher 40% of fees or Rs. 10 lakhs for large units, whichever is higher	40% of fees or Rs. 1 lakh for small units, whichever is higher
	Orange Category 30% of fees or Rs. 50,000/- for medium units, whichever is higher 30% of fees or Rs. 1 lakh for large units, whichever is higher	30% of fees or Rs. 25,000/- for small units, whichever is higher
	Green Category	20% of fees or Rs. 25,000/-, whichever is higher

This penalty will be in addition to the late fees charged by the Board as stated above, who fail to apply for Renewal of Consent prior to expiry of validity or the establishments who are operating without the Consent of the Board which are 50% of the fees applicable and if the unit is found to be operating without the Consent of the Board.

It was further decided that if the establishment is still found violating, then the penalty will be double for every additional violation.

The above penalty is for industries/ establishment/ hotels/ hospitals etc. who are under the purview of Water and Air Act. However for violations under Solid Waste Management Rules, 2016 including Construction and Demolition Waste and all other types of waste is as follows:

Severe (ecologically sensitive areas/ heritage sites/ near educational institutions, hospitals / places of worships / archaeological monuments/ CRZ areas/ water bodies)	Area less than 50 sq.mtrs.	Rs.5000/- per incident
	Area between 50sq.mtrs. – 500sq. mtrs.	Rs.10000/- per incident
	Area above 500sq.mtrs.	Rs.25000/- per incident
Medium (in public areas/along roads/ gardens/ orchard area/ agricultural land)	Area less than 50sq.mtrs.	Rs.2000/- per incident
	Area between 50sq.mtrs. – 500sq. mtrs.	Rs.5000/- per incident
	Area above 500sq.mtrs.	Rs.10000/- per incident
Small (any other location not considered in severe and medium)	Area less than 50sq.mtrs.	Rs.2000/- per incident

Agenda item no. 2 – (a) The members noted that M/s South West Port Limited (SWPL) and M/s Adani Mormugao Port Terminal Pvt. Ltd., (AMPTPL) have deposited an amount of Rs. 10 lakhs each as penalty in terms of Polluter pays Principle. (b) The members further noted that Amendment to Consent to Operate has been issued to M/s SWPL and M/s AMPTPL incorporating the conditions as decided by the Board. And that M/s AMPTPL has deposited a Bank Guarantee amounting to Rs. 1 Crore with a validity period in line to the Consent issued towards satisfactory compliance of the Consent conditions.

Agenda item no. 03- Consents issued under OCMMS Software (On-line Consent Management and Monitoring System). The members perused the details of Consents issued by the Board under OCMMS Software (On-line Consent Management and Monitoring System) from 6th February, 2019 to 7th March, 2019, by the Delegated Authorities for grant of Consents under Red, Orange and Green category of Industries.

Agenda item no. 04 - Requisitioning of the services of the staff of the Board by the State Government

Member Secretary informed the members that the State Government while sanctioning various posts in the Goa State Pollution Control Board on 10/08/2011, have stated that 'the State Government reserves the right to utilise the services of any or all the Officers / Officials of the Goa State Pollution Control Board for its activities and any other task assigned from time to time. Further vide letter dated 11/07/2011, it is stated that the liability on account of expenditure incurred to meet the requirements of salaries and all other allowances of the said posts shall vest with the GSPCB and shall be drawn from their own funds, with no liability on the Government.

Member Secretary further informed the members that the officials of the Board are trained in their respective fields and 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 work.

Agenda item no. 05 - Application of M/s South West Port Ltd. (SWPL) for Consent to Operate under Air Act and Water Act

Member Secretary informed the members that the application of M/s South West Port Ltd. for renewal of Consent to Operate under the Air Act and the Water Act was discussed at the 136th and 137th meetings of the Board, since the unit had defaulted in carrying out operations during high wind conditions, the same was kept in abeyance. The Consent of M/s SWPL expires on 31/03/2019.

The members perused the various complaints received by the Board in this respect. (enclosed as Annexure 'A'), same were read out by the Member Secretary. The members also perused the ambient air monitoring data for the months of January to March, 2019, the comments of Dr. Sengupta, former Member Secretary of Central Pollution Control Board, Mr. M.K. Verma, scientist, CPCB in connection with the Affidavit filed by Goa Foundation, which includes observations of Dr. D.B. Boralkar. As regards to the submission made by Goa Foundation that the machinery of M/s SWPL is obsolete as per the submission made in National Green Tribunal, it is observed that the Board has issued NOC in July, 2016 for replacing the mobile harbour crane with grab ship unloader from existing diesel engine to electric engine and was also granted Consent for modernisation and installation of rapid in motion wagon loading system at berth no. 5A and 6A in the year 2013. With regard to issue of air quality in the Vasco city and surrounding areas, the reports of the AAQM for the months of January, February and March were placed before the Board. The Board after taking into consideration the Phase I report of Dr. Sethi of Source apportionment, comments of Dr. Sengupta, Ex. Member Secretary, Central Pollution Control Board on the IIT study as well as comments on N.K. Verma, ex- Scientist, Central Pollution Control Board and also the observation of Dr. Boralkar on the IIT study report decided to accept the recommendation made by Dr. Sengupta and N.K. Verma and direct MPT to implement the said recommendation.

The Board also took in consideration that the Source Apportionment study is in progress and there is no conclusive evidence the high value of PM 10 recorded at fuse call and Sada are due to handling of coal at berth no. 5A and 6A which is also a part observation made by Dr. Boralkar in his comments on behalf of Goa foundation and decided to recommend the renewal of Consent to operate at 0.4 MMT/month.

Decision:

The Board resolved to grant renewal of Consent to Operate to M/s SWPL to handle coal at berth no. 5A and 6A for 0.4 MT/month and handling of limestone and steel of 1 million MT/annum each for a further period of one year upto 31/03/2020.

The Board also resolved to direct M/s Mormugao Port Trust (MPT) to include the recommendations made by Dr. Sen Gupta in the Source Apportionment Study and implementation of wind protection wall for dust emission control, including use of chemical binders and suppression.

The Board also resolved to direct MPT to implement the recommendations made by BITS Pilani in their study report and implement the measures on the other berths as the existing coal handling berths are already equipped with the record systems.

With reference to the conditions imposed on the units with regard to 'wind speed', the Board is in receipt of two representation from M/s South West Port Ltd. and M/s Adani Mormugao Port Terminal Pvt. Ltd. requesting to amend the Consent condition as issued vide addendum no. 5/356/18-PCB/CI-5403 dated 25/02/2019. The unit has requested to change the condition 6 (XXV) 'The port handlers shall not carry out activities when the wind speed is more than 10 km/hr. The unit has requested for permissible wind speed of 10 m/s against the 10 km/hr imposed by the Board.

After deliberations and scientific presentation made by the Scientific staff of the Board (Annexure 'B') on the wind speed data, scales and studies, decided to amend the conditions of Consent to permit handling of coal upto wind speed of 30 kms/hr with the following conditions (i) Normal operations permitted upto a wind-speed of 28 km./hr. (*i.e. Beaufort scale – 04*). (ii) Precautionary measured should be in place with proportionate scaling-down Operations when the wind-speed exceeds 28 km/hr. (*i.e. Beaufort scale – 05*) (iii) All operations should stop at a wind-speed of 30 km./hr. and amend the Consent of M/s Adani Mormugao Port Terminal Pvt. Ltd. (AMPTPL) as well as of M/s SWPL accordingly. However, the condition of wind speed will not be applicable to rail wagon loading activities and during monsoons.

The Board also resolved to amend the conditions of M/s AMPTPL to reduce stack height to 9 metres and to improve his existing wind shield .

Agenda item no. 06 - Request received from M/s Mormugao Port Trust for coal handling at Mooring Dolphin 1, 2 and 3

Member Secretary, informed the members that M/s Mormugao Port Trust has made an application to the Board for Consent to Operate for handling coal at Mooring Dolphin 1, 2, and 3.

Members perused the agenda notes and decided that M/s Mormugao Port Trust be called to make a presentation before the Board of his proposed activities. The item has been deferred to the next Board meeting.

Agenda item no. 07 - Request from M/s Mormugao Port Trust for grant of Common Consent for the entire berth.

Member Secretary informed the members that M/s Mormugao Port Trust has made a request for grant of Common Consent for entire Port of MPT. On perusal of the request made by the unit, the members decided that MPT makes a presentation before the Board of the activities carried out at the Port and have deferred this item to the next Board meeting.

Agenda item no. 08 - Revision of the of fees for Authorization issued by the Board under the Solid Waste Management Rules, 2016

Member Secretary informed the members that the Board at its 122nd meeting held on 28th November, 2016 had proposed to levy a fee of Rs. 10,000/- for issue of Authorisation for Municipal

Solid Waste. The fee was required to be reviewed in lieu of Solid Waste Management Rules, 2016 which has included in its ambit Village Panchayat or any facility handling solid waste. Member Secretary further informed that the fees are required to be imposed as the Board will be required to conduct inspections, compilation of annual reports and attending to complaints.

It is now decided that the following fee structure be followed to levy fees for authorisation / approvals as follows:

Municipal Councils / Corporations	Rs. 15,000/-
Village Panchayats (based on the grading of the Panchayat	Rs. 5,000/- to Rs. 10,000/-
Any other facility	Rs. 10,000/-

III. With the permission of the Chairman, Member Secretary placed the following items for discussion:

Table item no. 01

Public Interest Litigation – Writ Petition no. 33 of 2017

Memembr Secretary informed the members that the office was in receipt of a Notice from the Hon. High Court of Bombay at Goa Panaji, which was forwarded to the members, in respect of Public Interest Litigation – Writ Petition no. 33 of 2017 - Kashinath Jairam Shetye and 15 Ors. V/s The State of Goa, through Chief Secretary, Govt. of Goa and 5 ors. wherein the Constitution of the Board has been challenged.

Member Secretary further informed the members that Notification constituting the Board is issued by the the Director / Ex- officio Joint Secretary, Science, Technology and Environment in exercise of the powers conferred by sub-section (1) and (2) of section 4 of the Water (Prevention and Control of Pollution) Act 1974 (Central Act 6 of 1974), conveying the approval of the Government of Goa to re-constitute the Goa State Pollution Control Board for the period of three years from the date of Notification in Official Gazette.

Members after deliberations decided to write to the State Government to defend the Board members in the Court of Law.

It was also resolved that the Board shall appoint an independent Advocate to defend the case in the Court of Law. The members also authorised Member Secretary and Chairman to appoint an independent Advocate to defend the interest of the Chairman, Member Secretary and the Board members.

Table item no. 02

Categorisation of Industries

Members perused the categorisation of industries as below and decided to categorise as follows;

- a. Categorisation of marriage halls.... Under Green category of industries
- b. Categorisation of units dealing in assembly of antenna..... Under Green category
- c. Categorisation of units carrying out metal primer application / hand painting activity for fabrication work..... under White category

- d. Categorisation of manufacture of sanitary pads under Green Category

Table item no. 03

Application of M/s Pravin Kumar Gosalia, for Renewal of Consent to Operate under the Air Act and the Water Act, T.C. no. 4/NSD/BAUX/68 located at Betul, Quepem Goa.

Member Secretary informed the members that the Board is in receipt of an application from M/s Pravin Kumar Gosalia, for Renewal of Consent to Operate under the Air Act and the Water Act, T.C. no. 4/NSD/BAUX/68 located at Betul, Quepem Goa.

The members noted that the lease has expired, as such members suggested that the Board gets clarification from the unit in this regard.

IV. 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 Advisory Committee is constituted comprising technically and scientifically qualified professionals was re-constituted during the year under report vide Order no. 8/11/09-PCB/Vol.VIII/Tech/20390 dated 25/01/2018. 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 Pilani, Goa Campus, Zuarinagar, Goa
3. Prof. Neeraj Bale, Prof (Mechanical Engg.), Agnel Institute of Technology & Design, Assagao, Bardez 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
9. Mr. Sanjeev Joglekar, Environmental Engineer, Goa State Pollution Control Board.

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.

4.2 Delegation of Powers for Consent Management

As per decision taken by the Board at its 135th Meeting held on 2nd November 2018 the delegation of powers by the Board to its officers was revised for better operation and smooth functioning of the Board as being presently followed by the other State Boards. **Refer Annexure No. XII**

4.3 State Level Monitoring Committee to propose Plan of Action for Polluted Riverine Stretches

In order to contain the pollution levels, a state level monitoring committee is constituted comprising of the various departments. **Refer Annexure XIII.**

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 sponsored projects National Air Monitoring Programme (NAMP) and National Water Monitoring Programme (NWMP). The NAMP and NWMP projects covers 18 air quality monitoring locations and 61 water quality monitoring locations respectively within the State of Goa. The details of the projects are given as under.

5.1 National Air Monitoring Programme (NAMP)

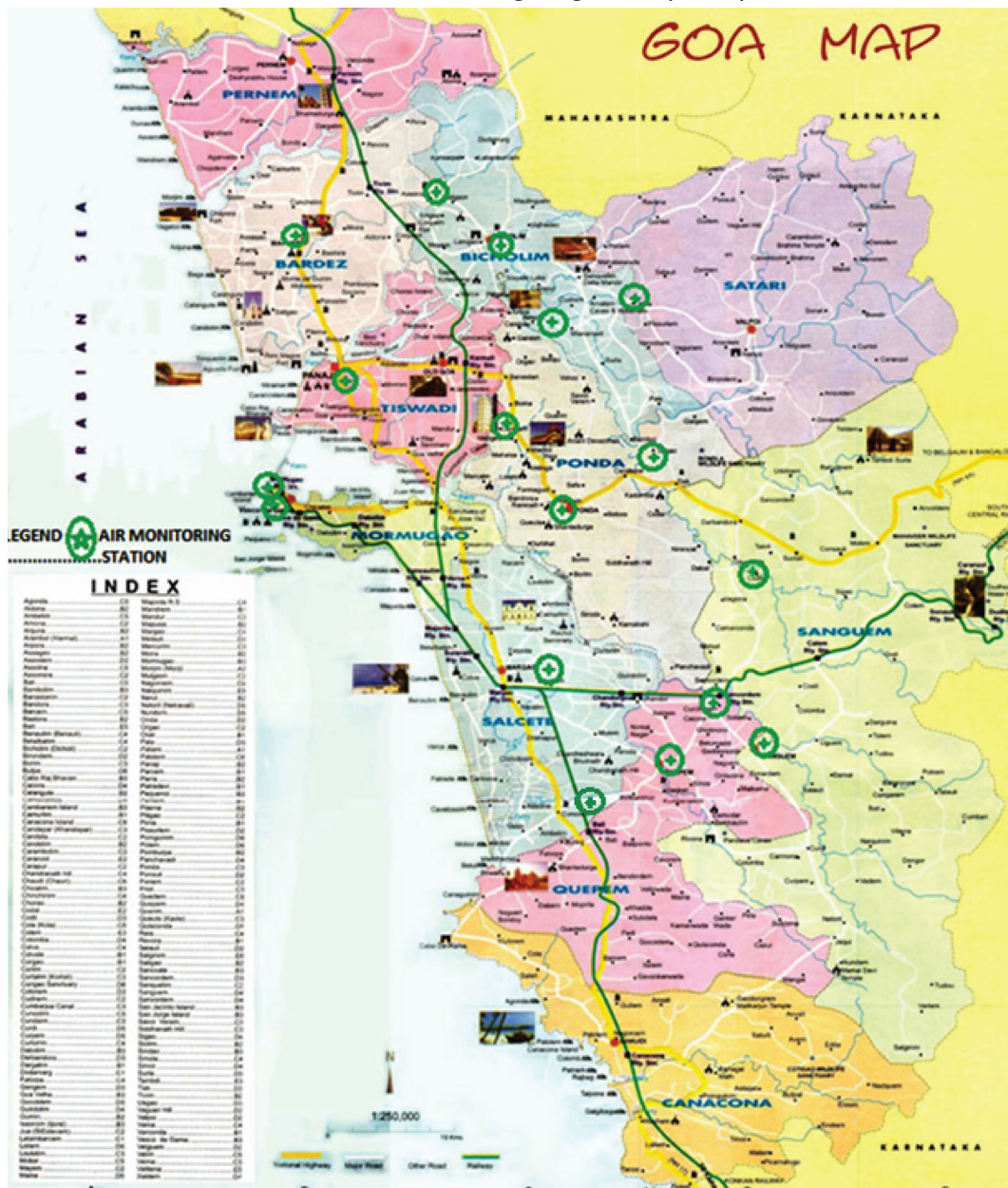
This is an ongoing activity funded by the Central Pollution Control Board, New Delhi under the National Air Monitoring Programme (NAMP). Under this programme the Board continued to monitor the ambient air quality at 18 locations within the state of Goa. The following are the stations under the NAMP project.

1. Panaji Town, Near GSPCB Office
2. Vasco Town, Near Electricity Department
3. Near Fire Brigade Station, MPT
4. Assanora
5. Bicholim
6. Honda
7. Codli
8. Amona
9. Usgao
10. Curchorem (was not operated due to renovations at the site)
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

The geographical location of the 18 air quality monitoring stations is shown in the map presented in Figure 5.1. Out of the 18 stations, the Board operates 4 stations, i.e., at Vasco, MPT- Mormugao and Panaji and Mapusa. The remaining 14 NAMP locations are outsourced to MOEF approved laboratories. The ambient air quality data for these stations observed during the year are given in Annexure V. The analytical results show the ambient air quality for the various locations monitored.

The parameters monitored at these locations include NO_x , SO_2 , PM_{10} and $\text{PM}_{2.5}$ and are monitored on regular basis. The monthly averages of the ambient air quality data indicates that there is an increase in the level of respirable particulate matter (PM_{10} and $\text{PM}_{2.5}$) at some locations, in beginning and end of the year. However, the annual averages indicate that the particulate matter levels are on a marginally reducing trend

Figure 5.1: Map of Goa showing the Ambient Air Quality Monitoring Stations under the National Air Monitoring Programme (NAMP)



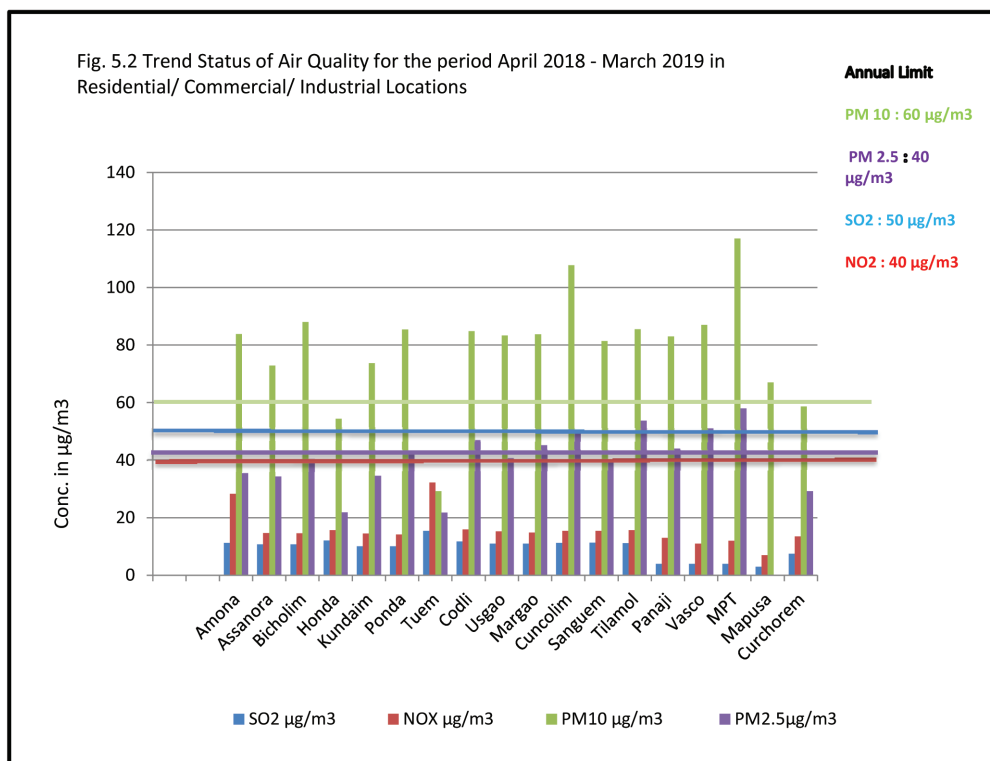
5.2 Trend Status of Ambient Air Quality in Goa

5.2.1 Ambient Air Quality in Goa

The Board is conducting ambient air quality monitoring at the following locations; viz; Panaji, Vasco, MPT area in Vasco, Mapusa, Margao, Ponda, Tuem Industrial Estate, Cuncolim Industrial Estate, Kundaim Industrial Estate, Amona, Usgao, Codli, Bicholim, Assnora, Sanguem, Quepem, Curchorem and Honda. The annual averages of PM10, PM2.5, SO2 and NO2 of the locations is shown below in Table 5.2 and Fig 5.2. The data indicates that the levels of SO2 and NO2 levels are within the permissible limits; where as, PM10 is exceeding the permissible limits at all locations except Tuem Industrial Estate and PM2.5 is exceeding at all locations except Amona, Assanora, Honda, Kundaim, Tuem Industrial Estate and Curchorem.

Table-5.2: Trend status of Air Quality for the period April 2018 – March 2019 at different locations in Goa

Sr. No	Parameter Location	SO ₂ µg/ m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³
1	Amona	11.2	28.31	83.84	35.5
2	Assanora	10.71	14.7	72.9	34.3
3	Bicholim	10.7	14.6	88	40.5
4	Honda	12.1	15.7	54.4	21.9
5	Kundaim	10.1	14.5	73.7	34.6
6	Ponda	10.1	14.2	85.4	42.9
7	Tuem	15.4	32.2	29.2	21.8
8	Codli	11.75	15.95	84.81	47.03
9	Usgao	11.01	15.26	83.31	40.75
10	Margao	10.99	14.82	83.72	45.22
11	Cuncolim	11.22	15.41	107.74	49.87
12	Sanguem	11.32	15.46	81.4	39.64
13	Tilamol	11.16	15.64	85.5	53.73
14	Panaji	4	13	83	44
15	Vasco	4	11	87	51
16	MPT	4	12	117	58
17	Mapusa	3	7	67	-
18	Curchorem	7.5	13.5	58.6	29.2
Annual Std		50.00	40.00	60.00	40.00



Parameters like Ozone (O₃), 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 (PM₁₀, PM_{2.5}, NO₂, SO₂, CO, O₃, NH₃, and Pb) for which short-term (up to 24-hourly averaging period) National Ambient Air Quality Standards are prescribed. (Refer Table 1)

Table 1 : AQI Category, Pollutants and Health Breakpoints								
AQI Category (Range)	PM ₁₀ 24-hr	PM _{2.5} 24-hr	NO ₂ 24-hr	O ₃ 8-hr	CO 8-hr (mg/m ³)	SO ₂ 24-hr	NH ₃ 24-hr	Pb 24-hr
Good (0-50)	0-50	0-30	0-40	0-50	0-1.0	0-40	0-200	0-0.5
Satisfactory (51-100)	51-100	31-60	41-80	51-100	1.1-2.0	41-80	201-400	0.5 –1.0
Moderately polluted (101-200)	101-250	61-90	81-180	101-168	2.1- 10	81-380	401-800	1.1-2.0
Poor (201-300)	251-350	91-120	181-280	169-208	10-17	381-800	801-1200	2.1-3.0
Very poor (301-400)	351-430	121-250	281-400	209-748*	17-34	801-1600	1200-1800	3.1-3.5
Severe (401-500)	430 +	250+	400+	748+*	34+	1600+	1800+	3.5+

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

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 2)

Table 2: AQI : Associated Health Impacts

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

The data has also been displayed in term of Air Quality Index (AQI) as provided in Annexure V for the various locations monitored

5.3 Water Quality Monitoring in the State of Goa

5.3.1 National Water Quality Monitoring Programme (NWMP)

The Goa State Pollution Control Board monitors water quality at 61 locations throughout Goa under the Central Pollution Control Board sponsored project NWMP. The water bodies monitored include rivers, wells, irrigation canal, lakes, reservoirs, and creeks. Among the rivers, the estuarine rivers as well the sweet 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 (well water) located within the industrial estates are also part of this programme. Besides coastal locations all along the coast of Goa which were monitored by the Board are also included under NWMP.

The 61 locations covered under this programme are distributed throughout Goa such that 33 stations are located in the North District and 28 are located in the South District.

GSPCB also monitors three locations under NRCP (National River Conservation Programme) the same are now included under NWMP.

NORTH GOA				
Sr. No.	Type	Rivers/ Lake/Canal/ Wells/Beaches	CPCB Classification as per designated best use	Location
1	R	Rv. Tiracol	Not classified	Tiracol
2	R	Rv. Chapora	Class 'C'	1.Near Alorna Fort, Pernem
3	R		Not classified	2.Siolim
4	R	Rv. Kalna	Class 'C'	Chandel, Pernem
5	R	Rv. Madei	Class 'C'	Dabos, Valpoi
6	R	Rv. Valvanti	Class 'C'	Sankli, Bicholim
7	R	Rv. Bicholim	Class 'C'	Baranzan Nagar, Bicholim

8	R	Rv. Assanora	Class 'C'	Assanora
9	R	Rv. Sinquerim	Not classified	1.Candolim Side Near Bridge
10	R		Not classified	2.Nerul Temple
11	R	Rv. Khandepar	Class 'C'	Opa – Ponda
12	R	Rv. Mandovi	Sea Water II	1.Tonca, Marcela
13	R		Not classified	2.Amona Bridge
14	R		Sea Water II	3.Mandovi Bridge
15	R		Not classified	4.IFFI Jetty
16	R		Not classified	5.Near Hotel Marriot
17	R	Rv. Mapusa	Sea Water II	Culvert on Mapusa-Panaji Highway
18	L	Anjunem Lake	Not classified	Anjunem
19	L	Mayem Lake	Class 'C'	Mayem, Bicholim
20	L	Carambolim Lake	Not classified	Carambolim, Old Goa
21	C	Cumbarjua Canal	Sea Water II	Corlim (Discharge Point of Syngeta Ltd.)
22	W	Well - Kudaim I.E.	Class 'A'	M/s Cadila Healthcare Ltd.
23	W	Well - Corlim I.E.	Class 'A'	Corlim Industrial Estate
24	W	Well - Pilerne I.E.	Class 'A'	M/s Unichem
25	W	Borewell - Bethora I.E.	Class 'A'	Bethora Industrial Estate
26	W	Borewell - Madkaim I.E.	Class 'A'	Madkaim Industrial Estate

List of Coastal stations monitored additionally included in under NWMP on monthly basis

27	B	Tiracol Beach	SWII	Tiracol
28	B	Miramar Beach	SWII	Miramar
29	B	Calangute Beach	SWII	Calangute
30	B	Morjim Beach	SWII	Morjim
31	B	Vagator Beach	SWII	Vagator
32	R	River Mandovi	--	Ribandner-Chodna Ferry Point
33-A	STP	Influent Sample	--	Tonca STP
33-B	STP	Treated Effluent Sample	--	Tonca STP

SOUTH GOA

Sr. No.	Type	Rivers/ Lake/Canal/ Wells	CPCB Classification as per designated best use	Location
1	R	Rv. Zuari	Sea Water II	1.Panchawadi
2	R		Not classified	2.Borim Bridge
3	R		Not classified	3.Marciam Jetty
4	R		Sea Water II	4.D/S of point where Kumbarjua Canal Joins
5	L	Rv. Sal	Not classified	1.Rumder
6	R		Not classified	2.Khareband, Margao
7	R		Sea Water II	3.Pazarconi, Cuncolim (Near Culvert Margao- Cancona NH)
8	R		Not classified	4.Orlim Bridge, Orlim
9	R		Sea Water II	5.Near Hotel Leela, Mobor, Cavelossim
10	R	Rv. Talpona	Class 'C'	1.Canacona
11	R	Rv. Khandepar	Class 'C'	Codli near Bridge, u/s OPA waterworks, Sanguem

12	R	Rv. Kushawati	Class 'C'	Near Bund at Kevona, Rivona, Sanguem
13	L	Salaulim Lake	Class 'C'	Salaulim, Sanguem
14	L	Raia Lake	Not classified	Curtorim
15	L	Saipem Lake	Not classified	Saipem
16	L	Curtorim Lake	Not classified	Curtorim
17	C	Agricultural Canal	Class 'E'	Agricultural Canal upstream of Cuncolim I.E. (1 Km from M/s Nicomet Ind.)
18	C	Agricultural Canal	Class 'E'	Agricultural Canal downstream of Cuncolim I.E. (1 Km from M/s Nicomet Ind.)
19	C	Dando Creek	Class 'C'	Dando Mollo, Velsao, Marmugao
20	W	Well - Verna I.E.	Class 'A'	M/s Cipla Limited
21	W	Well - Sancoale I.E.	Class 'A'	Sancoale Industrial Estate
22	W	Well - Zuari I.E.	Class 'A'	Zuari Industrial Estate, ZuariNagar
23	W	Borewell - Concolim I.E.	Class 'A'	Cuncolim Industrial Estate
List of Coastal stations monitored additionally included in under NWMP on monthly basis				
24	B	Mobor Beach	SWII	Mobor
25	B	Baina Beach	SWII	Baina
26	B	Galibag Beach	SWII	Galibag
27	B	Colva Beach	SWII	Colva
28	B	Velsao Beach	SWII	Velsao

The total 61 locations are divided into three groups i.e., (i) 40 locations which are being monitored monthly (ii) 9 locations (i.e. Bore wells) are monitored half yearly as per CPCB protocol and (iii) 10 new coastal locations (i.e. Beaches).

Six hundred and Sixteen samples collected from all these water bodies and analyzed during the year 2018-2019.

The data of the water samples analyzed during 2018-2019 was interpreted using the Central Pollution Control Board classification on the designated best use of the water body. From the water quality data analysis it is seen that the fecal coliform of River Mapusa, River Mandovi, River Sal, River Zuari does not comply with the prescribed CPCB standard for Fecal Coliform and Total Coliform values in water samples of River Bicholim showed exceedence throughout the year and at River Chapora at Alorna, River Kalna, River Assonora, River Valvanti, and River Madai showed exceedence on a average three months. From the water quality data analysis of it is found that the fecal coliform of river Mandovi at Ribandar-Chodna ferry point does not comply with the prescribed CPCB standard The water quality data during the year is given in Annexure.

From June 2018 at 10 coastal locations, 100 samples were collected from the beach all over the coast. The data of the water samples analyzed during 2018-2019 was interpreted using the Central Pollution Control Board classification on the designated best use of the water body for SWII limits. From the water quality data analysis it is found that the fecal coliform exceeds the prescribed limit at almost all locations, turbidity exceedance in the month of only June for almost all locations, and Biochemcial oxygen Demand exceedance for only one month at all locations in south Goa and exceedance for three months at only one location in North Goa.



Figure 5.3 below is a map of Goa showing the water quality monitoring locations under National Water Monitoring Programme; MINARS and NRCP & Beaches. The monitoring locations are indicated®

CHAPTER 6

PRESENT STATE OF ENVIRONMENT, ENVIRONMENTAL PROBLEMS AND COUNTER MEASURES

During the year under report, the Board initiated various studies with respect to important issues. Some of the studies have been initiated by signing Memorandum of Association (MoU) with reputed Institutions / Companies and some are initiated by the Board Scientists. The details of the studies are as follows:

6.1 Online Consent Management & Monitoring System for Goa State Pollution Control Board (OCMMS)

New software OCMMS system provides online processing of application processing, monitoring of various industrial activities related to pollution. This web based application package offers Consent Management, Waste Management System, Laboratory Management System, Integration of Payment Gateway in OCMMS, Alert and Notification through email, SMS etc., Report/Queries, Frequently Asked Questions (FAQ). The system has inbuilt user authentication and authorization mechanism, which defines role and provides access control accordingly.

Project Overview

Online Consent Management & Monitoring System for Goa State Pollution Control Board (OCMMS) is a web based Generic Application Software Package for automating the workflow associated with Consent Management and Monitoring System. This system allows the industries for the online submission of application for Consent to Establish (CTE)/Consent to Operate(CTO), authorization for various categories of Industries/Institutions. This system is helpful for concerned officials of SPCB for online monitoring of various activities of SPCBs. **OCMMS has been developed with support from the Ministry of Environment, Forest and Climate Change .**

General Features

- Highly interactive menu driven, user friendly online application
- State Specific Customization with minimum efforts
- Multi level Security Enabled System(Application, Database , Role based Access)
- Online Submission of Application, Approval, Clarification and other activities for CTE, CTO for all category of Industries/Institutions
- User management at all level, reviewers and approvals
- Online Workflow Management
- Online Application Tracking for Industry/SPCB officials
- Submission of Auto Renewal of Industry Application for Consent
- Digital signature for Consent/Authorization certificate
- Industry Consent/Authorization Status, Consent/Authorization certificate , No of industries registered in public domain
- E-Payment facility(NEFT/RTGS/Internet Banking/Debit and Credit Card/E-Wallet) through HDFC Bank for Industry
- Online Consent/Authorization/CESS Monitoring

- Centralized Dashboard for SPCB Member Secretary/Chairman for CTE/CTO/BMW/MSW/HWM/CESS application Monitoring
- Decision Support System – Guidelines, Alert/Notifications through Email/SMS
- Reports / Query
- Download Facility – Forms, Documents etc.
- Enhance transparency in the existing processing of application.
- Reduce the processing time of application and related paper work

Modules (Developed)

- Online Industry Registration
- User Management
- Consent Management
 - Consent to Establish for Red, Orange & Green Industries Including; Mines, Bio-medical Institutions/ Hospitals for Small, Medium and Large size industries.
 - Consent to Operate for Red, Orange & Green Industries Including; Mines, Bio-medical Institutions/ Hospitals for Small, Medium and Large size industries.
 - Work Flow Management for Consent/CESS/Authorization(BMW/HWM/SWM/E-waste)
- Lab Management System
- Report Dashboard for SPCB Member Secretary/Chairman
- Report Module for Consent/Authorization
- Annual Return under Authorization
- Public Grievances

6.2 Study conducted at Amona - in and around the VEDANTA PIG IRON PLANT in respect of WP No. 881/2017 dtd 26/11/18

The Goa State Pollution Control Board (GSPCB) had been directed by the Hon'ble HC w.r.t. W.P.No. 881/2017 dated 26/11/18 to conduct Ambient Air Quality Monitoring around the boundary of Vedanta Pig Iron Plant, Amona. The Board conducted the said study during December 2018 and the report was placed before the Hon'ble High Court. On perusing the report, the Hon'ble High Court further directed the Board to conduct the AAQM study for another month on every alternate day which was initiated in mid February 2019. The study is in progress. A brief of the study conducted in December 2018 is as below.

AAQM conducted at Amona in December 2018.

The GSPCB initiated Ambient Air Quality Monitoring for particulates (PM₁₀ & PM_{2.5}), SO₂ and NO_x around the Amona Pig Iron Plant boundary to ascertain the Air quality in the four geographic quadrants at intervals of 250 mts, 500 mtrs and upto a radius of 1000 mtrs as per directions of High Court. The GSPCB also conducted online Continuous Ambient air Quality Monitoring by deploying the CAAQMS Mobile Van within the premises of M/s. Vedanta Ltd. to check the effectiveness of Pollution Control measures by ascertaining the Ambient air Quality w.r.t. Particulate Matter (PM₁₀ & PM_{2.5}), SO₂, NO_x and Carbon Monoxide (CO)

The following sites were identified (Refer Table 01) for setting up of Ambient Air Quality Monitoring stations (manual) in and around the M/s. Vedanta Ltd; Pig Iron Plant –Amona.

TABLE 01: AAQM LOCATIONS

SI.No.	Location	Lat and Log of the site
	WEST QUADRANT	
1.	Shri. Mahalaxmi Ravalnath Temple, Amona (Western Quadrant W boundary limits of PIP Amona-350 mts Approx)	N15°31'50.10" E 73°58'48.10"
2.	Shri. Shantadurga Amriteshwar Temple, Amona(Western Quadrant W boundary limits of PIP Amona-520 mts Approx)	N15°31'50.70" E 73°58'43.40"
SI.No.	Location	Lat. and Log. of the site
3	Government Primary School, Kharwada, Amona(Western Quadrant W boundary limits of PIP Amona-1.01 Kmts Approx)	N15°31'58.00" E 73°58'25.50"
	NORTH QUADRANT	
4.	Government High School, Betalwada, Amona(Northern Quadrant N boundary limits of PIP Amona-500 mts Approx)	N 15°31'59.90" E 73°58'58.90"
	EAST QUADRANT	
5.	Shree Betal Temple, Navelim, Bicholim (Eastern Quadrant E boundary limits of PIP Amona-980 mts Approx)	N15°31'32.33" E 74°0'10.07"
	SOUTH QUADRANT	
6.	Shree Rampurush Temple, Betki, Khandola(Southern Quadrant S boundary limits of PIP Amona-800 mts Approx)	N15°30'58.03" E 73°58'59.46"

Additionally, the following sites were identified for conducting online monitoring by using Board's Mobile CAAQMS Van within the industry premises of M/s. Vedanta Limited.

TABLE 02: CAAQM LOCATIONS

Sr. No.	CAAQMS monitoring details	Lat and Log of the site.
1.	Near Raw Material Storage Area Within the plant (North)	N - 15°15'44.4" E - 074°00'31.6"
2.	Near Entry Gate of PIG Iron Plant of M/s. Vedanta Limited Amona Side. Area (South West.)	N - 15°15'47.5" E - 074°00'27.2"

The monitoring was conducted on twenty four hourly basis twice a week for a period from 01/12/2018 to 31/12/2018 at all manual locations as per schedule VII NAAQS of EPA 1986 as amended 2009. The Continuous Ambient Air Quality Monitoring was conducted within plant premises for 24 hours on two days.

INFERENCE:

As per field observations, anthropogenic activities in the vicinity that included burning of biomass (leaves, foliage, twigs etc), movement of vehicles and celebration of the local Jatra festival was evident. Shiny black particles were also observed, which were seen settled on the instrument as well as the platforms on the said sites excluding Betki and the Govt Primary school at Kharwada, which were both more than 500 mtrs radius in their respective Quadrants

Based on the results, observations and the inference drawn the following recommendations were made.

1. As per Board records, M/s Vedanta has obtained Consent to Establish for the installation of an additional bag house for further control of graphite emission. The unit may be directed to complete the installation and commissioning of the same within 60 days. Till the same is completed, the unit may be directed to provide corrective preventive measures to prevent fugitive emissions so as to maintain the air quality in and around the factory premises.
2. Though the industry has complied with the recommendations by NEERI for controlling graphite particle emission, it is still observed in form of the shiny particles found settled around the plant area.
3. The industry has already installed a Continuous Emission Monitoring Systems (CEMS) in Waste Heat Recovery Boiler I & II and may be additionally directed in compliance with the PIP's unit Consent to install a Continuous Emission Monitoring Systems (CEMS) on the Blast furnace (Hot Blast Stove –PIP) stack.
4. An environmental audit may be conducted by an authorized reputed agency to ascertain the extent of impact of the shiny black (allegedly graphite) particles in the vicinity for an in depth assessment of the pollution control practices adopted, with source apportionment study at cost to unit as per Board defined Terms of Reference.
5. In view of the exceedances noted on two consecutive days of monitoring, in two of the four quadrants, AAQM can be continued on alternate days at the existing 06 locations, for a minimum of one month at cost to unit.

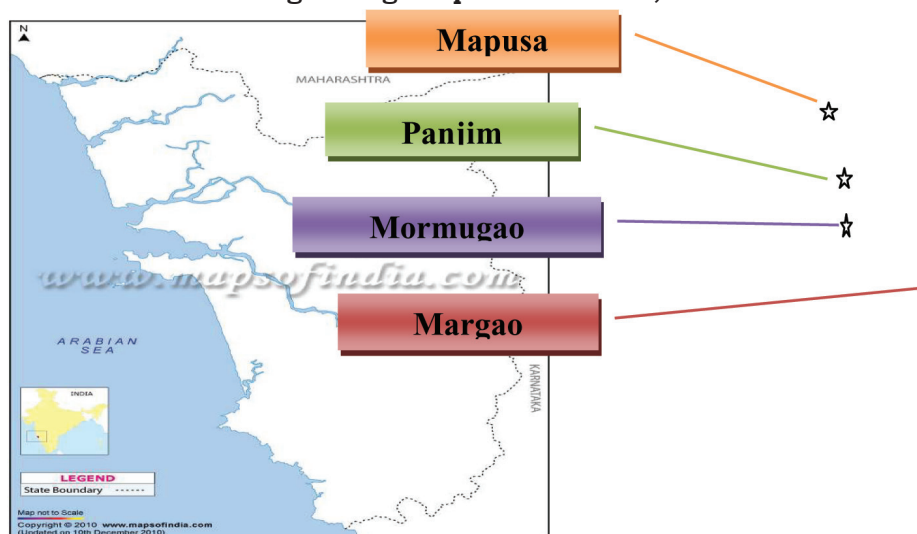
6.3 CONTINUOUS AMBIENT AIR QUALITY MONITORING STATION (CAAQMS) Mobile Van put on operation for conducting Ambient Air Quality Monitoring in and around the industrial premises in Goa. for the period from April 2018 to March 2019.



The AAQM were conducted at the following locations by deploying the CAAQMS Mobile Van to ascertain the Ambient Air Quality in and around the industries and other local areas in Goa.

Sl. No.	Date of Mobile CAAQMS Operations	Name & Address of Industry
2.	02/04/2018 to 06/04/2018	M/s. Goa Carbon Ltd; St. Jose De Areal Salcete-Goa
3.	18/04/2018 to 19/04/2018	M/s. Balaji Rollings Pvt. Ltd; Cuncolim Industrial Estate
4.	19/04/2018 to 20/04/2018	M/s. Sunrise Electromelt Pvt. Ltd; Cuncolim Industrial Estate
5.	21/05/2018 to 23/05/2018	M/s. MPT Sada, Within the Signal station at Headland Sada
6.	19/06/2018 to 21/06/2018	M/s. Goa Carbon Ltd; St. Jose De Areal, Salcete- Goa
7.	04/07/2018 to 06/07/2018	M/s. Hindustan Solid Waste Treatment Plant at Saligao
8.	24/07/2018 to 27/07/2018	M/s. Deccan Fine Chemicals (I) Pvt. Ltd; St. Monica Works, Corlim Ilhas Goa.
9.	31/07/2018 to 03/08/2018	M/s. Merck Ltd; Marvasada, Usgao, Ponda-Goa.
10.	06/08/2018 to 09/08/2018	M/s. MRF Ltd; Usgao, Ponda-Goa
11.	04/10/2018 to 05/10/2018	M/s. United Breweries Ltd; Bethora, Ponda-Goa
12.	08/10 2018 to 11/10/2018	M/s. Zuari Agro Chemicals Ltd; Zuarinagar-Goa
13.	30/10/2018 to 31/10/2018	Pernem Municipal Council , Pernem-Goa
14.	27/11/2018 to 29/11/2018	M/s. Alcon Cement Company Surla , Bicholim -Goa
15.	5/12/2018 to 15/12/2018	M/s. Vedanta Ltd; Amona, Goa
16.	16/01/2019 to 17/01/2019	M/s. Shirdi Steel Re-Rollers Pvt. Ltd; Cuncolim Industrial Estate,
17.	17/01/2019 to 18/02/2019	M/s. Global Ispat Ltd; Cuncolim Industrial Estate,
18.	21/1/2019 to 23/01/2019	M/s. Shraddha Ispat Pvt. Ltd; Santona-Goa
19.	30/01/2019 to 01/02/2019	M/s. Goa Sponge and Powers Ltd; Sntona-Goa
20.	18/02/2019 to 20/02/2019	M/s. MPT, Sada, Mormugao-Goa
21.	28/02/2019 to 01/03/2019	M/s. MPT, Sada, Mormugao-Goa
22.	07/03/2019 to 09/03/2019	M/s. Ambey Metallic Pvt. Ltd; Pissurlem Industrial Estate, Pissurlem-Goa

6.4 Noise Level Monitoring During Deepawali Festival, 2018



Noise level limits prescribed by CBCB

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

*Note: Monitoring values found exceeding the permissible limit are marked red

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: Mapusa Municipality

Description of monitoring site: Commercial

Activities around the monitoring location: Vehicle Movement

Data/Observations:

Noise level during Deepawali festival, 2018:

Location A: Mapusa	Normal Day (1-11-2018)			Deepawali Day (7-11-2018)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	55.6	88.6	68.8	54.9	91.7	67.6
19:00 to 20:00 Hr	51.2	84.0	67.7	57.7	82.3	65.6
20:00 to 21:00 Hr	55.6	76.0	60.1	53.9	84.7	64.4
21:00 to 22:00 Hr	36.6	94.9	78.6	53.7	84.9	64.4
22:00 to 23:00 Hr	36.6	78.3	62.4	53.3	91.6	64.5
23:00 to 24:00 Hr	37.0	79.9	55.7	39.2	98.1	75.7

Results: On normal day i.e on 1st November, considering the day time and night time noise level limits for Silence Zone i.e 75 dB for monitoring conducted between 18:00 to 22:00 Hrs and 65 dB for monitoring conducted between 22:00 to 24:00 Hrs, the noise levels were found to be exceeding the permissible limit between the time period of 21:00 to 22:00 Hrs.

On Deepawali day i.e on 7th November, the noise level monitoring exceeds the permissible limit for the time period of 23:00 to 24:00 Hrs.

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: Vehicle Movement

Data could not be retrieved 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: Vehicle Movement

Data/Observations:

Noise level during Deepawali festival, 2018:

Location C : Vasco	Normal Day (1-11-2018)			Deepawali Day (7-11-2018)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	55.0	82.7	65.6	53.1	73.4	55.5
19:00 to 20:00 Hr	55.6	85.4	66.6	60.7	74.9	61.2
20:00 to 21:00 Hr	59.6	86.7	69.8	60.2	78.4	64.5
21:00 to 22:00 Hr	57.5	87.3	68.4	64.1	86.2	68.3
22:00 to 23:00 Hr	59.6	80.0	64.3	59.8	69.8	65.1
23:00 to 24:00 Hr	49.2	87.7	66.1	57.2	66.4	59.7

Results: On normal day monitoring i.e on 1st November, considering the day time and night time noise level limit i.e 75 dB for monitoring conducted between 18:00 to 22:00 Hrs and 65 dB for monitoring conducted between 22:00 to 24:00 Hrs, the noise levels were found to be exceeding permissible limit from 23:00 to 24:00 Hrs.

On Deepawali day i.e on 7th November, the noise levels were found to be exceeding permissible limit from 22:00 to 23:00 Hrs.

City : Margao

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

Monitoring Location: Municipality Garden

Description of Monitoring Site: Commercial

Activities around the monitoring location: Vehicle Movement

Data/Observations:

Noise level during Deepawali festival, 2018:

Location D : Margao	Normal Day (1-11-2018)			Deepawali Day (7-11-2018)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	43.7	86.8	67.7	48.0	90.3	68.9
19:00 to 20:00 Hr	52.6	80.8	63.5	52.7	98.5	73.6
20:00 to 21:00 Hr	32.1	91.0	68.9	52.4	82.7	63.8
21:00 to 22:00 Hr	35.3	93.2	66.9	50.8	86.9	63.8
22:00 to 23:00 Hr	37.7	103.6	69.5	50.7	81.1	60.2
23:00 to 24:00 Hr	34.9	85.3	62.0	46.6	82.5	59.7

Results: On normal day monitoring i.e on 1st November, considering the day time and night time noise level limits i.e 75 dB for monitoring conducted between 18:00 to 22:00 Hrs, and 65 dB for monitoring conducted between 22:00 to 24:00 Hrs, the noise level limits were found to be exceeding permissible limits from 22:00 to 23:00 Hrs.

On Deepawali day i.e on 7th November, the noise levels were found to be within permissible limits.

As per the Noise Pollution (Regulation and Control) rules 2000, A person may, if the noise level exceeds the ambient noise standards by 10 dB(A) or more given in the corresponding columns against any area/zone [or, if there is a violation of any provision of these rules regarding restrictions imposed during night time], make a complaint to the authority.

* Census data source – www.citypopulation.de/india

6.5 Besides the NWMP, The Goa State Pollution Control Board has monitored Water Quality of Chapoli Dam and Salmona Spring.

The water quality data during the year is given in Annexure IV-2

Monitoring of Water Quality of Salmona Spring

Salmona Spring meets the prescribed limits for Drinking Water Standards for all the parameters except for pH for the month of September 2018 and March 2019 were it is not within the permissible limits and exceeding the limits for turbidity for the month of June, Dec 2018 and March 2019.

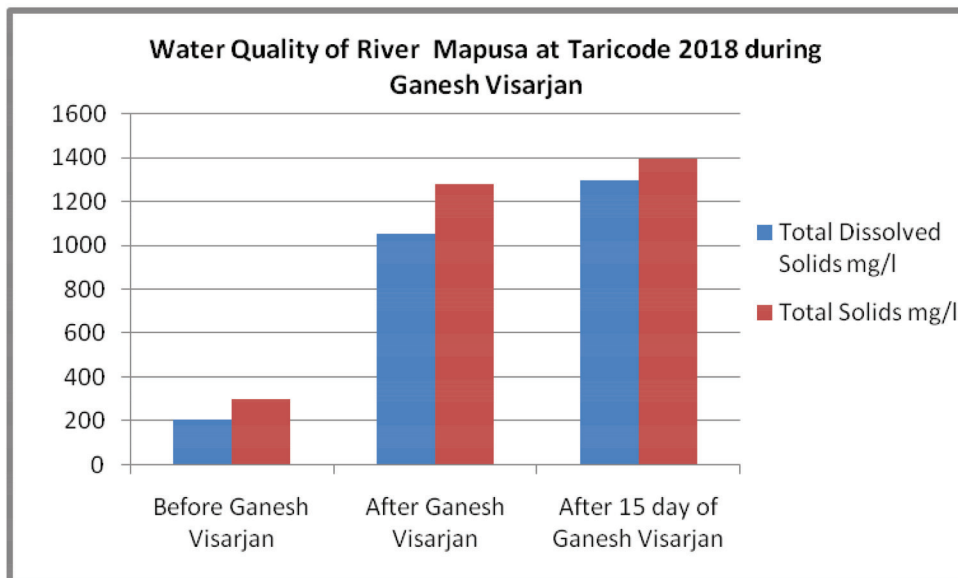
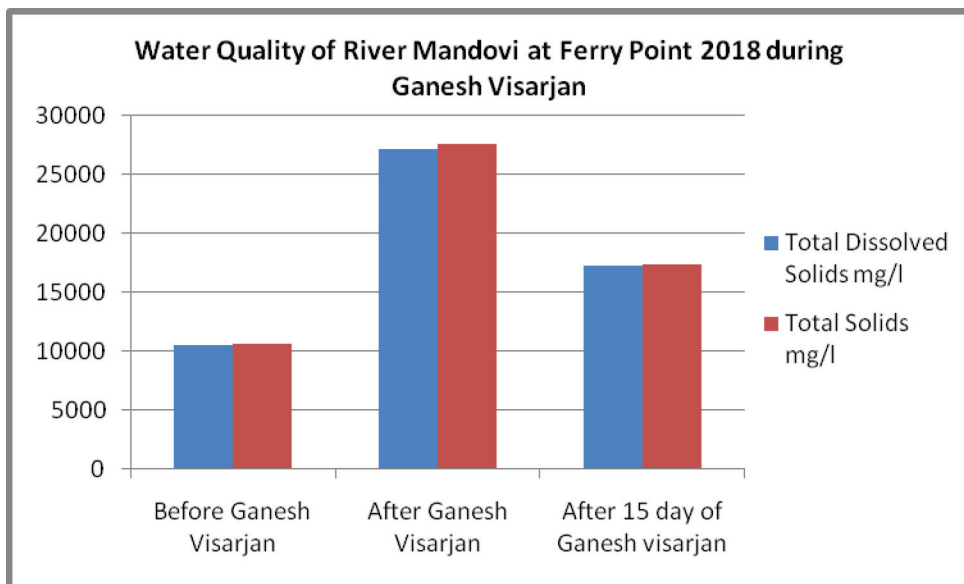
Monitoring of Water Quality of Chapoli Dam

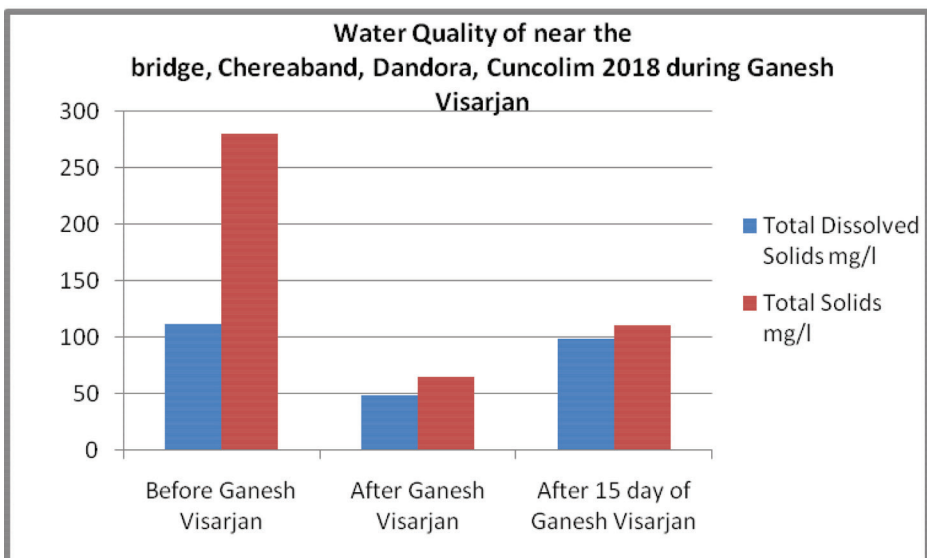
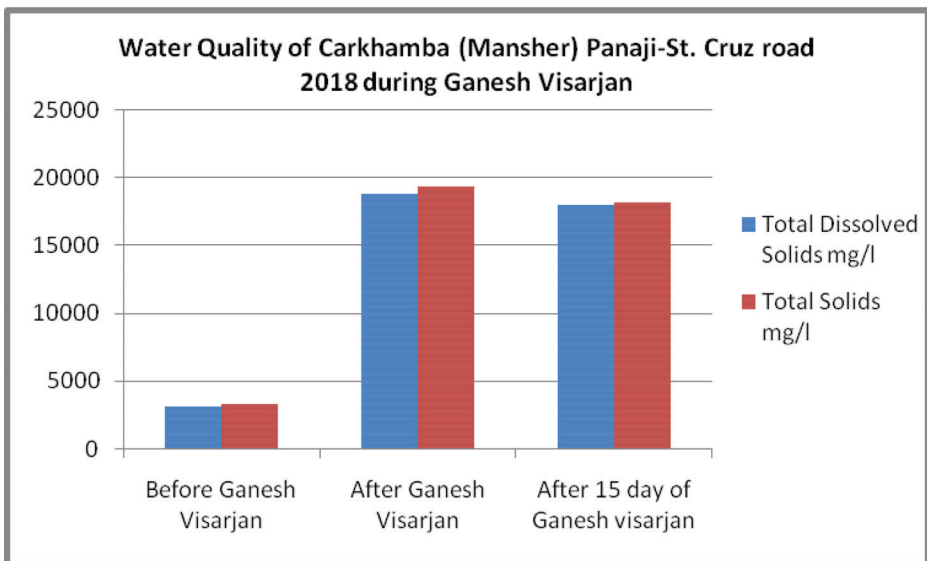
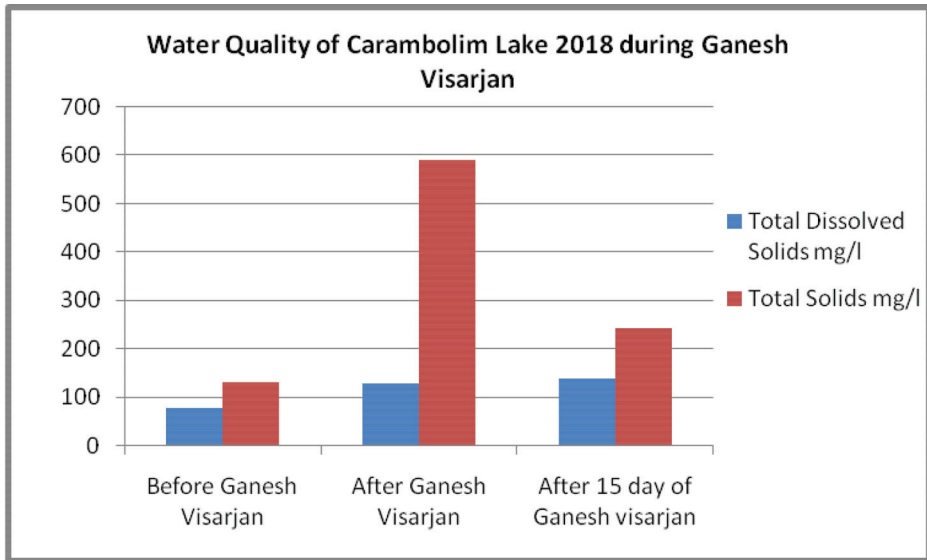
Chapoli Dam meets the prescribed limits for Class C classification for pH, Biochemical Oxygen demand and Dissolved Oxygen. However it exceeds only at 1 occasion for Total Coliform in the year 2018-2019.

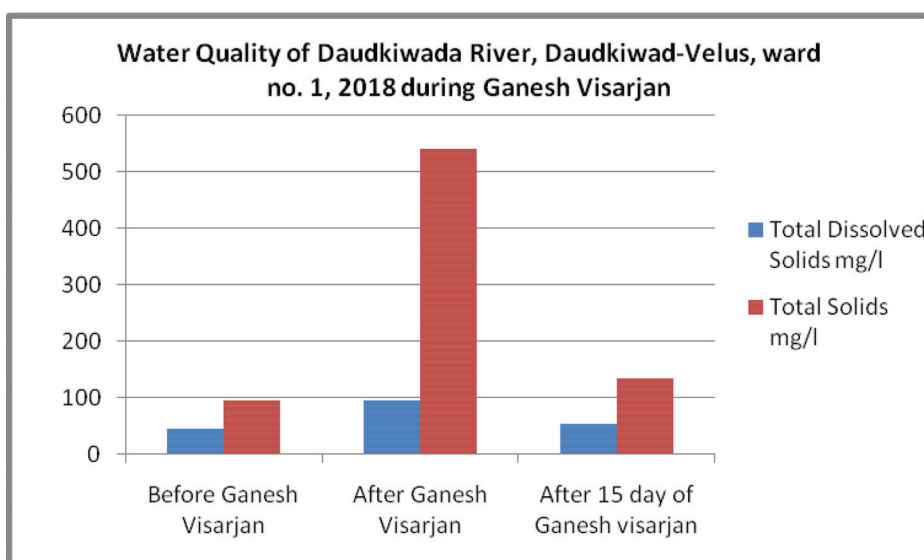
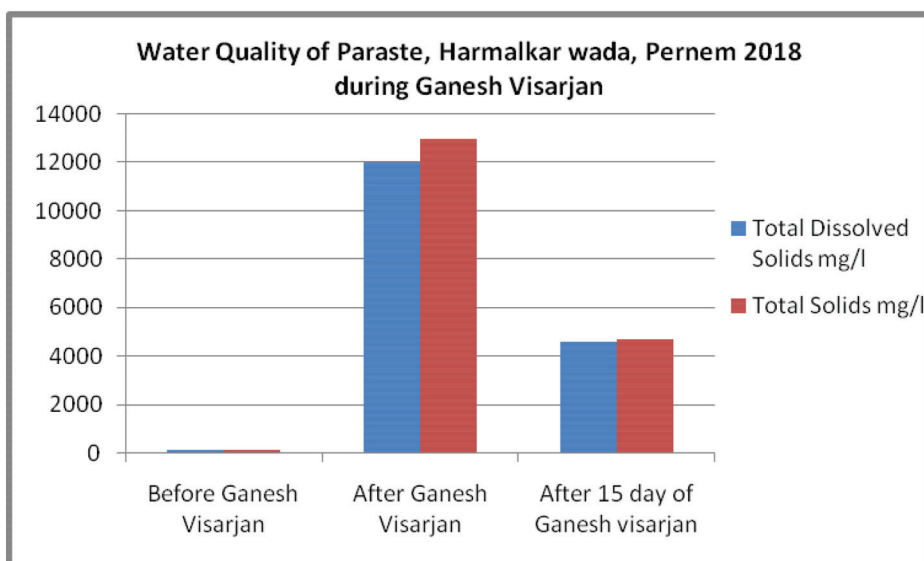
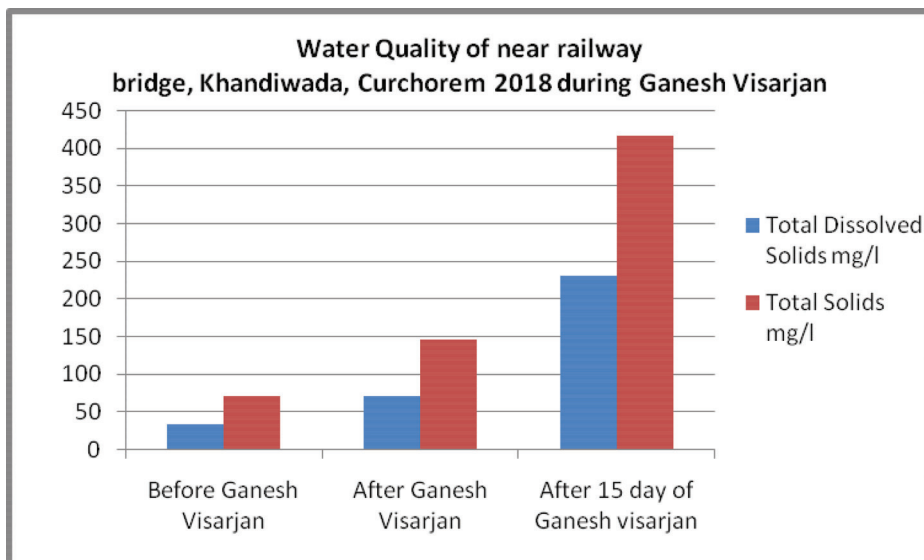
The water quality data during the year is given in Annexure IV-1

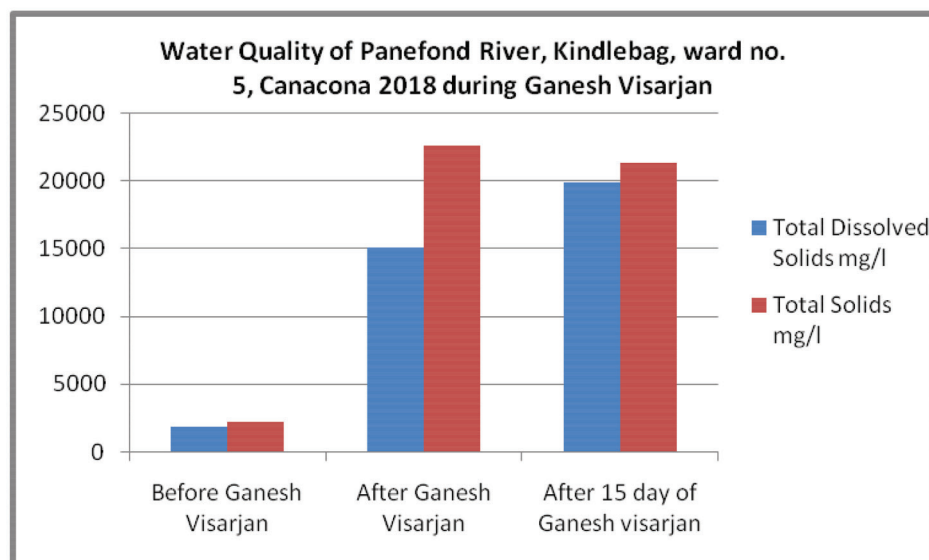
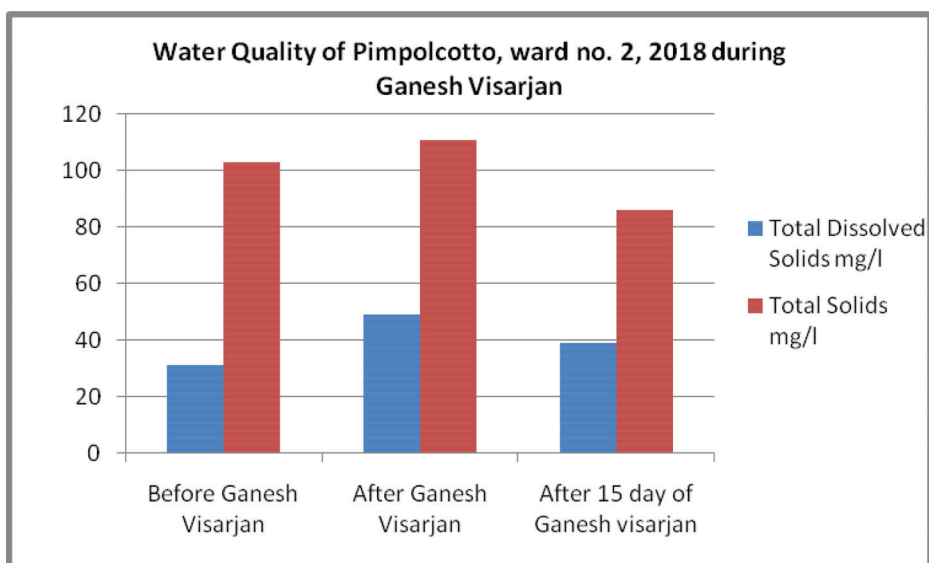
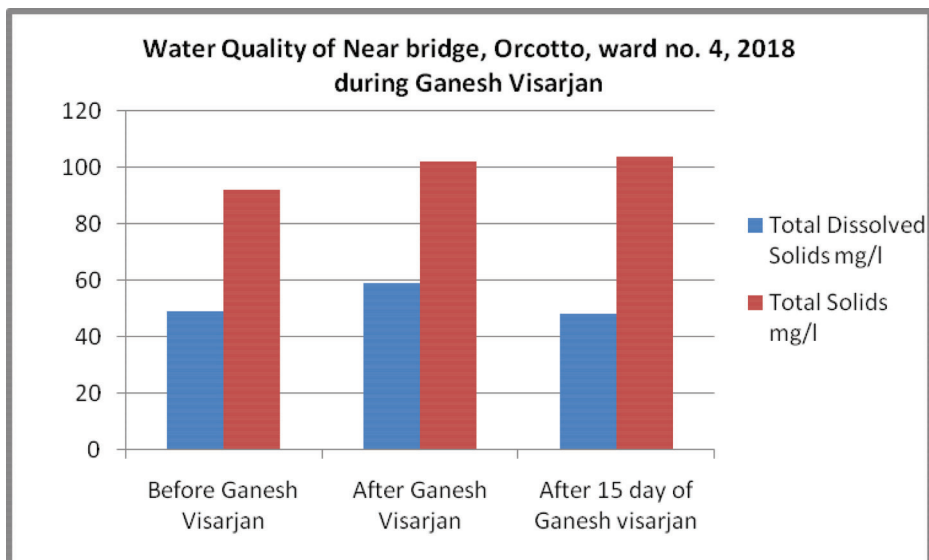
6.6 Monitoring of Water Quality Pre and Post Ganesh Visarjan

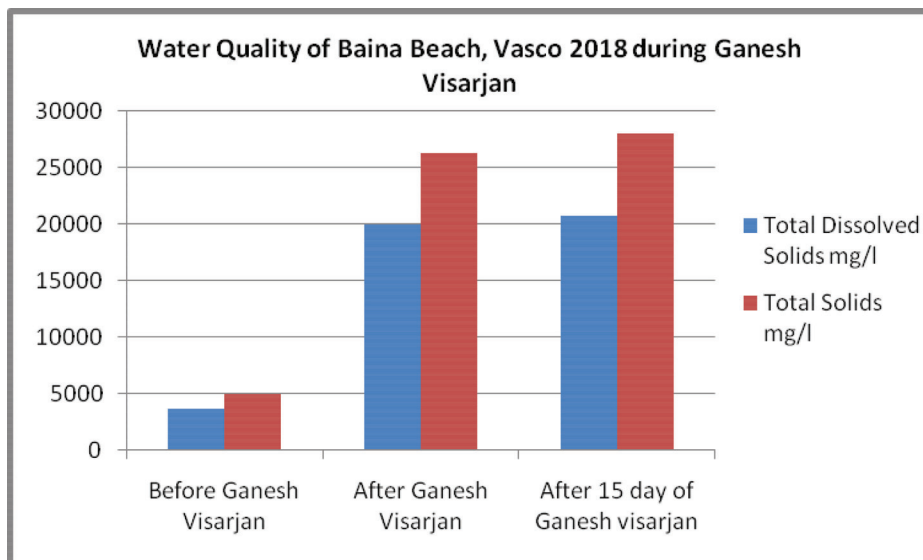
The Goa State Pollution Control Board monitors water quality at 12 locations as per the directives of Central Pollution Control Board, Pre and Post Ganesh Visarjan. As per the water quality data given at Annexure-V the measured values indicate increase in Conductivity, Total Solids and Dissolved Solids post Visarjan at almost all locations with exception of one location at Chereaband, Dandora, Cuncolim the measured values showed decrease in Total Solids and Dissolved Solids.











6.7. ANNUAL REPORT OF STACK MONITORING FOR THE YEAR APRIL 2018 TO MARCH 2019

During the year under report, the Goa State Pollution Control Board conducted Stack Emission Monitoring programmes for 36 stacks in different industries within the State of Goa. The units mostly comprise of induction furnaces, reheating furnace, boilers, Cement Mill and Thermic Fluid Heater. The details of the stack emission monitoring conducted are presented below.

Table 6.3: Details of Stack Emission Monitoring conducted during the year

Sr. No.	Area	Industrial Area	Name of Unit	Type of Stack	Date of Sampling
1	-	Verna Industrial Estate	M/s Blue Cross Laboratories Ltd	Boiler (600Kg /hr)	02.04.18
2	-	Madkaim Industrial Estate	M/s Sun Pharmaceuticals Industries Ltd	Boiler (850Kg/hr)	04.04.18
3	-	Bicholim Industrial Estate	M/s Venus Ethoxyethers Pvt Ltd	Boiler (1T/hr)	09.04.18
4	-	Bicholim Industrial Estate	M/s Venus Ethoxyethers Pvt Ltd	Boiler (1T/hr)	11.04.18
5.	-	Verna Industrial Estate	M/s Indoco Remedies Ltd	Boiler (3T/hr)	16.04.18
6.	-	Verna Industrial Estate	M/s Indoco Remedies Ltd	Boiler (2T/hr)	18.04.18
7.	-	Verna Industrial Estate	M/s Indoco Remedies Ltd	Boiler (2T/hr)	23.04.18

Sr. No.	Area	Industrial Area	Name of Unit	Type of Stack	Date of Sampling
8.	-	Verna Industrial Estate	M/s Indoco Remedies Ltd	Boiler (600 Kg/hr)	26.04.18
9.	-	Cuncolim Industrial Estate	M/s . Rukminirama Steel Rollings Pvt Ltd	Induction Furnace (12 MT/Hr)	02.05.18
10.	-	Cuncolim Industrial Estate	M/s . Shraddha Ispat Pvt Ltd	Induction Furnace (12 MT/Hr)	04.05.18
11.	-	Margao Ind. Estate	M/s. Goa Carbon Ltd.	Rotary Kiln (1,00,000MT/annum)	09.05.18
12.	-	Kundaim Industrial Estate	M/s . West Coast Ingots Pvt Ltd	Induction Furnace (6 MT/Hr)	11.05.18
13.	St.Inez ,Panaji – Goa.	-	M/s. Kamat Constructions & Resorts Pvt Ltd, (Vivanta by Taj)	Hot Water Generator (2Lak Kcal/hr)	1.10.18
14.	St.Inez ,Panaji – Goa.	-	M/s. Kamat Constructions & Resorts Pvt Ltd, (Vivanta by Taj)	Hot Water Generator (2Lak Kcal/hr)	8.10.18
15.	Donapaula , Tiswadi-Goa.	-	M/s. Fomento Resorts & Hotels Ltd(Cidade de Goa)	Hot Water Generator (4Lak Kcal/hr)	11.10.18
16.	Navelim , Bicholim - Goa.	-	M/s. Vedanta Limited (Sinter Plant)	Pig Casting Machine cast house de dusting	15.10.18
17.	Navelim , Bicholim - Goa.	-	M/s. Vedanta Limited (Pig Iron Plant)	Hot Blast Stove (1& 2)	17.10.18
18.	Navelim , Bicholim - Goa.	-	M/s. Vedanta Limited (Pig Iron Plant)	Hot Blast Stove (1& 3)	22.10.18
19.	Navelim , Bicholim - Goa.	-	M/s. Vedanta Limited (Waste Heat Recovery Power Plant -2)	Waste Heat Recovery Boiler No.1 (65.00 tons/hr))	24.10.18
20.	Navelim , Bicholim - Goa.	-	M/s. Vedanta Limited (Waste Heat Recovery Power Plant -2)	Waste Heat Recovery Boiler No.2 (65.00 tons/hr))	29.10.18

Sr. No.	Area	Industrial Area	Name of Unit	Type of Stack	Date of Sampling
21.	Amona Village , Bicholim - Goa.	-	M/s. Vedanta Limited (Waste Heat Recovery Power Plant -1)	Waste Heat Recovery Boiler No.1 (64.00 tons/hr))	31.10.18
22.	Amona Village , Bicholim - Goa.	-	M/s. Vedanta Limited (Waste Heat Recovery Power Plant -1)	Waste Heat Recovery Boiler No.2 (64.00 tons/hr))	05.11.18
23.	-	Kundaim Industrial Estate	M/s. LIBOX CHEM (INDIA) PVT.LTD	Boiler (4MTPH)	07.11.18
24.	-	Verna Ind. Estate	M/s. Cipla Limited	Boiler (3.5TPH)	12.11.18
25.	-	Verna Ind. Estate	M/s. Cipla Limited	Boiler (2.8TPH)	21.11.18
26	River Mandovi ,Goa	-	M/s. Goa Coastal Resorts & Recreation Pvt Ltd (Pride 1)	DG NO.4 (893 KVA)	27.11.18
27.	River Mandovi ,Goa	-	M/s. Goa Coastal Resorts & Recreation Pvt Ltd (Pride 1)	DG NO.3 (893 KVA)	30.11.18
28.	River Mandovi ,Goa	-	M/s. Goa Coastal Resorts & Recreation Pvt Ltd (Pride 1)	DG NO.2 (893 KVA)	05.12.18
29.	River Mandovi ,Goa	-	M/s. Goa Coastal Resorts & Recreation Pvt Ltd (Pride 1)	DG NO.5 (313 KVA)	07.12.18
30	River Mandovi ,Goa	-	M/s. Goa Coastal Resorts & Recreation Pvt Ltd (Pride 1)	DG NO.1 (893 KVA)	12.12.18
31	-	Verna Ind. Estate	M/s. Cipla Limited	Boiler (3.5TPH)	02.01.19
32	-	Verna Ind. Estate	M/s. Cipla Limited	Boiler (3.5TPH)	04.01.19
33	-	Verna Ind. Estate	M/s. Cipla Limited	Boiler (2.8TPH)	08.01.19
34	-	Verna Ind. Estate	M/s. Cipla Limited	Boiler (5.0TPH)	10.01.19
35	-	Verna Ind. Estate	M/s. Cipla Limited	Boiler (2.0TPH)	14.01.19

Sr. No.	Area	Industrial Area	Name of Unit	Type of Stack	Date of Sampling
36	-	Cuncolim Ind. Estate	M/s. Trimurty Industries Ltd	Reheating Furnace (Rolling Mill)	16.01.19
37	-	Cuncolim Ind. Estate	M/s. Global Ispat Ltd	Induction Furnace (8MT)	21.01.19
38	-	Cuncolim Ind. Estate	M/s. Global Ispat Ltd	Induction Furnace (5MT)	28.01.19
39	Haturlim, Bicholim ,Goa	-	M/s. Zantye Brothers	Drum Roaster	30.01.19
40	-	Verna Ind. Estate	M/s. FDC Limited	Boiler No.1 (600kg/hr)	04.02.19
41	-	Verna Ind. Estate	M/s. FDC Limited	Boiler No.2 (600kg/hr)	06.02.19
42	-	Madkaim Ind. Estate	M/s. Twenty First Century Wire Rods Ltd, Plot No. D-9/1,	Induction Furnace	13.03.19
43	-	Madkaim Ind. Estate	M/s. Goa Ispat Ltd, Plot No. E-6,E-7	Reheating Furnace Rolling Mill	19.03.19
44	-	Madkaim Ind. Estate	M/s. Goa Ispat Ltd, Plot No. E-6,E-7	Induction Furnace	22.03.19
45	-	Kundaim Ind. Estate	M/s. Shivam Ispat Pvt Ltd, Plot No. 333-335	Induction Furnace	25.03.19
46	-	Kundaim Ind. Estate	M/s. Mandovi Casting Pvt Ltd.	Induction Furnace	27.03.19

The results of the stack emission monitoring indicate that the emissions from the flue gases are within the permissible limits except for two stacks for which the emissions exceeded the permissible limits.

6.8 SOURCE APPORTIONMENT STUDY ON THE AMBIENT AIR QUALITY OF MPT PORT AREA

GSPCB initiated an Air Pollution Source Apportionment Study in Vasco da Gama through IIT Bombay with a view to address the issue of Particulate Matter in the ambient air. The duration of the study is 18 months for which Work order was issued on 08/11/2017. The study is currently in progress.

As per the Interim Report, the summary of the project activities have been detailed out in the following table. The activities included in the study are:

1. Preliminary field sampling
2. Sampling location identification survey
3. Pre-monsoon sampling
4. Historical ambient air quality data analysis
5. Dispersion modeling (AERMOD)
6. Sampling near the source
7. AERMOD runs with revised emission estimates and the implications
8. Coupon Sampling

The Details of locations proposed for seasonal sampling after site surveys in February 2018 are detailed out in the report as follows.

Sl. No	Site	Type of Location	Location direction
1	MPT Guest House	Residential	North West of Vasco
2	NCAOR, Vasco	Residential	South West of Vasco
3	Vasco NAMP site	Commercial location with traffic, Restaurants and commercial activities in the vicinity	Central Location in Vasco
4	Baina Residential Location	Represents low and middle income housing area	Towards the Southern Vasco
5	Chafraan Residential Colony	Densely populated low income group residential location	Towards the South East of Vasco
6	Near SMC Hospital	Higher income residential location	East of Vasco and located on top of a hillock
7	Village Panchayat of Chicalim	Mixed area with traffic and rural impact	North East of Vasco

Results and Discussion

The observations from all the activities listed above are as briefed below:

1. First Sampling Survey

The first field sampling survey included a loop study in Vasco da Gama and a co-located 24 hour PM sampling with the CAAQMS located at JSW. Loop studies were carried out three times in a day: in the morning, afternoon and evenings, with a hand-held real time instrument (TSI: DustTrak) for PM_{10} and $PM_{2.5}$.



Figure : Five sampling points in the loop measurement study (pink) during the First Sampling Survey conducted in November, 2017. The blue pins show the points where spot measurements were made to decide the loop locations.

- i. The $PM_{2.5}$ concentrations are spatially similar throughout the loop locations, but vary with the time of the day. These were about $200 \mu g/m^3$ in morning, $150 \mu g/m^3$ in the afternoon and $100 \mu g/m^3$ in the evening.
- ii. Temporal variation of PM levels in the port area were obtained from Optical Particle Counter (OPC) and Dust Trak measurements at the JSW CAAQMS site.
- ii. Size distribution of PM in Fish Market as compared to evening and afternoons the coarse mode in the morning period is more prominent.

2. Pre-monsoon sampling

IIT, Bombay made use of a dispersion model (AERMOD) in order to decide the sampling locations for the pre-monsoon sampling and assess the effect of port activities on air quality of Vasco. With the use of Meteorology data (MM5) it was seen that the wind data indicated that the predominant wind direction during April - May months is North-West i.e., from port towards the city. Two locations i.e., JSW and Adani were considered as the only two sources in the model simulations to assess the extent of contribution from port activities to the neighbourhood areas of Vasco city. The coal handled in JSW and Adani ports were assumed to be 20 MTA and 10 MTA respectively.

3. Historical Pattern of PM levels

Based on CAAQMS data provided by MPT for 2016-2018 for Adani and JSW sites, it was observed that in many cases $PM_{2.5} > PM_{10}$, indicating some possible error in the measurement. Very low values of PM_{10} were also observed which could be due to a need for QA/QC at these stations.

A detailed historical data analysis was conducted for the stations in and around Vasco da Gama using the data provided by GSPCB. The historical trend shows that the PM levels in the MPT port and the corresponding Vasco city are similar. The reduced PM levels in June-September months (the monsoon season) indicate that the coarse mode aerosols may be the predominant contributor.

4. AERMOD

A regulatory dispersion model called AERMOD was used to study the extent of influence of the port activity on the study area.

5. Sampling Near the Source

This was done on the basis of the annual coal handling capacity

6. Assessment of Emission Factor (EF) for the port

The total cargo handled at Adani and JSW during the sampling period was 40500 metric tons and 40778 metric tons respectively. Based on this cargo handling capacity the revised emission factor estimates were made by considering a series of cases.

7. Implication in terms of influence with distance from source

From isopleths it is implicated if the PM at near source is $\sim 10 \mu g/m^3$, then within 1 km towards Vasco it reduces to $\sim 0.5 \mu g/m^3$. The PM_{10} at the berth were measured as $128 \mu g/m^3$ to $452 \mu g/m^3$. If these were to be selected, then it is expected that the contribution at 1 km would be 6.4 to $23 \mu g/m^3$, and at 2 km would be 1.28 to $5 \mu g/m^3$.

8. Coupon Samples

Coupon samples were collected to identify the level of coarse mode particulate deposition. These samples were collected at both the source region and from MPT admin office terrace, which are about 100 m away from the port. IIT is analyzing the samples to assess the size range of the particles that settle out in and around the port area.

Summary and Conclusions submitted in the Interim Report

The following preliminary conclusions may be drawn from the observations made through the field studies, historical data analyses and AERMOD results for the study area:

- The pre-monsoon measurements and the historical data from GSPCB and CAAQMS data from MPT show that the pollution levels comes down during rain. It was also identified that the coarse mode particulates are being removed during rain.
- The observed concentrations of PM₁₀ at the loading areas were in the range 128 µg/m³ to 452 µg/m³. The concentration of PM at the fire brigade station also was observed to be below 200 µg/m³ (data was available till 2014).
- AERMOD results with port as the single source as expected indicate that the PM concentration reduces with distance from the source. Using the decay data from the isopleths, it is predicted that, based on a ~130-450 µg/m³ level PM₁₀ at the port, the contribution at 1 km and 2 km distance from the port would be of the order of 23 to 5 µg/m³ respectively.
- The source apportionment exercise to be carried out is important to understand the mix of other sources in the wider Vasco da Gama area and not just the contribution from the port area.

Overview of the Findings of the Study on Particulate Source Apportionment Study for Air Quality in Vasco da Gama, Goa, by IIT Bombay.

- Based on the modelling results for the meteorological conditions, and the measurements done by IIT, the contribution of port activities (coal handling) to the air pollution in Vasco is not significant.
- Road dust in the port area needs to be controlled to prevent re-suspension by moving vehicles.
- The PM₁₀ sampling does not include the potential nuisance value due to the settling of large sized particles. These have not been measured in the present study and would require a separate study with different protocols. The acceptable levels of such dry deposition, to the best of our understanding, are not articulated and would need to be investigated.
- From the historical data provided by GSPCB, the air pollution levels in Vasco are similar to those in other parts of Goa.
- The source apportionment study (in progress) would be useful in identifying OTHER sources that are contributing significantly to the PM air pollution at the selected receptor locations in Vasco. The port activities alone do not explain the levels of PM.

6.9 PERFORMANCE EVALUATION STUDIES OF SEWAGE TREATMENT PLANTS OPERATING AT COLVA, SALCETE – GOA

As per directions of the Hon'ble High Court passed in PIL WP/15/2011 contained in order dated 07/01/2019, Goa State Pollution Control Board has carried out the Performance Evaluation of 17 unit's Sewage Treatment Plants located at Colva, Salcete - Goa to ascertain the quality of treated waste water and its compliance with the consent parameter limits under water Act.

1. SEWAGE TREATMENT PLANT – M/S GOA TOURISM DEVELOPMENT CORPORATION (COLVA RESIDENCY), SURVEY NO. 37/1, 37/2, 37/3, 37/4 & 37/5, COLVA, SALCETE – GOA FROM 29.01.2019 TO 30.01.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 47 rooms and 1 restaurant with seating capacity of 20 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **32 KLD** of waste water, however, only **15 KLD** of waste water were generated during monitoring period as the hotel occupancy was **40%**.
- c. The kitchen waste water via oil & grease trap and 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 stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **186 mg/l**, **135 mg/l** and **1.8 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **30ml/l**, e.i. **3%** of sludge in the **Aeration tank** and calculated SVI was **161ml/g** which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at **22.8 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters exceeds the prescribed standard limits.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage 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.
- b. Also the unit needs to provide chlorine dosing for further treatment and provide adequate sludge drying bed.

2. SEWAGE TREATMENT PLANT – M/S STAR BEACH RESORT, SURVEY NO. 24/26, COLVA, SALCETE – GOA FROM 29.01.2019 TO 30.01.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 72 rooms and 1 restaurant with seating capacity of 20 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **20 KLD** of waste water, however, **21 KLD** of waste water were generated during monitoring period as the hotel occupancy was **100%** and the capacity of existing STP is not sufficient to treat the sewage generated during 100% occupancy.
- c. The kitchen waste water via oil & grease trap and 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 stored in final

treated water tank and used for gardening.

- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **30 mg/l**, **24 mg/l** and **<1 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **20ml/l**, e.i. **2%** of sludge in the **Aeration tank** and calculated SVI was **667ml/g** which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at 2.74 **per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage 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.
- b. Also the unit needs to provide chlorine dosing for further treatment and provide adequate sludge drying bed.
- c. The Kitchen of the unit is adjacent to STP and needs to be shifted immediately due to unhygienic conditions.
- d. The unit may be directed to comply with the consent conditions issued by the Board.

3. SEWAGE TREATMENT PLANT – M/S COLVA-SOUL VACATION LLP, SURVEY NO. 40/4, COLVA, SALCETE – GOA FROM 01.02.2019 TO 02.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 32 rooms and 1 restaurant with seating capacity of 40 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **25 KLD** of waste water, however, only **15 KLD** of waste water were generated during monitoring period as the hotel occupancy was **73%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and carbon filter. The treated water is stored in final treated water tank and used for gardening.

- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **2100 mg/l, 1745 mg/l** and **1.0 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of appr. **800ml/l**, e.i. **80%** of sludge in the **Aeration tank** and calculated SVI was **381ml/g** which indicates higher amount of untreated sludge present in the Aeration tank.
- f. The activated sludge plant was operating at F/M ratio at **0.12 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- i. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, high amount of untreated sludge remains in the aeration tank indicates low DO.
- j. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge & calculated SVI is in excess, indicates higher amount of untreated sludge remains in the Aeration tank. The sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide chlorine dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform & presence of E. Coli and to provide adequate sludge drying bed.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

4. SEWAGE TREATMENT PLANT – M/S COLMAR HOTELS PVT LTD (COMAR BEACH RESORT), SURVEY NO. 40/4, COLVA, SALCETE – GOA FROM 01.02.2019 TO 02.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 156 rooms and 1 restaurant with seating capacity of 100 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **100 KLD** of waste water, however, only **40 KLD** of waste water were generated during monitoring period as the hotel occupancy was **38%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and carbon filter. The treated water is stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **100 mg/l, 72 mg/l** and **<1 mg/l** respectively.

- e. The settleability test shown settled volume of sludge of apprx. **5ml/l**, e.i. **0.5%** of sludge in the **Aeration tank** and calculated SVI was **50ml/g** which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at **4.44 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters exceeds the prescribed standard limits.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage 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.
- b. Also the unit needs to provide chlorine dosing for further treatment and provide adequate sludge drying bed.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

5. SEWAGE TREATMENT PLANT – SEWAGE TREATMENT PLANT – M/S THE OCEANIQUE RESORTS SURVEY NO. 57/1, COLVA, SALCETE – GOA FROM 05.02.2019 TO 06.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 50 rooms and 1 restaurant with seating capacity of 44 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **50 KLD** of waste water, however, only **19 KLD** of waste water were generated during monitoring period as the hotel occupancy was **100%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and carbon filter. The treated water is stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **200 mg/l**, **185 mg/l** and **<1 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **35ml/l**, e.i. **3.5%** of sludge in the **Aeration tank** and calculated SVI was **175ml/g** which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.

- f. The activated sludge plant was operating at F/M ratio at **0.16 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, high amount of untreated sludge remains in the sewage collection tank and also the DO in the aeration tank is low.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. The sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide chlorine dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform and presence of E. Coli.
- c. The unit needs to provide adequate sludge drying bed.

6. SEWAGE TREATMENT PLANT – SEWAGE TREATMENT PLANT – M/S COCOMAR RESORTS PVT LTD (LONGUINHOS BEACH RESORT), SURVEY, NO. 50/2, 4TH WARD, COLVA, SALCETE – GOA FROM 13.02.2019 TO 14.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 53 rooms and 1 restaurant with seating capacity of 40 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **30 KLD** of waste water, however, only **15 KLD** of waste water were generated during monitoring period as the hotel occupancy was **70%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and carbon filter. The treated water is stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **1320 mg/l**, **1100 mg/l** and **<1.0 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **150ml/l**, e.i. **15%** of sludge in the **Aeration tank** and calculated SVI was **114ml/g**.
- f. The activated sludge plant was operating at F/M ratio at **0.06 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.

- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, the DO value in the aeration tank is low.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform and Fecal coliform.

II. RECOMMENDATIONS

- a. The DO in the aeration tank is low and the sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank as the F/M ratio is 0.06 per day.
- b. The unit needs to provide chlorine dosing for further treatment to reduce high concentrations of Total coliform and Fecal coliform and provide adequate sludge drying bed.

7. SEWAGE TREATMENT PLANT – M/S GRACIANO COTTAGES, SURVEY NO. 40/4-B, 37/2-A, COLVA, SALCETE – GOA FROM 13.02.2019 TO 14.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 22 rooms and 1 restaurant with seating capacity of 31 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **10 KLD** of waste water, however, only **5 KLD** of waste water were generated during monitoring period as the hotel occupancy was **41%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and carbon filter. The treated water is stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **135 mg/l, 110 mg/l** and **4.2 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **5ml/l**, e.i. **0.5%** of sludge in the **Aeration tank** and calculated SVI was **37ml/g** which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at **0.36 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, high amount of untreated sludge remains in the sewage collection tank and lower settled volume of sludge indicates low active sludge in the aeration tank.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform and Fecal coliform.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank. The untreated sludge in the collection tank needs to be treated in the aeration tank by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide chlorinated dosing for further treatment to reduce high concentrations of Total coliform & Fecal coliform and provide adequate sludge drying bed.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

8. SEWAGE TREATMENT PLANT – M/S SHAMIRAJ HOTELS PVT LTD (HOTEL SEA COIN), SURVEY NO. 432/2, 4TH WARD, COLVA, SALCETE – GOA FROM 08.02.2019 TO 09.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 32 rooms and 1 restaurant with seating capacity of 80 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **17 KLD** of waste water, however, only **10 KLD** of waste water were generated during monitoring period as the hotel occupancy was **80%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and carbon filter. The treated water is stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **98 mg/l**, **60 mg/l** and **<1.0 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **150ml/l**, e.i. **15%** of sludge in the **Aeration tank** and calculated SVI was **1531ml/g**.
- f. The activated sludge plant was operating at F/M ratio at **20.8 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters exceeds the prescribed standard limits.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform and Fecal coliform.

II. RECOMMENDATIONS

- a. The active sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank as the F/M ratio is 20.8 per day.

- b. The unit needs to provide chlorinated dosing for further treatment to reduce high concentrations of Total coliform and Fecal coliform and provide adequate sludge drying bed.

9. SEWAGE TREATMENT PLANT – M/S WILLIAMS BEACH RETREAT PVT LTD, SURVEY NO. 25/4, 5 & 7(Part), COLVA, SALCETE – GOA FROM 19.02.2019 TO 20.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 36 rooms and 1 restaurant with seating capacity of 40 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat **12.5 KLD** of waste water, however, only **9 KLD** of waste water were generated during monitoring period as the hotel occupancy was **56%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter & carbon filter and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **570 mg/l, 445 mg/l** and **<1.0 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **66ml/l**, e.i. **6.6%** of sludge in the **Aeration tank** and calculated SVI was **116ml/g** which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at **0.29 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters exceeds the prescribed standard limits.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage 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 active sludge volume in the aeration tank.
- b. The unit needs to provide chlorinated dosing for further treatment to reduce high concentrations of Total coliform & Fecal coliform and to provide adequate sludge drying bed.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

10. SEWAGE TREATMENT PLANT – M/S HOTEL COLVA KINARA, SURVEY NO. 31/1, H. NO. 404/2, 4TH WARD, COLVA, SALCETE – GOA FROM 19.02.2019 TO 20.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel is operating 65 rooms and 1 restaurant with seating capacity of 40 persons. However the unit has obtained permission for operating only 52 rooms in the said consent granted by the Board.
- b. The hotel has designed a Sewage Treatment Plant to treat **30 KLD** of waste water, however, only **18 KLD** of waste water were generated during monitoring period as the hotel occupancy was **80%**.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and carbon filter. The treated water is stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the **Aeration Tank** are **42 mg/l**, **39 mg/l** and **<1.0 mg/l** respectively.
- e. The settleability test shown settled volume of sludge of apprx. **650ml/l**, e.i. **65%** of sludge in the **Aeration tank** and calculated SVI was **15476ml/g** which indicates higher amount of untreated sludge present in the Aeration tank.
- f. The activated sludge plant was operating at F/M ratio at **42.31 per day**.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters exceeds the prescribed standard limits.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge & calculated SVI is in excess, indicates higher amount of untreated sludge remains in the Aeration tank. The sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide chlorine dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform and presence of E. Coli.
- c. The unit needs to provide adequate sludge drying bed.
- d. The unit may be directed to comply with the consent conditions issued by the Board.

11. SEWAGE TREATMENT PLANT – M/S COLVA BEACH RESORT, SURVEY NO. 36/1, 4TH WARD, COLVA, SALCETE – GOA FROM 22.02.2019 TO 23.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 22 rooms and 1 restaurant with seating capacity of 56 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat 30 KLD of waste water, however, only 4 KLD of waste water were generated during monitoring period as the hotel occupancy was 14%.
- c. The kitchen waste water via oil & grease trap and the domestic waste water are collected as the raw effluent in Collection tank/Septic tank and a part of the same is taken in to Aeration Tank for aeration & the remaining is disposed in soak pits. After aeration, it is settled and is further passed through sand filter. The treated water is stored in final treated water tank and further used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 1320 mg/l, 1100 mg/l and <1.0 mg/l respectively.
- e. The settleability test shown settled volume of sludge of apprx. 150ml/l, e.i. 15% of sludge in the Aeration tank and calculated SVI was 114ml/g.
- f. The activated sludge plant was operating at F/M ratio at 5.59 per day.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, the DO value in the aeration tank is low.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform & E. Coli.

II. RECOMMENDATIONS

- a. The DO in the aeration tank is low and the sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank as the F/M ratio is 5.59 per day.
- b. The unit needs to provide chlorine dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform & E. Coli and to provide adequate sludge drying bed.

12. SEWAGE TREATMENT PLANT – M/S PG HOLIDAY INN PVT LTD (SILVER SANDS BEACH RESORT), SURVEY NO. 24/2, 3, 11 & 12, COLVA, SALCETE – GOA FROM 22.02.2019 TO 23.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 70 rooms and 1 restaurant with seating capacity of 60 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat 37 KLD of waste water, however, only 15 KLD of waste water were generated during monitoring period as the hotel occupancy was 59%.
- c. The kitchen waste water via oil & grease trap and 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 sand filter & carbon filter and the treated water is used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 3430 mg/l, 2890 mg/l and <1.0 mg/l respectively.
- e. The settleability test shown settled volume of sludge of apprx. 600ml/l, e.i. 60% of sludge in the Aeration tank and calculated SVI was 175ml/g which indicates higher amount of untreated sludge present in the Aeration tank.
- f. The activated sludge plant was operating at F/M ratio at 0.30 per day.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, high amount of untreated sludge remains in the aeration tank indicates low DO.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge & calculated SVI is in excess, indicates higher amount of untreated sludge remains in the Aeration tank. The sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide chlorinated dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform & presence of E. Coli and to provide adequate sludge drying bed.

13. SEWAGE TREATMENT PLANT – M/S TONIA ESTATES & RESORTS PVT LTD, SURVEY NO. 23/13 & 23/17, 4TH WARD, COLVA, SALCETE – GOA FROM 26.02.2019 TO 27.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 60 rooms and 1 restaurant with seating capacity of 60 persons.

- b. The hotel has designed a Sewage Treatment Plant to treat 30 KLD of waste water, however, only 21 KLD of waste water were generated during monitoring period as the hotel occupancy was 100%.
- c. The kitchen waste water via oil & grease trap and 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 stored in final treated water tank and used for gardening
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 150 mg/l, 90 mg/l and <1.0 mg/l respectively.
- e. The settleability test shown settled volume of sludge of apprx. 5ml/l, e.i. 0.5% of sludge in the Aeration tank and calculated SVI was 33ml/g which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at 18.8 per day.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters exceeds the prescribed standard limits.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage 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 active sludge volume in the aeration tank.
- b. The unit needs to provide chlorine dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform & E coli and to provide adequate sludge drying bed & sand and carbon filters.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

14. SEWAGE TREATMENT PLANT – M/S JYMI’S COTTAGES, SURVEY NO. 24/13, COLVA, SALCETE – GOA FROM 26.02.2019 TO 26.02.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 16 rooms and 1 restaurant with seating capacity of 20 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat 5 KLD of waste water, however, only 2 KLD of waste water were generated during monitoring period as the hotel occupancy was 19%.
- c. The kitchen waste water via oil & grease trap and 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 sand filter and the treated water is used for gardening.

- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 169 mg/l, 107 mg/l and <1.0 mg/l respectively.
- e. The settleability test shown settled volume of sludge of apprx. 5ml/l, e.i. 0.5% of sludge in the Aeration tank and calculated SVI was 30ml/g which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at 0.68 per day.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters exceeds the prescribed standard limits.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage 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 active sludge volume in the aeration tank.
- b. The unit needs to provide chlorinated dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform & E coli and to provide adequate sludge drying bed.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

15. SEWAGE TREATMENT PLANT – M/S SEA QUEEN BEACH RESORT PVT LTD, PLOT NO, 96/5, COLVA, SALCETE – GOA FROM 01.03.2019 TO 02.03.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 55 rooms and 1 restaurant with seating capacity of 40 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat 40 KLD of waste water, however, only 25 KLD of waste water were generated during monitoring period as the hotel occupancy was 73%.
- c. The kitchen waste water via oil & grease trap and 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 and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 1320 mg/l, 1130 mg/l and 2.0 mg/l respectively.

- e. The settleability test shown settled volume of sludge of apprx. 130ml/l, e.i. 13% of sludge in the Aeration tank and calculated SVI was 98ml/g.
- f. The activated sludge plant was operating at F/M ratio at 0.21 per day.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, the DO value in the aeration tank is low.
- i. The consent granted by Goa State Pollution Control Board has been expired on 30.06.18 and the unit has applied for renewal on 26.05.18.

II. RECOMMENDATIONS

- a. The DO in the aeration tank is low and the sludge in the aeration tank needs to be treated by increasing aeration to enhance DO and by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide adequate sludge drying bed.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

16. SEWAGE TREATMENT PLANT – M/S MAHALAXMI REALTORS (COLVA PEARL), SURVEY NO. 33/4, 4TH WARD, COLVA, SALCETE – GOA FROM 05.03.2019 TO 06.03.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The Residential complex has 71 flats and 8 villas. However the unit has obtained permission for operating only 71 flats in the said consent granted by the Board.
- b. The Residential complex has designed a Sewage Treatment Plant to treat 60 KLD of waste water, however, only 3 KLD of waste water were generated during monitoring period as the Residential complex occupancy was 14%.
- c. The domestic waste water is 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 stored in final treated water tank and used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 72 mg/l, 60 mg/l and 4.8 mg/l respectively.
- e. The settleability test shown settled volume of sludge of apprx. 10ml/l, e.i. 1% of sludge in the Aeration tank and calculated SVI was 139ml/g which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.
- f. The activated sludge plant was operating at F/M ratio at 0.26 per day.

- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, high amount of untreated sludge remains in the sewage collection tank and lower settled volume of sludge indicates low active sludge in the aeration tank.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.
- j. The consent granted by Goa State Pollution Control Board has been expired on 26.11.16 and the unit has applied for renewal on 24.11.16

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank. The untreated sludge in the collection tank needs to be treated in the aeration tank by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide chlorinated dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform and presence of E. Coli and to provide adequate sludge drying bed.
- c. The unit may be directed to comply with the consent conditions issued by the Board.

17. SEWAGE TREATMENT PLANT – M/S SALCETE BEACH RESORT, COLVA, SALCETE – GOA FROM 05.03.2019 TO 06.03.2019 (24hrs)

I. SUMMARY AND CONCLUSIONS

- a. The hotel has 32 rooms and 1 restaurant with seating capacity of 50 persons.
- b. The hotel has designed a Sewage Treatment Plant to treat 25 KLD of waste water, however, only 5 KLD of waste water were generated during monitoring period as the hotel occupancy was 25%.
- c. The domestic waste water is collected as the raw effluent in Collection tank is taken in to Aeration Tank for aeration. After settling, it is further passed through sand filter and carbon filter. The treated water is stored in final treated water tank and further used for gardening.
- d. The analysis reports indicate that MLSS, MLVSS & DO in the Aeration Tank are 72 mg/l, 60 mg/l and 1.9 mg/l respectively.
- e. The settleability test shown settled volume of sludge of apprx. 15ml/l, e.i. 1.5% of sludge in the Aeration tank and calculated SVI was 250ml/g which indicates lower amount of untreated sludge present in the Aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank.

- f. The activated sludge plant was operating at F/M ratio at 1.22 per day.
- g. The sludge generated is disposed through night soil tanker in STP plant at Sirvodem, Naveli.
- h. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits. However, high amount of untreated sludge remains in the sewage collection tank and lower settled volume of sludge indicates low active sludge in the aeration tank.
- i. After the filtration process, no chlorination is carried out indicating high concentrations of Total coliform, Fecal coliform and presence of E. coli.

II. RECOMMENDATIONS

- a. Since in an aeration tank, the settled volume sludge is low, indicates lower amount of untreated sludge in the aeration tank and higher amount of untreated sludge remains in the raw sewage collection tank. The untreated sludge in the collection tank needs to be treated in the aeration tank by maintaining the active sludge volume in the aeration tank.
- b. The unit needs to provide chlorine dosing for further treatment to reduce high concentrations of Total coliform, Fecal coliform and presence of E. Coli and to provide adequate sludge drying bed.
- c. The unit may be directed to comply with the required consent conditions of the Board before issuing consent.

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. The details of the same are as follows:

Table 7.1: Trainings Programmes / Workshops / Seminars attended by the Board staff during the year

Scientific Staff Training (From April 2018- March 2019)			
Name of the staff	Title of seminar	Place	Duration
Shri Ganesh Shetgaonkar, chairman	One day National Conference on "Sustainable and environment Friendly Industrial Production"	Safdarjung Enclave New Delhi	15-02-2019
Dr. Shamila Monteiro Member Secretary	One day National Conference on "Sustainable and environment Friendly Industrial Production"	Safdarjung Enclave New Delhi	15-02-2019
Mrs. Jenica Sequeira, Scientist "C"	Training programme on Best Practices in Environmental Governance	Stockholm, Sweden	12-10-2018 to 19-10-2018
Miss Connie Fernandes, Scientist "C"	Workshop on Environmental Friendly Handling & Recovery of construction and demolition waste	Taj Vivanta Panaji Goa	20-11-2018
Dr. Mohan Girap, Scientist "C"	Consultative Meeting -State Action Plan for Climate changes (SAPCC)	Goa State Biodiversity Board Saligao	04-04-2018
	24th National Conference organized by Indian Plumbing Association- Integrated approach towards Waste management	Dr. Shyam Prasad Mukherjee Indoor Stadium Goa	27-04-2018 to 28/04/2018
	The World Environmental Day 2018 School Education Programme.	Centre for Environment Education, Goa State office, Alto porvorim	
	Inception Workshop for Project on Bio Medical waste management in Goa.	International Centre Goa, Doan Paula	20-06-2018
	Monthly Regional Meeting with Southern SPCBs/PCCs at CPCB RD, Bengaluru	CPCB RD, Bengaluru	21-01-2019

	second monthly review meeting with souther SPCBs andOCCs at Central Pollition Control board	CPCB RD,Bengaaluru	31-01-2019
	Third monthly review meeting with souther SPCBs andOCCs at Central Pollition Control board	CPCB RD,Bengaaluru	06-03-2019
Mrs. Denza cardozo, Scientific Assistant	Training on Bio-Monitoring Toxicity and Microbiology to SPCBs	CPCB New Delhi	10-09-2018 to 14-09-2018
Ms. Reema Kaulekar,Jr. Lab Assistant	Training on Bio-Monitoring Toxicity and Microbiology to SPCBs	CPCB New Delhi	10-09-2018 to 14-09-2018
Sanjay Kankonkar Scientist "B"	One day Capacity Building Workshop on waste Management Rules.	Hotel Fidalgo	15-05-2018
Mr. Sanjeev Joglekar, Environmental Engineer	24th National Conference organized by Indian Plumbing Association- Integrated approach taowards Waste management	Dr. Shyam Prasad Mukherjee Indoor Stadium Goa	27-04-2018 to 28/04/2018
Mrs Nandan Prabhusesai ,JEE	24th National Conference organized by Indian Plumbing Association- Integrated approach taowards Waste management	Dr. Shyam Prasad Mukherjee Indoor Stadium Goa	27-04-2018 to 28/04/2018
Mr. Liston Fernandes , EA	One day Capacity Building Workshop on waste Management Rules.	Hotel Fidalgo	15-05-2018
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Mr. Sebastiao Barreto, EA	One day Capacity Building Workshop on waste Management Rules.	Hotel Fidalgo	15-05-2018
Mr. Ashley Pereira, EA	One day Capacity Building Workshop on waste Management Rules.	Hotel Fidalgo	15-05-2018
Mr. Sebastiao Colaco , Engineering Assistant (Civil)	Workshop on Environmental Friendly Handling & Recovery of contruction and demolotion waste	Taj Vivanta Panaji Goa	20-11-2018
Mr. Amit Shanbag, JEE Mech/Production	MEDIS -18 National Seminar on Mining and Economic Developmnet	Goa college of Engineering, Farmagudi	21-12-2018
Mr. Pravin Faldesssai JEE Mech/Production	MEDIS -18 National Seminar on Mining and Economic Developmnet	Goa college of Engineering, Farmagudi	21-12-2018
Mr. Manoj Kudalkar, JEE	24th National Conference organized by Indian Plumbing Association- Integrated approach taowards Waste management	Dr. Shyam Prasad Mukherjee Indoor Stadium Goa	27-04-2018 to 28/04/2018

Mr. Rohan Nagvekar JEE	24th National Conference organized by Indian Plumbing Association- Integrated approach towards Waste management	Dr. Shyam Prasad Mukherjee Indoor Stadium Goa	27-04-2018 to 28/04/2018
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7.2 DEPUTATIONS 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 Assiatant 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 given charge as Accountant of the Board

7.3 TERMINATION FROM SERVICE

The services of Mrs. Plancy Miranda, working as Lower Division Clerk in the Board office were terminated with effect from 18th June, 2018 due to administrative reasons.

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 **725** 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. The Board has issued directions for closure and suspension of the units to 13 numbers of units which have not complied with the conditions stipulated in the consent order and operating without obtaining consent to operate of the Board.

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. J.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 Board's Legal Retainer also appears on its behalf in matters before the Human Rights Commission.

The Board at its 132nd meeting has revised the procedure for appointment and allotment of cases that concern it to Advocates to appear on its behalf before various Courts of Law/ Judicial Forums to defend its interests; and also specified the terms and conditions for payment of professional fees. The details are mentioned below:

Appointment of Panel of Advocates for defending the interests of the Board before the Legal Forums

Member Secretary informed the members that the Board is required to constitute a panel of Advocates for defending the interests of the Board before the Legal Forums, for which the Board is required to set terms and conditions and fee structure.

After perusing the Agenda item and after detailed deliberations, and after considering Orders dated 8/4/2013, 12/1/2018, 18/1/2016, 23/6/2017 and 16/6/2017 issued by the Law Department, Government of Goa, (copies enclosed), the Board members decided as follows:-

It shall be ensured that the interest of the Board is upheld, protected and defended by appointing Competent Advocates to appear on behalf of the Board before various Courts and Judicial Forums in and out of the State.

Ld. Senior Advocate A. N. S. Nadkarni:-

Ld. Senior Advocate A. N. S. Nadkarni shall be the Board's Senior Counsel.

The Ld. Senior Advocate of the Board shall be permitted to appear along with a Junior / briefing Advocate and an Advocate on record in matters before Courts / Judicial Forum at New Delhi.

A specific letter of allotment of matter shall be issued to the Ld Sr. Advocate by the Board.

The Chairman shall ensure that Senior Advocate A. N. S. Nadkarni is consulted in respect of all legal matters pertaining to GSPCB that are of High Stakes and/or that involve complicated questions of Law and shall ensure that advice of the Senior Advocate so tendered is duly acted upon by the Board.

In the event of the legal opinion or Conference being required by the Board on such issues or Court matters, the Chairman shall solicit the opinion of the Ld. Senior Advocate and shall on receipt of the same act accordingly.

In so far as the professional fees payable to Ld. Senior Advocate A. N. S Nadkarni are concerned, the Board resolves to pay the following:-

- Ld. Senior Advocate A.N.S. Nadkarni shall be paid a professional fee of **Rs. 3 lakhs per appearance** made by him on behalf of the Board before Courts / Judicial Forums, in allotted matters. (Relevant para (ii) of Order dated 12/01/2018 issued by the Law Department Government of Goa stands adopted.)

The **Junior / briefing Advocate** appearing along with the Boards Senior Counsel as well as the Advocate on record shall be paid a fee of **Rs. 3,000/- per hearing** while the **Advocate on Record (AOR)** that appears along with them shall be paid a fee of **Rs. 3,000/- per hearing**.

The **Junior / briefing Advocate** appearing along with the Boards Senior Counsel shall inform the Board as to the details regarding the AOR and shall also certify the bills submitted by the AOR to the Board for payment.

The Board shall ensure that Ld. Senior Advocate A.N.S. Nadkarni is permitted to travel by Business Class (Air Travel) for attending matters on behalf of the Board as required.

Accommodation for the Ld. Senior Advocate A.N.S. Nadkarni as per his request shall be arranged by the Board for the period during which he is attending matters of the Board out of State as per his request.

Panel of Advocates:-

In addition to the above and in terms of the specific provision of Rule 18 (15) of the Goa Water Rules, the Member Secretary with the approval of the Chairman, is hereby empowered to ensure that all matters / Petitions/ Applications etc., served upon the Board from Private parties / Courts / Judicial Forums etc., are immediately allotted to a Competent Advocate as below:

a.	In respect of Court matters before Hon'ble Supreme Court of India, Principal Bench of the Hon'ble National Green Tribunal at New Delhi and any other Court within the Jurisdiction of New Delhi, the following Panel of Advocates is constituted.	
	i.	Adv. Datta Prasad Lawande
	ii.	Adv. Pratap Venugopal
	iii.	Adv. Salvador Santosh Rebello
	iv.	Adv. Ruchira Gupta
	v.	Adv. Jai A Dehadrai
	vi.	Adv. Arjun Bobde
	vii.	Adv. Mayuri Nayyar Chawla

The above Advocates shall ensure that when they appear before a Court / Judicial Forum at New Delhi along with an Advocate on record, the same shall be done with due intimation to the Board.

b.	In respect of cases before the Hon'ble National Green Tribunal at Pune, the following panel is constituted	
	i.	Advocate Datta Prasad Lawande
	ii.	Advocate Fawia Mesquita
	iii.	Advocate Prachi Sawant

c.	With respect to cases before the Hon'ble High Court of Bombay at Goa and High Court of Bombay, the following panel is constituted;	
	i.	Advocate Datta Prasad Lawande
	ii.	Advocate Pradosh Dangu
	iii.	Advocate Joaquim Godinho
	iv.	Advocate Pravin Phaldessai
	v.	Advocate Deep Shirodkar
d.	In respect of cases before the Administrative Tribunal, Human Rights Commission, Information Commission and other Quasi Judicial Bodies:	
	i.	Advocate Joaquim Godinho
	iii.	Advocate J. B. Faria
e.	In respect of all Criminal matters filed by the Board or concerning the Board before various courts	
	i.	Advocate J. B. Faria
f.	Notwithstanding the above, the Member Secretary with the approval of the Chairman, is empowered to appoint any Advocate (other than those above named) at his discretion to ensure that the interest of the Board is upheld, protected and defended before any Court of Law or Judicial Forum. The fees payable to an Advocate so appointed shall be decided by the Chairman and such decision shall be final and binding.	

Professional Fees payable to the Advocates (other than the Ld. Senior Counsel) of the Board:-

A.	The fees payable to Advocate Datta Prasad Lawande shall be as follows:-	
	1.	Fees for appearance before the High Court / Professional fees for each hearing – Rs. 10,000/- (Rupees Ten Thousand only) per case per day before the High Court in respect of all cases, except matters listed for Court “Orders” where fees shall be Rs. 3,000/- (Rupees Three thousand only) per case per day provided that the maximum amount of fees shall not exceed Rupees Eight lakhs per month.
	2.	Fees for appearance before the Supreme Court, Court, Tribunal, Authority outside the State of Goa – Fees of Rs. 75,000/- (Rupees Seventy-five thousand only) per official visit to New Delhi for conferences / per appearance per day in Special Leave Petitions, Writ Petition, Civil applications.
	Relevant portion of Order dated 8/4/2013 issued by Law Department, Government of Goa is adopted.	

B.	In respect of Advocates (other than Adv Datta Prasad Lawande) appearing before Hon'ble Supreme Court of India, Principal Bench of the Hon'ble National Green Tribunal at New Delhi and any other Court within the Jurisdiction of New Delhi, on behalf of the Board in allotted matters.				
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E.	In respect of Advocates appearing before the Administrative Tribunal, Human Rights Commission, Information Commission and other Quasi Judicial Bodies, on behalf of the Board in allotted matters	
	a.	Rs. 2,500/- per hearing before the Administrative Tribunal, Rs. 1,000/- before District & Sessions Courts and Subordinate Courts and Rs. 750/- for hearing before Quasi Judicial Forum.
	b.	For drafting and filing of Affidavit and all pleadings Rs. 1,000/- per Affidavit.
F.	In respect of Advocates appearing in all Criminal matters filed by the Board or concerning the Board before various courts, on behalf of the Board in allotted matters.	
	a.	Advocate J.B. Faria who is appointed as a Legal Retainer of the Board shall be paid professional fees, Retainer ship fees and other charges as per the appointment order dated 07/08/2017 issued to him by the Board. However, all General Terms and Conditions as stated at Para 2 of Order dated 16/6/2017 issued by the Law Department Government of Goa shall also be added in the appointment order.

Payment of Bills towards Professional Fees:-

The Bills towards Professional fees are to be submitted by the concerned Advocates to the Board within one month of appearance in a matter and shall be accompanied ***with a Certificate of Appearance*** issued by the concerned Court of Law before which the concerned Advocate has appeared. In the absence of Certificate of Appearance the Bill shall be rejected. The bill should also be affixed with revenue stamp.

All the professional bills presented for payment must be accompanied by copy of allotment letter issued to the Board Advocates and that no other bill is presented previously for payments are claimed in the bill.

Such bills complete in all respects shall be certified by the concerned Board official and approved for payment by the Accounts section of the Board after verifying the compliance with the present terms and conditions.

All Advocates appointed by the Board shall be issued a specific allotment letter and Vakalatanama.

No Advocate other than the Advocate to whom a particular matter has been allotted to shall be permitted to appear on behalf of the Board in the said matter and no claim for professional fees from such an Advocate shall be entertained by the Board. However, an Advocate appearing on behalf of the Board in a particular case may request another Advocate to appear on his behalf on a specific date if he is in any difficulty. ***However, no payment of professional fees shall be made for such an appearance.***

In respect of matters that are tagged together or which are heard along with each other on the same date by the same court; the Board shall pay the Advocate appearing on its behalf, professional fees for single appearance.

Payment towards legal opinion submitted by the Board's Senior Counsel or any other Board Advocate shall be decided by the Chairman.

No additional fees shall be charged or claimed by Boards Advocates (other than the Boards

Senior Counsel) for Conferences.

Travelling Expenses:-

In the event Board Advocates are required to attend Court matters out of the State they shall be permitted to travel by Air (Economy Class only) and /or by Road via Taxi or by Train (First Class).

The Board Advocate shall submit a detailed travel plan to the Board at least 2 days in advance / prior to the date of travel indicating the date and time of travel.

The concerned official of the Board dealing with hiring of vehicles, booking of tickets and booking of Hotel accommodation shall ensure that the required travel arrangements for the Board Advocates are made. These arrangements are to be made by the concerned Board official in consultation with the Boards Advocate.

A proper record of such arrangement shall be maintained by the concerned official.

Payment of bills towards travel by the Board Advocate as above are to be certified by the concerned Board Advocate and submitted to the Board office/concerned official for processing and payment.

Accommodation Expenses:-

Board Advocates shall be **reimbursed** expenses incurred by them on Hotel Accommodation, charges for Travel within city and food Bill subject to the following limits.

- (i) Hotel Accommodation Rs. 3,000/-
- (ii) Charges for Travel Agency Bill (Non AC Taxi charges upto 50 Kms only).
- (iii) Food Bill per day Rs. 300/-

Travel by Board Officials for Court matters out of State:-

In the event that an Official/Officials of the Board is/are required to remain present before a Court of Law, out of the State, to assist the Boards Advocate, then the concerned Advocate and /or the briefing Advocate of the Board Senior Counsel shall make a formal request to the Board for deputation of such an Officer at least one week prior to the date on which the official is required to be present before the Court.

All Officials of the Board that are required to travel out of the State to attend Court matters along with official records/files/documents etc are permitted to travel to and from the destination by air (economy class) and all other payments incurred during such travel shall be as per their entitlements. Bills towards travel within the city by Board Officials shall be settled as per actual cost incurred.

No Official shall be permitted to undertake such travel without an express prior order from the Board permitting such travel.

Deputation of officials of the Board for attending Court matters at the request of the Boards Advocate shall be at the discretion of the Member Secretary.

General Terms and Conditions:-

- i. The Advocates on panel shall furnish to the Board such information statements, returns, statistic etc., pertaining to the cases conducted by him or under his charge as may be required from time to time.

- ii. The Advocates on panel shall be duty bound, when in cases attended to by him is decided against the Board and or its Officers, to give immediately the Judgment passed by the Court, his opinion regarding advisability of filing the appeal, revision etc. from such decision, whether he continues to be on the panel on the date of judgement or otherwise.
- iii. The Advocate on panel may during his absence with the permission of the Board appoint a substitute Advocate, who will discharge the duties of the Advocate. However, no Junior should be allowed to contest the matter of the Board but minor work like filing of documents prepared by the Board Advocate can be done through Juniors for which no fees shall be payable. (This will not be applicable to the Junior/Briefing Advocate to the Boards Senior Counsel at New Delhi and the AOR that will appear along with him and to AOR s that appear along with the Boards Advocates at New Delhi.)
- iv. It shall be duty of every Board Advocate to file monthly statement of all the matters handled by him before various Courts showing details of the allotment of matter, date of joining, parties, Case Number, Court in which case is pending, etc., by the 7th day of next month.
- v. All the aforesaid Advocates shall be intimated as to the aforesaid decision of the Board
- vi. In case of any dispute/difficulty in implementation of the aforesaid terms and conditions; the decision of the Chairman of the Board shall be final and binding on all concerned.

The Board further resolves that in addition to the above, hereinafter the power to take all decisions on all issues regarding the appointment of Advocates to represent the Board including issues regarding appointment of Advocates, amount of Professional Fees to be paid to Advocates, Terms and Conditions etc. shall be delegated to the Chairman of the Board and such decisions shall be final and binding.

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

A total number of 111 cases have been filed against the GSPCB before the Hon'ble National Green Tribunal (Principal Bench & Western Zone Bench) Goa in the past 5 years; of which 49 cases have been disposed off with no adverse orders passed against the Board while a total of 62 cases are pending.

A total number of 5 cases are pending before the Hon'ble District Court.

A total number of 18 cases have been have been filed against the GSPCB before the Hon'ble Goa Human Rights Commission in the past 5 years; of which 8 cases have been disposed off with no adverse orders passed against the Board while 10 cases are pending.

A total number of 46 cases have been filed against the GSPCB before the Hon'ble Administrative Tribunal of Goa in the past 5 years; of which 24 cases have been disposed off with no adverse orders passed against the Board while 22 cases are pending.

A total number of 18 cases have been filed by the GSPCB before the Hon'ble Judicial Magistrate First Class in the past 5 years; of which 1 case has been decided in favour of the Board (resulting in conviction of the accused) while 17 cases are pending.

Overall in a total of 202 cases pertaining to the Board over the past 5 years the 151 cases have been disposed off without any adverse orders being passed against the Board.

8.4 DETAILS OF ACTION INITIATED BY THE BOARD FOR THE PERIOD FROM APRIL 2017 TO MARCH 2018

In exercise of the powers vested with the Board, action is initiated for violations of the provisions of the Water (Prevention and Control of Pollution) Act, 1974 Air (Prevention and Control of Pollution) Act, 1981. The Board Officials conducts inspections to verify the pollution control measures adopted by the units/plants/establishments and also whether Consent to Establish/Consent to Operate is obtained. The details of actions initiated is given below:-

Number of Show Cause Notices issued under the provisions of the Water, the Air Act and Rules notified under the Environment (Protection) Act 1986	647
Number of Closure Directions under the provisions of the Water and the Air Act	11
Number of Directions issued under the provisions of the Water and the Air Act	78

8.5 RIGHT TO INFORMATION ACT, 2005

The Right to information Act, 2005 provides access to all information that is available and existing so as 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' 49 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. Many public authorities have, as a public relation exercise, provided advice, guidance and opinion to the citizens. But that is purely voluntary and should not be confused with any obligation under the RTI Act.

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)	Chairman	First Appellate Authority
2)	Senior Law Officer	Public Information Officer
3)	Assistant Law Officer	Asst. Public Information Officer

During the year 2018-2019 the Board has received 288 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 2014-15 has been completed. The Audit of accounts of the F.Y. 2015-2016, 2016-2017, 2017-2018 is pending for completion as the statutory auditor who was appointed is unable to carry statutory audit for the financial year 2015-16. The audit will be conducted after appointment of new statutory auditor.

The unaudited Profit & Loss A/c of the Board for the year ended 31st March, 2019 is given below:

9.2 INCOME, EXPENDITURE AND FUNDING

The income and expenditure account of the Board for the year ended 31st March, 2017 is as per table below:

Profit & Loss A/c *					
1-Apr-2018 to 31-Mar-2019					
	Goa State Pollution Control Board 2018-19			Goa State Pollution Control Board 2018-19	
Particulars	1-Apr-2018 to 30-Mar-2019		Particulars	1-Apr-2018 to 30-Mar-2019	
Direct Expenses		77317344.00	Direct Incomes		116974009.10
Salaries	77317344.00		Air Consent Fees	37629367.55	
Indirect Expenses		36199000.00	Ambient Monitoring Fees	6652120.00	
Advertisement & Publicity	4958156.00		Bio Medical Fees	1847250.00	
Chairman Expenses	132619.00		E- Tendering Application	614050.00	
Office Expenses	26130847.00		NOC Fees	9353930.00	
Computer Consumables	791026.00		Other Receipts	25115812.00	
Electricity Charges	1254126.00		RTI Fees	30695.00	
Honorarium	206000.00		Water Consent Fees	35730784.55	

Hospitality Expenses	136693.00		Indirect Incomes		8954445.00
ISO Audit Advance	-8265.00		Bank Guarantee	6000000.00	
Lab Advance	-17364.00		Interest on Bank of Baroda - FD	869.00	
LTC Advance	2015.00		Interest on Karnataka Bank FD	963576.00	
Newspaper - MS	210.00		Public Hearing	1990000.00	
Office Advance	47232.00				
Postage	220432.00				
Printing	200055.00				
Publications	1286.00				
Refund of Consent Fees	310450.00				
Stationery	219426.00				
Telephone Exp	399243.00				
Telephone Exp - MS	7349.00				
Tour Advance	-28689.00				
Wages	839727.00				
Water Bill	6796.00				
Wi-Fi	239218.00				
World Env Day Expenses	150412.00				
Nett Profit		12412110.10			
Total		125928454.10	Total		125928454.10

*Unaudited

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

Funds	Amount in Lakhs (2017 – 18)
1. Central Govt. (Partial reimbursement of NWMP & NAMP expenses by CPCB)	36.80
2. State Govt. (MoEF & DSTE)	-
3. Share of Water Cess from Central Govt.	-
4. Fees (consent, NOC, authorization and analysis charges)	918.28
5. Bank interest	194.05
6. Public Hearing	20.00
7. Other receipts (including grants of SEP programming & Right to Information)	251.47
Total	1420.60

CHAPTER 10

ANY OTHER IMPORTANT MATTERS DEALT WITH BY THE BOARD

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

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 and 2016, and subsequently, they were modified as the Hazardous and other Wastes (Management & Transboundary Movement) Rules 2016.

The Board grants authorizations to industries generating and handling hazardous wastes. The Goa State Pollution Control Board has identified 1440 industrial units generating hazardous waste in Goa upto the period of April 2017-2018. The hazardous waste generated in the State of Goa for the year 2017-2018, is as follows: Landfillable (3046.105 MT), Incinerable (18898.3623 MT), Recyclable (1564.951 MT), Utilizable (2521.960 MT)

10.2 IMPLEMENTATION OF BIO-MEDICAL WASTE MANAGEMENT RULES, 2016, AS AMENDED 2017

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

Bedded – 86 nos

Non bedded –149 nos

Till 31/12/2017, 235 Health Care Units were granted authorizations under the Bio-Medical Waste Management Rules, 2016. The status of the Bio Medical waste generated by these units during the year is given in Annexure VIII. An inventorisation of Goa Waste Management Corporation showed that the number of HCF's in Goa is 937. The Board is taking needful action.

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

The Board conducts monitoring of noise levels whenever any specific complaints of Industrial related 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

In Goa there are 14 Municipal Councils and one Municipal Corporation (CCP). Seven Municipal bodies have installed Garbage treatment plants which are presently in operation. Six Municipal bodies have constructed landfill sites; two landfills are under construction. All the Municipal bodies have

complied with the provisions of Solid Waste Management Rules 2016 in terms of collection, segregation, storage & transportation of the waste, have submitted the annual returns for the year 2017-18 as per Solid Waste Management Rules, 2016.

10.5 IMPLEMENTATION OF PLASTICS WASTE (MANAGEMENT & HANDLING) RULES, 2016

There are thirty four units involved in manufacture of plastic bags and containers in the State. The 34 units have obtained consent. Annexure IX gives the details on "Implementation of Plastic Waste (Management and Handling) Rules, 2016 in States/UTS".

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

There are no units who are involved in manufactures/assembling/pre-conditioners of lead acid battery within the state of Goa. 37 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. Status reports on Batteries Management and handling Rules is under preparation. The details of the returns under the said rules are given in Annexure X.

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

Due to rapid commercial development and digitalization of services in the state leading to increasing utilization of electric and electronic appliances/facilities and equipment, there has been a significant growth in the generation of electrical and electronic waste. Further access to affordable and latest technology in the market, has led to consumers to frequently update to the latest technology thereby decreasing the usable life of the electronic goods and contributing more to the electronic waste.

The e-waste is generated both in the industry and also in individual households. The e-waste generated at the households is channelized through the local bodies along with the general waste and eventually enter the informal waste collection and disposal sector such as the scrap yards. Most of the e-waste from the industrial facilities also ends up in the informal sector. This may be attributed to the lack of awareness in the safe handling and disposal of the e-waste and also due to absence of facilities for collection, treatment and disposal of e-waste in an environmentally sound manner.

In 2016, subsequent to the notification of the E-Waste Rules, 2016, the Board in collaboration with NGOs and experts conducted workshops with various stakeholders to bring about awareness in the handling and disposal of the e-waste. Public notices were also released in the local dailies and also pamphlets were circulated among the local bodies and posted in public places. The Board is also in the process of identifying other electrical/electronic or related units that may fall under the ambit of the E-Waste Management Rules 2016 as amended 2018

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.

The details of the Annual Returns for the year 2017-18 is annexed as Annexure VII.

10.8 ACHIEVEMENTS MADE BY THE BOARD

Recognition of the Goa State Pollution Control Board under ISO 9001:2015 (Quality Management System) vide certification dated 13.08.2016 and is valid upto 12.08.2019

Recognition of the Goa State Pollution Control Board under BS OHSAS 18001:2007 (Occupational Health and Safety Management System) vide certification dated 13.08.2016 and is valid upto 12.08.2019

Recognition of the Goa State Pollution Control Board under ISO 14001:2015 (Environmental Management System) vide certification dated 13.08.2016 and is valid upto 12.08.2019.

Recognition of the Goa State Pollution Control Board Laboratory under ISO 17025:2005 (General Requirements for Competence of Testing and Calibration Laboratories) vide certification dated 29.09.2016 and is valid upto 21.09.2018.

10.9 CELEBRATION OF WORLD ENVIRONMENT DAY, 2018

World Environment Day – 5th June, 2018 under the UNEP theme ‘Beat Plastic Pollution’ was celebrated by the Board at Sanskruti Bhawan, Patto, Panaji Goa.



Address by the Chairman on World Environment Day 2018



Realese of Annual Report of the Board for the year 2017-18



Poster competition held for children on World Environment Day 2018

The following programmes were organised:

1st June	Poster / slogan competition ‘ beat Plastic pollution	For children/family of the staff of the Board.
	Essay competition ‘ Beat Plastic pollution	
4th June	Technical programme on ‘Best Environmental Practices in preventing plastic pollution for industries and Government department	For industries and Government departments
	Quiz on the theme ‘Beat Plastic pollution’	
5th June	Annual Report of the Board for the year 2017-2018 was released	
	Smt. R. Menaka, IAS delivered a talk on ‘ Beat plastic Pollution – Goa scenario – The way forward.	
	Prize distribution function of the winners of the Poster / Essay/ Quiz competitions	
	Technical programme was organised for General Public / Student / Teachers on the theme ‘Beat plastic Pollution’	

Cleanliness drive under Swachhata Hi Seva to realise the vision of clean India and to reinforce the principle of Sanitation is everyone business was conducted in the office premises of the Goa State Pollution Control Board at Saligao on 01/10/2018.

10.10 IMPLEMENTATION OF THE SUPREME COURT GUIDELINES ON PREVENTION OF SEXUAL HARASSMENT OF WOMEN AT WORKPLACE

Information in this regard, as per the Supreme Court judgment dated 13/08/1997, is that one complaint about sexual harassment at work place were received by the Board during the financial year covered by this report.



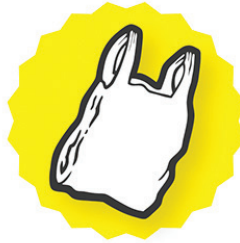
Organic

Left over food, Fruit peels, Leaves & twigs, Floor sweepings, Biscuits, Flowers, Soil & sand, Hair



Paper

White paper, Note books & covers, Small pieces of paper, Newspaper, Coloured paper, Cardboard, Chart paper, Tetra Paks, Paper cups



Plastic

Plastic bags, Juice, soft drink & water bottles, Milk packets, Pens & refills, Scales, Glue sticks & bottles, Paint pallets & bowls, Broken sharpeners, Broken dusters



Mixed

Dirty or wet waste, Food packaging, Sweet, chocolate & biscuit wrappers, Pencil shavings, Erasers, Crayons, Thermocol, Broken shoes & slippers, Cloth



Glass

Glass jars, Dettol Bottles, Pipettes, Test tubes, Lab bottles, Drinking glasses, Ink bottles



Metal

Aluminium foil cans, Paper clips, Thumb tacks, Metal bottle caps, Metal accessories, Broken hole punchers, Broken staplers



E-waste

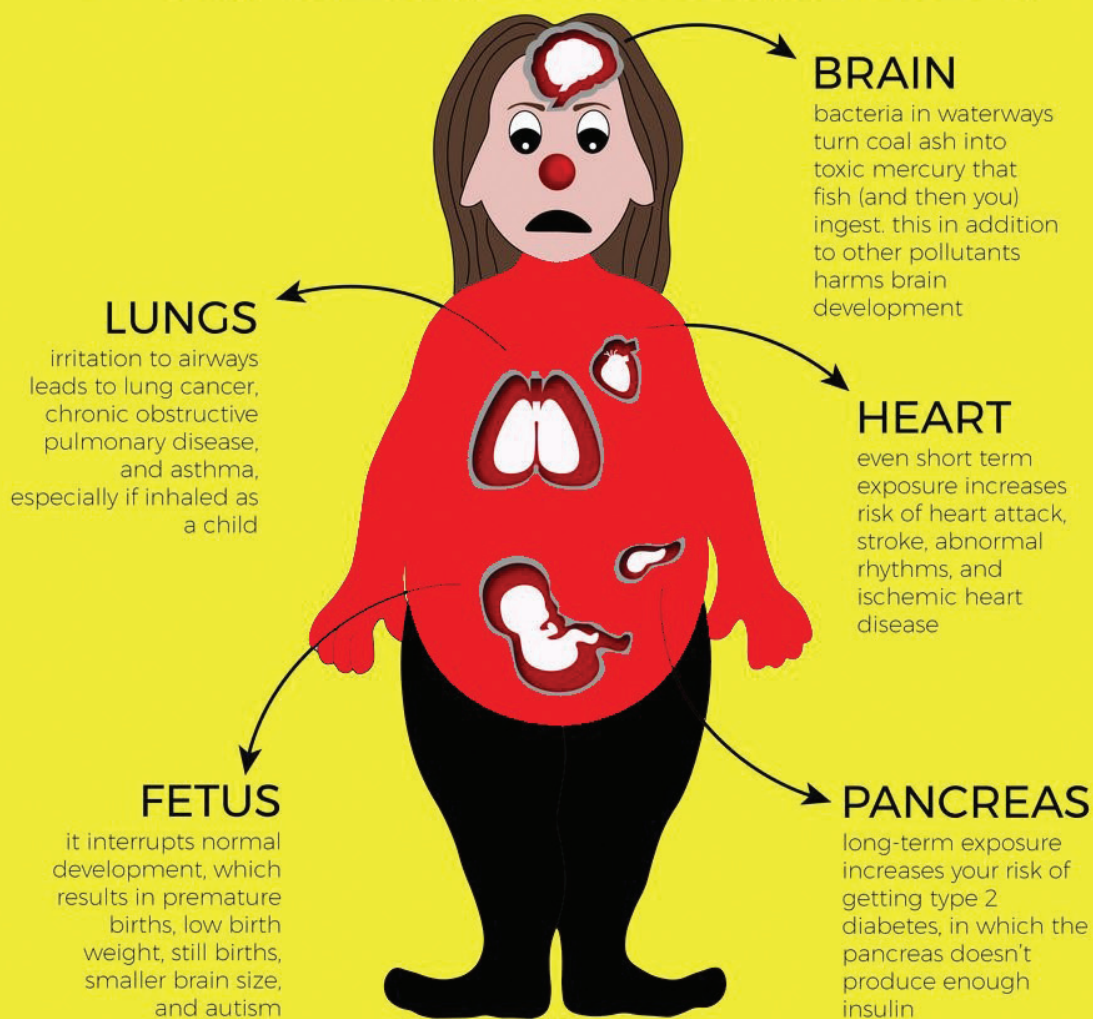
Printer cartridges, Mouse, Computer monitors, Laptops, Mobile phones



Sanitary

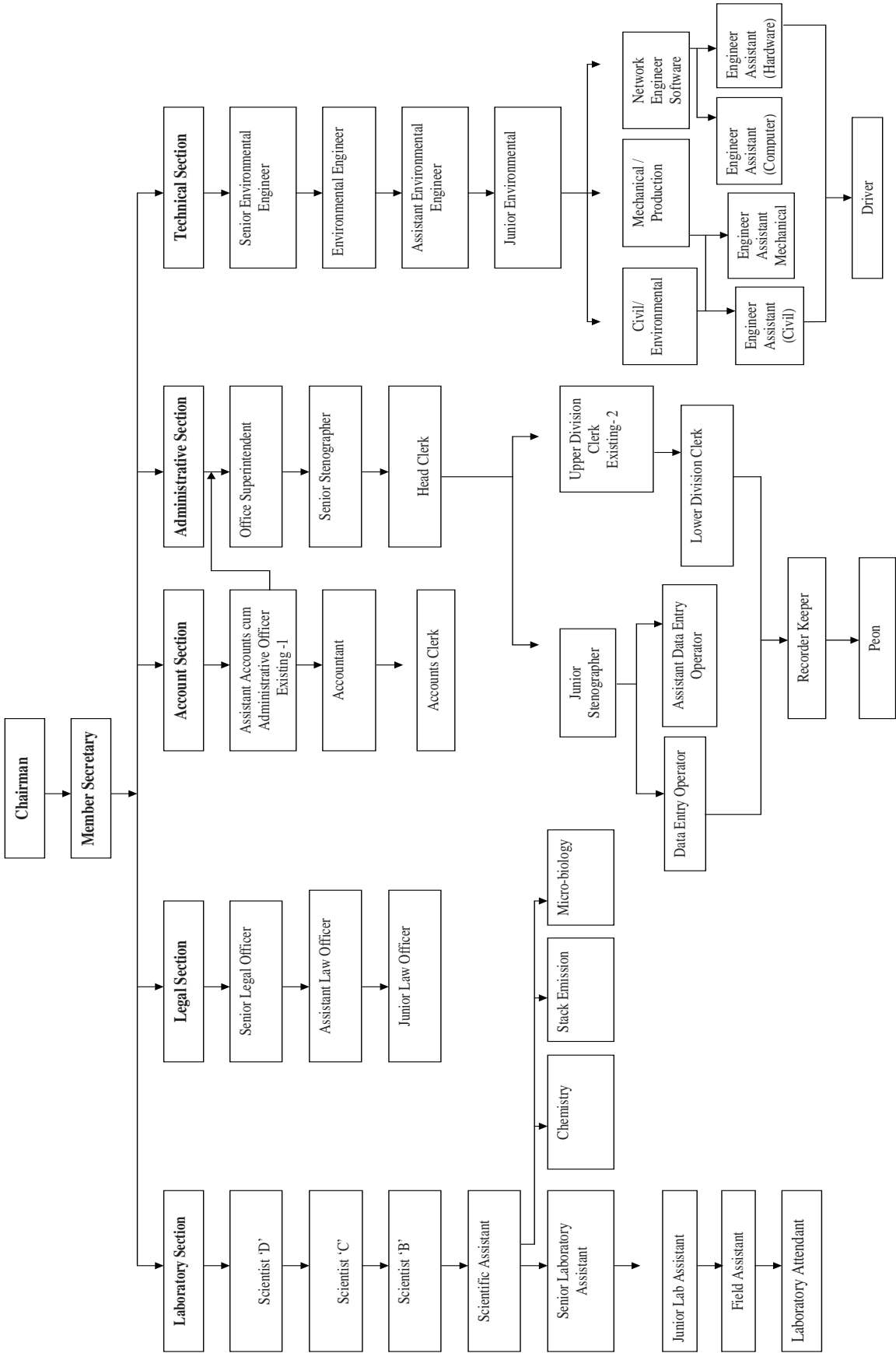
Used tissue paper, Soiled toilet paper, Sanitary pads, Diapers

HOW AIR POLLUTION AFFECTS YOUR BODY



ANNEXURE I

ORGANISATION CHART FOR GOA STATE POLLUTION CONTROL BOARD



ANNEXURE II

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 2018-2019.

Sr. No	Industry Name	Consent Issued Date	Category
1	Fatima Guest House	02-04-2018	Green
2	Cipla Ltd	02-04-2018	Orange
3	X.L.Stone Crusher	02-04-2018	Orange
4	Sunrise Cashew Industries	02-04-2018	Orange
5	Balton's The Reggae Shack	02-04-2018	Green
6	Ratan Housing Development Limited	02-04-2018	Green
7	Yashnidi Builders Pvt. Ltd	02-04-2018	Orange
8	Blue Sky	02-04-2018	Green
9	Miranda Metal Industries	03-04-2018	Orange
10	Mormugao Port Trust	05-04-2018	Orange
11	Samatma Estates Pvt. Ltd	05-04-2018	Green
12	Rexs Place	05-04-2018	Green
13	Ramesh Hotels & Resorts Pvt Ltd	05-04-2018	Orange
14	Mandovi Wellness & Spa Private Limited	05-04-2018	Green
15	Mohit Ispat Limited	05-04-2018	Orange
16	Pele's Windsong Wooden Cottages	05-04-2018	Green
17	Mormugao Port Trust	05-04-2018	Red
18	Acron Niama Valley	05-04-2018	Green
19	Acron Hospitality Pvt. Ltd	05-04-2018	Orange
20	Guild Hotels Pvt. Ltd	06-04-2018	Orange
21	Kudnekar Granites	06-04-2018	Orange
22	Narayan Ganesh Prabhu Zantye & Co	06-04-2018	Green
23	Dominos Shack	06-04-2018	Green
24	Tropicana Beach Shack	06-04-2018	Green
25	Jubliant Huts	06-04-2018	Green
26	Sun Leisure India Pvt. Ltd	06-04-2018	Green
27	Rudy's Beach Shack	06-04-2018	Green
28	Deccan Fine Chemicals India Pvt. Ltd	09-04-2018	Red
29	Volant Holiday Village	09-04-2018	Green
30	Nestor Pharmaceuticals Limited	09-04-2018	Orange
31	Millenium Inn	09-04-2018	Green
32	X/Z Guest House	09-04-2018	Green
33	The Tamrind Lodge	10-04-2018	Orange

34	Cosme Costa Industries Llp	10-04-2018	Green
35	R.N.Motors	10-04-2018	Orange
36	Chowgule & Co. Pvt. Ltd	10-04-2018	Green
37	Jimcap Electronics Pvt Ltd	10-04-2018	Green
38	Cipla Ltd	12-04-2018	Orange
39	Amar Madhu Fadte Quarry	13-04-2018	Green
40	Kamat Adventure Cruises	13-04-2018	Orange
41	Gurukul Pollution Checking Centre & Motor Driving School	13-04-2018	Green
42	Vision Hospital	13-04-2018	Orange
43	Pleasure Beach Resort	13-04-2018	Orange
44	Auberge Palms Hospitality Pvt Ltd	16-04-2018	Green
45	Sea Bird Resorts Pvt. Ltd	17-04-2018	Red
46	Mega Electrical	17-04-2018	Green
47	The Cape Goa	17-04-2018	Green
48	Oxygen Palolem	17-04-2018	Green
49	De Jetty	17-04-2018	Green
50	Global Ispat Limited	17-04-2018	Orange
51	Terry Place	17-04-2018	Green
52	Hotel Anugraha	17-04-2018	Green
53	Moon Star Huts	20-04-2018	Green
54	Pooja Cottages	20-04-2018	Green
55	Abbott India Limited	20-04-2018	Orange
56	Maria Bar & Restaurant	20-04-2018	Green
57	Residential Villa	20-04-2018	Green
58	Aditya Orchids	20-04-2018	Green
59	Colmar Hotels Pvt. Ltd	20-04-2018	Orange
60	Hotel Green Park	23-04-2018	Orange
61	Rosenberger Electronic Co (I) Pvt. Ltd	23-04-2018	Green
62	Vignesh Polymer	23-04-2018	Green
63	Prime Tech Softdrinks Pvt. Ltd	23-04-2018	Orange
64	Camron Beach Shack	23-04-2018	Green
65	Angels Holiday Resort	23-04-2018	Orange
66	Bms Hospitality Pvt. Ltd	24-04-2018	Orange
67	Goodwill Enterprises	24-04-2018	Green
68	Reel O Fab	26-04-2018	Green
69	Agam Batteries	26-04-2018	Green
70	Kamal Flour Mill	26-04-2018	Green
71	Villa Vailankani	26-04-2018	Orange
72	Sai Swastik Guest House	26-04-2018	Orange
73	Jadid Industry For Steel Works	26-04-2018	Green
74	Alines Beauty Care & Spa	26-04-2018	Green

75	Village Resort	26-04-2018	Orange
76	Ozran Heights Beach Resort Pvt. Ltd	26-04-2018	Orange
77	Goa Guest Ghar	27-04-2018	Green
78	Mandovi Clinic	27-04-2018	Orange
79	Shantadurga Metal Industries	27-04-2018	Orange
80	Red Crab Shack & Huts	30-04-2018	Green
81	Kiril Nitin Hospitality Pvt. Ltd	30-04-2018	Green
82	M.P.D.Costa Workshop	30-04-2018	Green
83	Bhaskar Metals	30-04-2018	Orange
84	Castle Rock Industries	30-04-2018	Orange
85	Alpro Metal Pvt. Ltd	30-04-2018	Green
86	Halarnkar Industries	30-04-2018	Green
87	Hindustan Waste Treatment Pvt. Ltd	03-05-2018	Red
88	Hindustan Waste Treatment Pvt. Ltd	03-05-2018	Red
89	Iqra Hospitality (Hotel Supreme Grande)	04-05-2018	Green
90	Brush Wood Villa	04-05-2018	Green
91	Plastic Export Zundert (I) Pvt. Ltd	04-05-2018	Green
92	Parshuram Metaux	04-05-2018	Green
93	Tienda Advanced Material Pvt. Ltd	04-05-2018	Green
94	Counto Metal & Mining Co. Ltd	04-05-2018	Red
95	Mi-Vida Agro Food Processing Unit	04-05-2018	Green
96	Sanket Pollution Centre	04-05-2018	Green
97	Krishna Industries	04-05-2018	Green
98	Alcon Cement Company Pvt. Ltd	04-05-2018	Orange
99	Total Packaging	04-05-2018	Orange
100	Quality Foods	04-05-2018	Orange
101	Taj Furniture	04-05-2018	Green
102	Rosefavilla Guest House	07-05-2018	Green
103	Sri Om Ganesh Packaging	07-05-2018	Green
104	Goa Waste Management Corporation	07-05-2018	Red
105	Modern Polypack Industries	07-05-2018	Green
106	Indospirit Beveragespvt. Ltd	07-05-2018	Orange
107	Gaurish Govekar (Momentz- Open Air Garden Venue)	07-05-2018	Green
108	Beer Chakna Meeting And Chai	07-05-2018	Green
109	Jolly Boys Beach Shack	08-05-2018	Green
110	Riva Boutique Apartments	08-05-2018	Green
111	Riva Boutique Apartments 773/12	08-05-2018	Green
112	Pyramid Beach Shack	08-05-2018	Green
113	Rekha Stone Crusher	08-05-2018	Orange
114	Risara Luxury	08-05-2018	Green
115	Sawant Garage	09-05-2018	Green

116	Sakalyas Ayurveda	09-05-2018	Green
117	Tevapharm India Private Limited	09-05-2018	Orange
118	The Villa	09-05-2018	Green
119	Gkb Hi-Tech Lences Pvt. Ltd	09-05-2018	Green
120	Shalini Metals	09-05-2018	Orange
121	Peep Kitchen	11-05-2018	Green
122	Synegra Ems Ltd	14-05-2018	Green
123	Goa Tourism Development Corporation	15-05-2018	Orange
124	Sundaram Industries Ltd	15-05-2018	Orange
125	Midas Touch Ayurvedic Panchakarma Clinic	15-05-2018	Green
126	Lee Bakery	15-05-2018	Green
127	Johnny Fabrication Works	15-05-2018	Green
128	Shreeyash Auto Parts & Servicing	15-05-2018	Orange
129	Chowgule & Co. Pvt. Ltd	15-05-2018	Orange
130	Brahmini Granites	15-05-2018	Orange
131	Salgaonkar Metal	15-05-2018	Orange
132	S. Kumar Metals	15-05-2018	Orange
133	Shri Farid Veljee	15-05-2018	Orange
134	Marintech Services	15-05-2018	Orange
135	Dada Engineering Works	15-05-2018	Orange
136	Hotel Aananda	16-05-2018	Green
137	Dr. Vaibhavi Naik Clinic(Homeopathic Clinic)	16-05-2018	Green
138	Samarth Metal Crusher	16-05-2018	Green
139	Abab Industries	16-05-2018	Red
140	Auto Tech (Puc Centre)	16-05-2018	Green
141	Candolim Grande	16-05-2018	Orange
142	Acron Condolim Elite	16-05-2018	Green
143	Acron Hospitality Pvt. Ltd	16-05-2018	Green
144	United Marine Products	16-05-2018	Orange
145	Vassudeva Tamba Metal Quarry	16-05-2018	Orange
146	Simerhwar Garage	16-05-2018	Orange
147	Overseas Beverages Private Limited	17-05-2018	Orange
148	Essence By Resort Rio	17-05-2018	Orange
149	Tivim Pharmaceuticals	18-05-2018	Orange
150	Ulka Seafoods Pvt. Ltd	18-05-2018	Orange
151	Siddhi Cashew Industry	18-05-2018	Orange
152	The Sonnet Villa	18-05-2018	Green
153	Our Lady Of Grace Maternity Clinic	18-05-2018	Orange
154	Mauli Gram Vikas Society	18-05-2018	Orange
155	Mahalaxmi Enterprises	18-05-2018	Orange
156	Sea Shell	18-05-2018	Orange
157	Cipla Ltd	18-05-2018	Orange

158	Haldankar Cashew Industry	18-05-2018	Orange
159	Choksi Laboratories Limited	18-05-2018	Orange
160	Pleasure River Resort	21-05-2018	Orange
161	Reliance Builders	21-05-2018	Orange
162	Proposed Premium Housing And Commercial Development	21-05-2018	Red
163	Godrej Agrovet Limited	21-05-2018	Orange
164	Integrity Foods	22-05-2018	Orange
165	Vibha Crushers	24-05-2018	Orange
166	Goa Paints & Allied Products Pvt. Ltd	28-05-2018	Red
167	V.A.B. Industries -li	28-05-2018	Red
168	Shree Balaji Food And Beverages	28-05-2018	Orange
169	Rukminirama Steel Rollings Pvt. Ltd	28-05-2018	Orange
170	Mahalaxmi Servicing Centre	28-05-2018	Orange
171	Vision Hospital	28-05-2018	Orange
172	Shri. Shailesh Chari	28-05-2018	Orange
173	Service Centre	28-05-2018	Orange
174	Pioneer Alloys And Steel India Pvt. Ltd	28-05-2018	Orange
175	Tantrah Spa Beauty Saloon & Spa	29-05-2018	Green
176	Gail (India) Limited	30-05-2018	Green
177	Tubki Realtors	30-05-2018	Green
178	Goa Shipyard Ltd	30-05-2018	Red
179	M.V.Noah's Ark	04-06-2018	Orange
180	Hindustan Petroleum Corporation Limited	05-06-2018	Orange
181	Riva Resort And Spa	05-06-2018	Orange
182	Sunny's Washing Centre	05-06-2018	Orange
183	Manuel Da Costa	06-06-2018	Green
184	Samarth Metal Crusher	06-06-2018	Green
185	Orient Plastic Industries	06-06-2018	Green
186	Taste Of India	06-06-2018	Green
187	Hotel Spring Heights	06-06-2018	Green
188	Quick Tyre Service	06-06-2018	Green
189	Sai Power Laundry	07-06-2018	Orange
190	R.S.S. Ice Plant & Storage Unit li	07-06-2018	Green
191	Elegant Poly Products Pvt. Ltd	07-06-2018	Green
192	Tycon Medical Devices Pvt Ltd	07-06-2018	Green
193	Acron Developers (Acron Water Vista Villas)	07-06-2018	Green
194	Sukho Thai	07-06-2018	Green
195	Goa Carbon Limited	07-06-2018	Red
196	Team 24 Foods And Beverages Pvt. Ltd	07-06-2018	Orange
197	Hotel Garima Of Mandre	12-06-2018	Green
198	Telesmart Scs Limited	12-06-2018	Green

199	Aryans Shack	13-06-2018	Green
200	Sparsh	13-06-2018	Green
201	Cg Power And Industrial Solution Limited	13-06-2018	Green
202	G's Shine Service Centre		Orange
203	Casa De Royale	14-06-2018	Green
204	Esmeralda Metals	14-06-2018	Red
205	Manuel Da Costa	15-06-2018	Green
206	Vision Dream City	15-06-2018	Red
207	Indoco Remedies Limited	15-06-2018	Orange
208	Counto Automobiles Pvt. Ltd	15-06-2018	Orange
209	Mandovi Bakers And Confectioners	15-06-2018	Green
210	Mson Industries	15-06-2018	Green
211	Universal Cables Ltd	15-06-2018	Orange
212	Casa De Souza	15-06-2018	Green
213	Delta Engineers	15-06-2018	Orange
214	De Souza Hotels Resorts	15-06-2018	Orange
215	Sp Shack	15-06-2018	Green
216	Nkp Pharma Pvt. Ltd	15-06-2018	Green
217	Casa De Morgado	15-06-2018	Green
218	Inddo Furniture	15-06-2018	Green
219	Goa Shipyard Ltd (Unit V)	15-06-2018	Orange
220	Merck Specialities Private Limited	15-06-2018	Orange
221	Material Organisation	18-06-2018	Green
222	Rudraksha Holiday Homes	18-06-2018	Green
223	Sunanda Agro Products	19-06-2018	Orange
224	Himachal Futuristic Communications Ltd	19-06-2018	Orange
225	Watson Pharma Pvt. Ltd	19-06-2018	Orange
226	Rai Resort	20-06-2018	Green
227	Elegant Shades	20-06-2018	Green
228	Highstreet Cruises And Entertainment Pvt. Ltd	20-06-2018	Orange
229	Zumbrai Guest House	20-06-2018	Green
230	Belleville Guest House	20-06-2018	Green
231	La-Cresenta Guest House	20-06-2018	Green
232	Mother Ayurveda Pvt. Ltd	21-06-2018	Green
233	Naiknavare Constructions Pvt. Ltd	22-06-2018	Red
234	Shreyanshi Beverages	22-06-2018	Orange
235	Raynav Engineering Works	25-06-2018	Red
236	Saudares Homestay	25-06-2018	Green
237	Pleasure Inn	25-06-2018	Green
238	Jai Hanuman Telghana	25-06-2018	Green
239	Dosti Pollution Check Centre (Puc)	25-06-2018	Green
240	Coco Beach Shack	25-06-2018	Green

241	Dona Alcina Resort Pvt. Ltd	25-06-2018	Orange
242	Alby's Agro Pvt. Ltd	25-06-2018	Orange
243	Sateri Prasad Transport	25-06-2018	Green
244	Dlf Limited	26-06-2018	Red
245	Beachfront Resort Pvt. Ltd	27-06-2018	Green
246	Purple Valley Yoga Retreat Centre	27-06-2018	Orange
247	Lawande Beach Resort	27-06-2018	Green
248	The Majorda Pristine (South Coast Hospitality Ventures)	27-06-2018	Green
249	Belladona Plasters Limited	28-06-2018	Orange
250	Buildmat	29-06-2018	Orange
251	Anand Engineering Works	29-06-2018	Orange
252	R.R Enterprises	29-06-2018	Green
253	Hotel Jyoti Plaza	29-06-2018	Orange
254	Sinq Prive (Adwalpalkar Constructions & Resorts Pvt. Ltd	29-06-2018	Orange
255	Caculo Earthmovers Pvt Ltd	29-06-2018	Orange
256	Gmr Goa International Airport Ltd	29-06-2018	Red
257	Reliance Industries Limited	29-06-2018	Orange
258	Jeet Foods Company	29-06-2018	Orange
259	Kadium Products Pvt. Ltd	29-06-2018	Orange
260	La-Cabana Beach & Spa	29-06-2018	Orange
261	Teixeira Fast Food	29-06-2018	Green
262	Hotel Purushottam Pvt. Ltd	29-06-2018	Green
263	Novotel Goa Resorts & Spa	29-06-2018	Orange
264	Ruby Industries	29-06-2018	Orange
265	Hotel The Grand Inn		Orange
266	Sagar Enterprises	02-07-2018	Orange
267	Glenmark Pharmaceuticals Limited (Plant Ii)	02-07-2018	Orange
268	August 5 Am Somewhere	02-07-2018	Green
269	Devashri Real Estate Developers	02-07-2018	Green
270	Vindaloo Restaurant	02-07-2018	Green
271	Nitin Developers Pvt. Ltd	02-07-2018	Green
272	Venkatesh Automobiles	02-07-2018	Green
273	Maruti Enterprises	03-07-2018	Red
274	Goastav Hotels Pvt. Ltd	04-07-2018	Orange
275	Purushottam Residency	04-07-2018	Green
276	Ace Projects	04-07-2018	Green
277	Q-Ba Shack	04-07-2018	Green
278	Pinacolada Beach Shack (2016-17)	04-07-2018	Green
279	Agnelo Lime Industries	04-07-2018	Green
280	Saibaba Pollution Control Unit	04-07-2018	Green
281	Ziva India Realtors	04-07-2018	Green

282	Sigma Laboratories Pvt. Ltd	04-07-2018	Orange
283	Prithvi Consultants Private Limited	04-07-2018	Green
284	Lal Saloon & Spa	04-07-2018	Green
285	Dias Cottages	05-07-2018	Green
286	Averina International Resort Pvt. Ltd	05-07-2018	Red
287	Alfran Resorts	05-07-2018	Green
288	Mangal Iron Pvt. Ltd	05-07-2018	Orange
289	Sapana Ceremics Pvt Ltd	05-07-2018	Orange
290	Costa & Co Pvt. Ltd	05-07-2018	Orange
291	Mahalasa Narayani Services	06-07-2018	Green
292	Deccan Fine Chemicals India Pvt. Ltd	06-07-2018	Red
293	Deccan Fine Chemicals India Pvt. Ltd	06-07-2018	Red
294	South West Port Ltd	06-07-2018	Red
295	Adani Mormugao Port Terminals Pvt. Ltd	06-07-2018	Red
296	Shakti Chemicals	09-07-2018	Red
297	Sai Traders	09-07-2018	Green
298	Hotel Hill Rock	09-07-2018	Green
299	Shree Mahalasa Cement Product	09-07-2018	Green
300	Green Valley Wellness Farm House	09-07-2018	Green
301	Jay Agrotech Pvt. Ltd	09-07-2018	Green
302	De Lagon Comforts	09-07-2018	Green
303	Dr. Sagar's Ayurveda Clinic	09-07-2018	Green
304	Anjali J. Mody Trust (Delta Real Estate Consultancy Pvt. Ltd	09-07-2018	Green
305	Silver Sand Serenity	09-07-2018	Orange
306	Olegar Enterprises	09-07-2018	Green
307	Asian Industries	11-07-2018	Green
308	Shalom Guest House	12-07-2018	Green
309	Caculo Motors Pvt Ltd	12-07-2018	Orange
310	Expat Propeties	12-07-2018	Green
311	Glorio Beach Shack	12-07-2018	Green
312	Highlandholiday Homes (Goa) Pvt. Ltd	12-07-2018	Orange
313	Escos Sun N Moon Shack	12-07-2018	Green
314	Holistic Homoeopathic Clinic	12-07-2018	Green
315	Paulo M. D'souza (Guest House)	12-07-2018	Green
316	Tulshi Chhaya (Guest House)	12-07-2018	Green
317	Vedanta Limited	12-07-2018	Red
318	Krishna Food & Beverages	13-07-2018	Green
319	Sai Auto Pollution Centre	17-07-2018	Green
320	Goa Rajee Auto Pvt. Ltd	18-07-2018	Orange
321	Vedanta Limited	18-07-2018	Red
322	R.K. Industrial Corporation	18-07-2018	Green

323	Mormugao Port Trust	18-07-2018	Red
324	Mormugao Port Trust (Cruise Terminal Stp)	18-07-2018	Red
325	Simple Automobile Service Centre	18-07-2018	Orange
326	Sai Sagar Bar & Restaurant	18-07-2018	Green
327	Amar-Deep Pharmas Llp	18-07-2018	Green
328	Ultratech Automotive Pvt. Ltd	18-07-2018	Red
329	Villa Goesa Beach Resort	18-07-2018	Orange
330	Acron Upland	18-07-2018	Green
331	Nanu Industries	20-07-2018	Orange
332	Laxmi Industries	20-07-2018	Green
333	Noble Hospital	23-07-2018	Orange
334	Royal Hospital	23-07-2018	Orange
335	Majestic D'signs	23-07-2018	Orange
336	Roto Technic	23-07-2018	Orange
337	Akar Motels & Holiday Resort Pvt. Ltd	23-07-2018	Orange
338	Dr. A Menezes Nursing Home	23-07-2018	Orange
339	Hotel Sungrace	23-07-2018	Orange
340	Bhavi Metal Industries	23-07-2018	Orange
341	Ghanashyam Govind Kamat Memorial Hospital	23-07-2018	Orange
342	Velan Crushing Industries	23-07-2018	Orange
343	Rosewood Furniture	24-07-2018	Green
344	R.G.Stone Urology & Laparoscopy Hospital	24-07-2018	Orange
345	Holiday Beach Resort	24-07-2018	Green
346	Homeocare Clinic	24-07-2018	Green
347	Rane & Sons	24-07-2018	Orange
348	Abab Industries	26-07-2018	Red
349	Swamamudra Multigraphics	26-07-2018	Green
350	Netra Guest House	26-07-2018	Green
351	S. Kandolkar Building Products	26-07-2018	Green
352	Schiffer & Menezes Ind. Pvt. Ltd	26-07-2018	Green
353	S. Kumar Metals	26-07-2018	Green
354	Acron Candolim Parklands	26-07-2018	Green
355	Anson Guest House	26-07-2018	Green
356	Eugenia Evergreens	26-07-2018	Green
357	Kn Servicing Centre	26-07-2018	Orange
358	Sairaj Industries	26-07-2018	Green
359	Tantra Beach Shack	26-07-2018	Green
360	Highstreet Cruises & Entertainment Pvt. Ltd	26-07-2018	Orange
361	Manipal Hospital Goa	26-07-2018	Red
362	Touch And Cure Wellness Pvt. Ltd	26-07-2018	Green
363	Alex Maria Guest House	26-07-2018	Green
364	Adelino Carpenter	26-07-2018	Green
365	Marine Electricals India Pvt. Ltd	26-07-2018	Red

366	Hotel Riverside	26-07-2018	Orange
367	Raj Ryle Residency	26-07-2018	Red
368	Tanshikar Spice Farm	26-07-2018	Green
369	Alex Guest House	26-07-2018	Green
370	Glenmark Pharmaceuticals Ltd	27-07-2018	Orange
371	Halarankar Industries	27-07-2018	Green
372	Chowgule & Co Pvt. Ltd	27-07-2018	Red
373	Qualishine Industries	27-07-2018	Red
374	V.M.Salgaonkar & Bro. Pvt. Ltd	27-07-2018	Red
375	Reagan Hotel Guest House	30-07-2018	Green
376	Sunrise Electromelt Ltd	30-07-2018	Orange
377	Sea Front	30-07-2018	Green
378	Manuel Da Costa	30-07-2018	Green
379	Sambari Flour Mill	30-07-2018	Green
380	Vio Foods	30-07-2018	Orange
381	Industrial Marketing Company	30-07-2018	Orange
382	Jack Joana Tourist Home	30-07-2018	Green
383	Angel Bakery	31-07-2018	Green
384	Tirupati Resort	31-07-2018	Green
385	Fernandes Shack	31-07-2018	Green
386	Shree Laxmi Metal Industries	31-07-2018	Orange
387	Stonex	31-07-2018	Green
388	Adimba Shack	31-07-2018	Green
389	Villa Bazesco Guest House	31-07-2018	Green
390	Darolina Guest House	31-07-2018	Green
391	Aryanka Enterprises	31-07-2018	Green
392	Empire Guest House	01-08-2018	Green
393	Serene Wellness Centre	01-08-2018	Green
394	St. Anthony Bakery	01-08-2018	Green
395	Exotic Bay Side	02-08-2018	Green
396	Berger Becker Coatings Pvt. Ltd	02-08-2018	Orange
397	Pinto Villa	02-08-2018	Green
398	Pwd Div Xxi Phe 6.7 Mld Stp For Margao Town	02-08-2018	Orange
399	Whispering Palms Beach Resort	02-08-2018	Orange
400	Devashri Real Estate Developers	02-08-2018	Orange
401	Riverside Regency Resort	02-08-2018	Orange
402	Auslyn Guest House	02-08-2018	Green
403	Meghdoot Restaurant And Lodging House	02-08-2018	Green
404	Bricks And Blocks	02-08-2018	Green
405	Sparkle Service Station	03-08-2018	Orange
406	Mandovi Hotels Private Limited	03-08-2018	Orange
407	Holiday Cottage Hostel	03-08-2018	Green

408	Goa Housing Board (Plot H-2)	03-08-2018	Orange
409	Goa Housing Board (Plot H-1)	03-08-2018	Orange
410	Goa Housing Board	03-08-2018	Orange
411	Bhisso Pollution Check Centre	03-08-2018	Green
412	Café Arvona	03-08-2018	Green
413	Casa Arvona	03-08-2018	Green
414	Sun And Fun Guest House	06-08-2018	Green
415	Naman Palce	06-08-2018	Green
416	Cocomar Resorts Private Limited	06-08-2018	Orange
417	Shiva Garden	06-08-2018	Green
418	Valenkanni Shack	06-08-2018	Green
419	Menzes Fishnet Industry Private Limited	06-08-2018	Orange
420	Marine Electricals India Pvt. Ltd	06-08-2018	Green
421	Lavina Beach Shack	06-08-2018	Green
422	Viva Casa	07-08-2018	Green
423	Mahalasa Pharma	07-08-2018	Red
424	The Executive Engineer Works Division Iii	07-08-2018	Orange
425	Yojana Service Centre	07-08-2018	Orange
426	Dukle Auto Care Centre	07-08-2018	Green
427	Directorate Of Transport	09-08-2018	Green
428	Sateri Metals	20-08-2018	Red
429	Rekha Bar & Restaurant	20-08-2018	Green
430	Cabo Wabo	20-08-2018	Green
431	Shalini Metals	20-08-2018	Green
432	Kamat Metal Industries	20-08-2018	Orange
433	Regys Guest House	20-08-2018	Green
434	Hilltop Guest House	20-08-2018	Green
435	Indoco Remedies Ltd (Plant I)	27-08-2018	Orange
436	Expanse Asoka Vann	27-08-2018	Green
437	Deccan Fine Chemicals (India) Pvt. Ltd	27-08-2018	Red
438	Marina Resorts Pvt. Ltd	27-08-2018	Orange
439	R.K.Engineering Works	27-08-2018	Green
440	J.M.Metal Industries	27-08-2018	Orange
441	P.K.Shah & Buffers	27-08-2018	Green
442	Finolex Cables Ltd	27-08-2018	Orange
443	Desai Packaging Pvt. Ltd	27-08-2018	Green
444	Priya Distilleries	27-08-2018	Orange
445	Pentagon Engineers	27-08-2018	Red
446	Tiger Sheet Metal Works (Unit Ii)	27-08-2018	Orange
447	Alfa Emirados Comercio Geral	27-08-2018	Orange
448	Advani Hotels & Resorts (I) Ltd	27-08-2018	Red
449	Delta Corp Ltd	27-08-2018	Orange

450	Opa Water Works	27-08-2018	Orange
451	Goa Medical College & Hospital	28-08-2018	Red
452	Pryto Hotmelt Products Pvt. Ltd	28-08-2018	Green
453	Marine Electricals India Pvt. Ltd	28-08-2018	Green
454	Veigas Residency	28-08-2018	Green
455	Cabo De Rama Cottages	28-08-2018	Green
456	Thomas Ice Plant	28-08-2018	Green
457	Harish Y Pawar (Wood Charcoal Manufacturing)	28-08-2018	Orange
458	Anandi Nursing Home & Maternity Hospital	28-08-2018	Orange
459	Buildwell Corporation	28-08-2018	Green
460	Shanti Hotel	28-08-2018	Green
461	Brendon's Colony	28-08-2018	Green
462	Perprtual Mansion	28-08-2018	Green
463	Carferns Guest House	28-08-2018	Green
464	Katson Hotel & Developers Pvt. Ltd	28-08-2018	Orange
465	Shri Gajanan Zarapkar	28-08-2018	Green
466	Vassudeva Tamba Metal Quarry	28-08-2018	Green
467	Shanti Bar & Restaurant	28-08-2018	Green
468	Sim Rose	29-08-2018	Green
469	St. Francis Xavier Ice Plant	29-08-2018	Green
470	Royal Executive Inn	29-08-2018	Green
471	Sai Udak Beverages	29-08-2018	Green
472	Estela Marine Indsutries	29-08-2018	Green
473	Devki Krishna Associates	29-08-2018	Orange
474	Ashish Enterprises	29-08-2018	Green
475	Laxmi Polyprints	29-08-2018	Green
476	Kaloshi Granites	29-08-2018	Orange
477	Stonex	29-08-2018	Orange
478	Cruz Fernandes	30-08-2018	Green
479	Rising Wave Restaurant And Holiday Homes	30-08-2018	Green
480	Star Light Bar & Restaurant	30-08-2018	Green
481	Krish Café	31-08-2018	Green
482	Summer Angel	31-08-2018	Green
483	Green Garden	31-08-2018	Green
484	Vivenda Rebelo Guest House	03-09-2018	Green
485	Tourist Lodge Old Goa	03-09-2018	Green
486	Edu's Restaurant	03-09-2018	Green
487	Thokish	03-09-2018	Green
488	Goa Real Estate And Constructions Pvt. Ltd	04-09-2018	Red
489	Meera Motels	04-09-2018	Green
490	Mangal Home Stay	04-09-2018	Green
491	The Indian Hotels Company Limited	04-09-2018	Red

492	Casa Fortuna	04-09-2018	Green
493	Sand Sapphire	04-09-2018	Green
494	M.V.Black Arrow-I	04-09-2018	Orange
495	Ghatge Karkera Power Industries (Unit li)	04-09-2018	Red
496	Vimani Engineering Works	04-09-2018	Orange
497	Ayurvedic Health Care	05-09-2018	Green
498	Nanu Resorts Pvt. Ltd	05-09-2018	Orange
499	Sns Marine Services Pvt. Ltd	05-09-2018	Orange
500	Sparkling Auto- Spa	05-09-2018	Orange
501	Assess Build Chem Pvt. Ltd	05-09-2018	Orange
502	Integrity Foods	05-09-2018	Orange
503	P.K.Metal Crusher & Industries	05-09-2018	Orange
504	Zuari Agro Chemicals Limited	05-09-2018	Red
505	Zuari Agro Chemicals Limited (Ammonia Import Facility)	05-09-2018	Red
506	Mayflower Enclave	05-09-2018	Green
507	Delanco Home & Resort Pvt. Ltd & Bhamini Real Developers Real Estate Pvt. Ltd	05-09-2018	Orange
508	Mascarenhas Fabrication And Welding	05-09-2018	Green
509	Golden Peace Infrastructure Pvt. Ltd	05-09-2018	Orange
510	Oil And Natural Gas Corporation Ltd	10-09-2018	Green
511	Oil And Natural Gas Corporation Ltd	10-09-2018	Green
512	Dream Land Cottage (Wooden Huts)	10-09-2018	Green
513	Aqua World	10-09-2018	Orange
514	Geras Astoria Co-Operative Housing Maintenance Society Ltd	10-09-2018	Red
515	Esteves Repairing Workshop	10-09-2018	Orange
516	Indoco Remedies Ltd (Plant li)	10-09-2018	Orange
517	Sialca Industries	10-09-2018	Red
518	Myles High Health Concepts Private Limited	10-09-2018	Green
519	The Avenue Multi Cuisine Restaurant & Luxury Service Apartment	10-09-2018	Green
520	Palmeiras Dourado	10-09-2018	Green
521	Round Ball	10-09-2018	Green
522	Ms Source	10-09-2018	Green
523	Seascape Cottages Residency	10-09-2018	Green
524	Universal Developers	10-09-2018	Green
525	Joma Metal Industries	10-09-2018	Orange
526	Eme Automation (Unit li)	10-09-2018	Green
527	Hotel Arambol Arbour	10-09-2018	Green
528	Sunshine Guest House	10-09-2018	Green
529	Goa Carbon Limited	11-09-2018	Red
530	Gvella Guest House	12-09-2018	Green

531	Hotel Vrindavan Classic (Lodging)	12-09-2018	Green
532	D'costa Holiday Home	12-09-2018	Green
533	Portuguez House	12-09-2018	Green
534	Shalom Guest House	12-09-2018	Green
535	Monarch Enterprises	12-09-2018	Green
536	Tato Holdings (Tato's Fine Dining & Café Tato)	17-09-2018	Green
537	Pauljero's Dream	17-09-2018	Green
538	Zoom Power Laundry	18-09-2018	Orange
539	Unique Saloon & Spa	20-09-2018	Green
540	Hotel Colva Kinara	20-09-2018	Orange
541	Nagarsenkar's Classic Hospital	20-09-2018	Red
542	Marksans Pharma Limitedcca	20-09-2018	Orange
543	Lupin Limited	20-09-2018	Orange
544	Gemini Distilleries India Pvt. Ltd	21-09-2018	Orange
545	Trimurty Industry	21-09-2018	Orange
546	Counto Automobiles Pvt. Ltd	21-09-2018	Orange
547	Jose Villa	21-09-2018	Green
548	Baptista Crushing Industry	21-09-2018	Orange
549	North 39	21-09-2018	Orange
550	Sunset Shack	21-09-2018	Green
551	Relax-Inn Guest House	21-09-2018	Green
552	Sea View Shack	21-09-2018	Green
553	Doriyasukh	21-09-2018	Green
554	Cape Town Café	21-09-2018	Green
555	Richa Polyplast Private Limited	21-09-2018	Green
556	Domnic Shack	21-09-2018	Green
557	Shack Chikita (2016-17)	21-09-2018	Green
558	The Mahal (Pascoal Goes)	21-09-2018	Green
559	Little Palm Shack	21-09-2018	Green
560	Ocean Heaven	21-09-2018	Green
561	Sea Food Point Shack	21-09-2018	Green
562	Dragonfly	21-09-2018	Green
563	Ka Salon Spa & Academy	24-09-2018	Green
564	Temporary Dolphin Shack	24-09-2018	Green
565	Crystal Holiday Homes	24-09-2018	Green
566	White Orchid Beauty And Spa	24-09-2018	Green
567	Mahindra Holidays & Resorts (I) Ltd	24-09-2018	Red
568	De Souza Leisures Pvt Ltd	24-09-2018	Orange
569	Universal Developers	25-09-2018	Green
570	Paradise I (Paradise Ventures)	25-09-2018	Orange
571	Royale Assagao	25-09-2018	Orange
572	Prudential Developers	25-09-2018	Red

573	Okean De Goa	26-09-2018	Green
574	Itc Limited	26-09-2018	Red
575	Pfizer Limited	26-09-2018	Orange
576	Ashley Resorts Pvt Ltd	26-09-2018	Orange
577	United Spirits Limited	26-09-2018	Red
578	United Spirits Limited	26-09-2018	Red
579	Neelams Hotels Pvt. Ltd	26-09-2018	Red
580	Waterways Shipyard Pvt. Ltd	26-09-2018	Orange
581	Samik Enterprises	26-09-2018	Green
582	Imperium Grand	26-09-2018	Green
583	Ayurkunj	27-09-2018	Green
584	Kartik Resort	27-09-2018	Green
585	4ss Tourist Guest House	27-09-2018	Green
586	Hilltop Guest House	27-09-2018	Green
587	Edem Garden Hotel	27-09-2018	Green
588	Macbrout Engineering Pvt. Ltd	27-09-2018	Green
589	Omkar Gram Vikas	27-09-2018	Orange
590	Unique Food Products	27-09-2018	Orange
591	Hotel Belo Horizonte	27-09-2018	Green
592	Prashant Madhukar Kamat	27-09-2018	Green
593	S. Kumar Metals	27-09-2018	Orange
594	Ramnath Auto Repairs & Fabrications	27-09-2018	Orange
595	Silicon Cortec	27-09-2018	Green
596	Grand Gigis	27-09-2018	Green
597	Jame's Café Beach Hut	27-09-2018	Green
598	Luis Caetano Guest House	27-09-2018	Green
599	Sahara Residency	27-09-2018	Green
600	Pavni Holidays	01-10-2018	Green
601	Resorte Marinha Dourada	01-10-2018	Orange
602	The Sky Hotel	03-10-2018	Green
603	Daphne Guest House	03-10-2018	Green
604	Mike's Café Oasis	03-10-2018	Green
605	Anjuna Villa 140/1	03-10-2018	Green
606	Raj Exotic Palms	03-10-2018	Green
607	Charles Rooms Bar N Restaurant	03-10-2018	Orange
608	Sieves Pharma	03-10-2018	Green
609	Fisherman Shack	03-10-2018	Green
610	Eddie's Place	03-10-2018	Green
611	Domnic A Dsouza	05-10-2018	Green
612	Papa Johns Restaurant	05-10-2018	Green
613	Ermina Guest House	05-10-2018	Green
614	Aviatech Enterprises Private Limited	05-10-2018	Orange

615	Raj Exotic Palms	05-10-2018	Green
616	Central Garage	05-10-2018	Orange
617	Counto Motors	05-10-2018	Orange
618	Shree Mallikarjun Vehicles Washing Service	05-10-2018	Green
619	Amigo Guest House	05-10-2018	Green
620	Godrej Agrovet Limited	05-10-2018	Orange
621	Star Products	05-10-2018	Orange
622	Bavaria Motors Private Limited	05-10-2018	Orange
623	Sanofi Synthelabo (India) Limited	08-10-2018	Orange
624	Alcon Resort Holdings Ltd	08-10-2018	Orange
625	Siemens Ltd (Etts)	08-10-2018	Green
626	Britacel Silicones Ltd	08-10-2018	Red
627	Medizest Pharmaceuticals Pvt. Ltd	08-10-2018	Orange
628	Britacel Silicones Ltd (L-124)	08-10-2018	Red
629	Saini Motors	09-10-2018	Orange
630	Dsouza Biotech	09-10-2018	Orange
631	Mahindra Holidays & Resorts (I) Ltd	11-10-2018	Orange
632	Essel Propack Limited	11-10-2018	Orange
633	Sandalwood Clinic	11-10-2018	Green
634	Lobo's Nest	11-10-2018	Green
635	Ice Makers	11-10-2018	Green
636	Villa De Orange	11-10-2018	Green
637	Shree Shantadurga Puc Centre	11-10-2018	Green
638	Saanvi Enterprises	12-10-2018	Green
639	Luciano Guest House	12-10-2018	Green
640	Green Ivy Hospitality	12-10-2018	Green
641	Nilufa Guest House	12-10-2018	Green
642	Gods Gift Guest House	12-10-2018	Green
643	Rama Resort	12-10-2018	Green
644	Pawan Infrastructure	12-10-2018	Orange
645	Fdc Limited	12-10-2018	Orange
646	Sanofi Synthelabo (India) Limited	12-10-2018	Orange
647	Vassudeva Tamba Metal Quarry	12-10-2018	Green
648	Saviola's Guest House	12-10-2018	Green
649	Goa Ispat Ltd	12-10-2018	Orange
650	Soham Leisure Ventures Private Ltd	12-10-2018	Orange
651	Nazareth Bakery	12-10-2018	Green
652	Vedanta Limited	12-10-2018	Red
653	Hotel Sarala Crown	15-10-2018	Green
654	Sam's Beach Shack	15-10-2018	Green
655	Om Shiv Nandi Restaurant	15-10-2018	Orange
656	Catha Guest House	15-10-2018	Green

657	Vrundavan Guest House	15-10-2018	Green
658	Tidal Wave Guest House	15-10-2018	Green
659	Guest House (Perpetua Socorra Almeida)	15-10-2018	Green
660	Alex Guest House	15-10-2018	Green
661	Joanita Guest House	15-10-2018	Green
662	Cozy Nook Huts	15-10-2018	Green
663	Pinto Guest House	15-10-2018	Green
664	Parvati Puc Testing Centre	15-10-2018	Green
665	Sonic Guest House	15-10-2018	Green
666	Anthony Guest House	15-10-2018	Green
667	Rodrigues Heritage Guest House	15-10-2018	Green
668	Angelica Desouza E Mendonca	15-10-2018	Green
669	Amar Metals	16-10-2018	Orange
670	Paying Guest House	16-10-2018	Green
671	Yashashri Polyplast	16-10-2018	Green
672	Sparadise	16-10-2018	Green
673	Vaz Residency	17-10-2018	Green
674	Jasmine Bar & Restaurant	19-10-2018	Green
675	Ritika Packaging Pvt. Ltd Unit li	19-10-2018	Green
676	Sea Shepherd	19-10-2018	Green
677	Alex Place Beach Shack	19-10-2018	Green
678	Antonios Place	19-10-2018	Green
679	Vista Praia Anjuna	19-10-2018	Green
680	Janies Guest House	22-10-2018	Green
681	Cheers Beach Shack	22-10-2018	Green
682	Putzmeister Concrete Machines Pvt. Ltd	22-10-2018	Red
683	Villa Bazesco Guest House	22-10-2018	Green
684	Sandpat	22-10-2018	Green
685	Lazy Bee Cottages	22-10-2018	Green
686	Orchid Beach House	22-10-2018	Green
687	Lacuna Shack	22-10-2018	Green
688	Welcome Restaurant	22-10-2018	Green
689	Goan Waves Beach Shack	22-10-2018	Green
690	Planetgoa Beach Shack	22-10-2018	Green
691	Agnelo Paying Guest House	22-10-2018	Green
692	Cafez Guest House	22-10-2018	Green
693	Orange Guest House	22-10-2018	Green
694	The Orange House	22-10-2018	Green
695	Da Orange House	22-10-2018	Green
696	Sabina Guest House	22-10-2018	Green
697	Ramdev Plastic Industries	22-10-2018	Green
698	Ramdev Polypack	22-10-2018	Green

699	Rajeshri Plastic	22-10-2018	Green
700	Ocean View The Apartment Hotel	22-10-2018	Orange
701	Davids Holiday Homes	22-10-2018	Green
702	Cosma Villa	22-10-2018	Green
703	Little Star Guest House	22-10-2018	Green
704	Felix Villa	22-10-2018	Green
705	Universal Developers	22-10-2018	Green
706	Heritage Village Club	22-10-2018	Orange
707	Om Ganesha Rooms	23-10-2018	Green
708	Seline's Salon & Spa	23-10-2018	Green
709	Climatron Storage & Distributor	23-10-2018	Green
710	Jre Tank Terminal Pvt. Ltd	23-10-2018	Red
711	Raj Resort	23-10-2018	Green
712	Sapphire Hospitality And Recreation Pvt. Ltd	23-10-2018	Green
713	Satyam Engineering Works	23-10-2018	Green
714	Friends Corner (Beach Shack)	23-10-2018	Green
715	Shirish Kamat (62/1)	23-10-2018	Green
716	Shirish Kamat (29/4)	23-10-2018	Green
717	Blue Cross Laboratories Ltd	23-10-2018	Orange
718	Anil Garage	23-10-2018	Orange
719	Siya Siraj Asnodkar	23-10-2018	Orange
720	Hayden Guest House	24-10-2018	Green
721	Ani-Fria Guest House	24-10-2018	Green
722	Revora Garden	24-10-2018	Green
723	Akshay Govenkar (Guest House)	24-10-2018	Green
724	Sanjay Govekar Guest House	24-10-2018	Green
725	Jali Café	24-10-2018	Green
726	Dommat Shack	24-10-2018	Green
727	Alex Beach Shack	24-10-2018	Green
728	Tavora Vegtures (Navtara)	24-10-2018	Green
729	Café Central	24-10-2018	Green
730	Caculo Cars Pvt Ltd	25-10-2018	Orange
731	Dempo Resorts Pvt. Ltd	25-10-2018	Orange
732	Barreto Metal Works	25-10-2018	Orange
733	Madkaikar Realtors Pvt. Ltd	25-10-2018	Green
734	Micro Labs Limited	25-10-2018	Orange
735	Padmini Infrastructure Developers (India) Ltd	25-10-2018	Green
736	Da Graciana	25-10-2018	Green
737	Parekh Dormitory	25-10-2018	Green
738	Champakali	25-10-2018	Green
739	Marie Marie	25-10-2018	Green
740	Jog Construction Company Pvt. Ltd	25-10-2018	Green

741	Capella Forest Retreat & Homestay	26-10-2018	Green
742	U.V.Bar & Restaurant	26-10-2018	Green
743	The Southern Deck	26-10-2018	Green
744	Bharat Developers & Realtors Pvt. Ltd	26-10-2018	Green
745	Jar De Mar	26-10-2018	Green
746	Jali Café	26-10-2018	Green
747	Odyssey Tours & Travels Pvt. Ltd	26-10-2018	Green
748	Heart Rock Beach Shack	26-10-2018	Green
749	Little Indian Beach Cottages	26-10-2018	Green
750	Spottys Shack	26-10-2018	Green
751	Dom's Shack	26-10-2018	Green
752	B & F Builders & Constructions	26-10-2018	Green
753	Krishna Parab	26-10-2018	Green
754	The Mahal	26-10-2018	Green
755	Mahatme Nursing Home	29-10-2018	Orange
756	Pinto's Cold Storage And Ice Plant	29-10-2018	Orange
757	Bright Tiles And Pavers	29-10-2018	Green
758	Desai Cashew & Allied Product	29-10-2018	Orange
759	Josam Contractors	29-10-2018	Orange
760	Quality Granite	29-10-2018	Orange
761	Vaishali Cottages	31-10-2018	Green
762	Dom Pedro's Haven H.No.192	31-10-2018	Green
763	Dom Pedro's Haven 32/11, 32/14	31-10-2018	Green
764	Jason Guest House	31-10-2018	Green
765	Shalom Guest House	31-10-2018	Green
766	Angel's Haven Guest House	31-10-2018	Green
767	Villa Maria Guest House	31-10-2018	Green
768	Amoura Guest House	31-10-2018	Green
769	Rmc Readymix India	31-10-2018	Green
770	Ani-Fria Guest House	31-10-2018	Green
771	Villa Carolina	31-10-2018	Green
772	Joaquina Mansion	31-10-2018	Green
773	Why Not Tashi Restaurant	31-10-2018	Green
774	Lawrencio Shack	31-10-2018	Green
775	Cumer Bar & Restaurant And Cumer Guest House	31-10-2018	Green
776	Fresco Hospitality And Hotels Llp	31-10-2018	Green
777	Sanofi India Limited	31-10-2018	Orange
778	Prasad Engineering Works	31-10-2018	Red
779	Triumph Realty Pvt Ltd	31-10-2018	Orange
780	Pinto's Cold Storage And Ice Plant	01-11-2018	Orange
781	Maiz Traders	01-11-2018	Orange
782	Mariazinha Fialho Guest House	01-11-2018	Green

783	Orange Sky	01-11-2018	Green
784	Leon Hide Out Guest House	01-11-2018	Green
785	Sweezel Cottages	02-11-2018	Green
786	Denimson Bar & Restaurant	02-11-2018	Green
787	Eldfra Guest House	02-11-2018	Green
788	Pritams Cottages	02-11-2018	Green
789	Davids Holiday Homes	02-11-2018	Green
790	Jw Heritage Guest House	02-11-2018	Green
791	Jupiter Enterprize	02-11-2018	Green
792	J & A Holiday Home	02-11-2018	Green
793	Gomes Serenity Guest House	02-11-2018	Green
794	Cupid's Castle	02-11-2018	Green
795	Bisleri International Pvt Ltd	02-11-2018	Green
796	Shri Ram Saw Mill	02-11-2018	Green
797	Silva Bakery	02-11-2018	Green
798	E.O.Thomas & C A Ahmed Associates	02-11-2018	Orange
799	Aldona Foods	02-11-2018	Orange
800	Dillan Earthmovers	02-11-2018	Red
801	Healthway Hospitals Pvt Ltd	02-11-2018	Orange
802	Prestige Holiday Resorts Llp	02-11-2018	Orange
803	Chandan Fabrication Work	02-11-2018	Orange
804	Ayurswasthya	02-11-2018	Green
805	Royal Goan Beach Resorts Llp (Royal Palms)	02-11-2018	Orange
806	Nelmar Nest Guest House	05-11-2018	Green
807	Sucorina Beach Shack	05-11-2018	Green
808	B.S.Chodankar Car & Bike Washing Center	05-11-2018	Orange
809	D'souza's Holiday Homes	05-11-2018	Green
810	Colors	05-11-2018	Green
811	Dmellos Sea View Home	05-11-2018	Green
812	Jystreet	05-11-2018	Green
813	Goa Orange Baga Beach Resort	05-11-2018	Green
814	Maya's Holiday Rooms	05-11-2018	Green
815	Villa Emanuel	05-11-2018	Green
816	M Venkata Rao Infra Projects Pvt. Ltd	05-11-2018	Green
817	Joanita Guest House	05-11-2018	Green
818	Goan Waves Beach Shack	05-11-2018	Green
819	Bull Dog Beach Shack	05-11-2018	Green
820	Ganesh Restaurant Hotel	05-11-2018	Green
821	Nagas Hotel Satavati (Naga Cottages)	05-11-2018	Green
822	M Venkata Rao Infra Projects Pvt. Ltd	05-11-2018	Green
823	Acerock Developers Private Limited	05-11-2018	Orange
824	D'souza's Holiday Homes	05-11-2018	Green

825	Lilly Salon & Spa	05-11-2018	Green
826	Sea View Beach Shack	07-11-2018	Green
827	Seashell Shack	07-11-2018	Green
828	Kirti Nerlekar	07-11-2018	Green
829	Roots Corporation Limited	07-11-2018	Orange
830	Vinita Guest House	07-11-2018	Green
831	Jo Guest House	08-11-2018	Green
832	Jonny's Hotel	08-11-2018	Green
833	Larios Beach Holidays	08-11-2018	Green
834	Agonda Sea Forever	08-11-2018	Green
835	Sai Palolem Beach Cottages	08-11-2018	Green
836	Lourdes Fernandes Guest House	08-11-2018	Green
837	Blue Coconut Beach Shack	08-11-2018	Green
838	Flamingo Beach Shack	08-11-2018	Green
839	Royal Resort	08-11-2018	Green
840	Mac Hotel Pvt. Ltd	08-11-2018	Orange
841	Vailankanni Power Laundry	12-11-2018	Orange
842	Godinho Washing Centre	12-11-2018	Orange
843	Smile Auto Servie	12-11-2018	Orange
844	Caculo Earthmovers Pvt Ltd	12-11-2018	Orange
845	Sanrit Hotel	12-11-2018	Orange
846	Andrew Telecommunication India Pvt. Ltd	12-11-2018	Orange
847	Goan Real Estate And Construction Pvt Ltd	12-11-2018	Red
848	Cosmos Premises Pvt Ltd	13-11-2018	Orange
849	Ar Mines Industries	14-11-2018	Red
850	Prabhakar Garage	14-11-2018	Orange
851	Chowgule & Co Pv. Ltd	14-11-2018	Orange
852	Goan Hotels & Reality Private Limited	14-11-2018	Red
853	Guala Closures (India) Pvt. Ltd	14-11-2018	Green
854	Autoservers	20-11-2018	Orange
855	Kulkarni Eye Clinic & Hospital	22-11-2018	Orange
856	Ashwini Furniture Works	22-11-2018	Orange
857	Ashutosh Industries	22-11-2018	Orange
858	Waterscape Beach Resort	23-11-2018	Green
859	Ria Hospitality Pvt Ltd	23-11-2018	Orange
860	Toquitas Dream	23-11-2018	Green
861	Café Big Boss	23-11-2018	Green
862	Manohar Bakery	23-11-2018	Green
863	Igloo Dairy Service Pvt. Ltd	23-11-2018	Red
864	Trisara Saloon & Spa	23-11-2018	Green
865	Prashant V Dessai	26-11-2018	Green
866	New Millennium Bakers	26-11-2018	Green

867	Chinese Garden Restaurant	26-11-2018	Green
868	St. Anthony Huts	26-11-2018	Green
869	Romualdo Fernandes Temporary Seasonal Cottages	26-11-2018	Green
870	Manish Panchariya	26-11-2018	Green
871	Edmond Guest House	26-11-2018	Green
872	Lucky Star	26-11-2018	Green
873	Hotel Sharada & Community Hall	26-11-2018	Green
874	Mahalaxmi Aerated Water	26-11-2018	Orange
875	Nitiraj Engineering Works	26-11-2018	Orange
876	The Garage Café	26-11-2018	Green
877	2 Angles Guest House	26-11-2018	Green
878	Joy Guest House	26-11-2018	Green
879	Kaishu Spa & Salon	26-11-2018	Green
880	Café Blue Moon	26-11-2018	Green
881	Anthys Guest House Cto	26-11-2018	Green
882	Agustinho Place	26-11-2018	Green
883	Leon Home Stay	26-11-2018	Green
884	Mrigya Investments & Marketing Pvt. Ltd (Casa Da Graca)	26-11-2018	Green
885	Regina Guest House (1096)	26-11-2018	Green
886	Regina Guest House (1096/1)	26-11-2018	Green
887	Bhumika Guest House	26-11-2018	Green
888	Calangute Tuista Guest House	26-11-2018	Green
889	Moonlight Guest House	26-11-2018	Green
890	Christa Shack	26-11-2018	Green
891	Little Chef Shack (Temporary Shack)	26-11-2018	Green
892	Cosmos Beach Shack	26-11-2018	Green
893	Angelina's Guest House	26-11-2018	Green
894	Popeye's Guest House	26-11-2018	Green
895	George Lobo Guest House	26-11-2018	Green
896	Divine Guest House	26-11-2018	Green
897	Malhotra Guest House	26-11-2018	Green
898	Micro Labs Limited	26-11-2018	Orange
899	Cadila Helathcare Tdl	26-11-2018	Orange
900	Zumbral Shack	26-11-2018	Green
901	Pista Green Inn	26-11-2018	Green
902	Eros Beach Shack	26-11-2018	Green
903	Govind Poy Oxygen Ltd	26-11-2018	Green
904	Santa Khuris Workshop	26-11-2018	Green
905	Kingfisher Beach Shack	26-11-2018	Green
906	Silver Spoon Beach Shack	26-11-2018	Green
907	Paulo Candido Beach Shack	26-11-2018	Green

908	Birla Furukawa Fibre Optics Pvt Ltd	26-11-2018	Orange
909	Joe Louie Shack	27-11-2018	Green
910	Sky Lark Beach Café	27-11-2018	Orange
911	Hidden Garden	27-11-2018	Green
912	Wishing Well Paying Guest House	27-11-2018	Green
913	Silver Springs Pleasure Resorts Pvt. Ltd	27-11-2018	Red
914	Emco Goa Pvt. Ltd	27-11-2018	Red
915	Chowgule & Co Pv. Ltd	27-11-2018	Red
916	Brothers Reality (Coconut Lagon)	27-11-2018	Green
917	Villa Sol Beach Resort	28-11-2018	Green
918	Crespre Guest House	28-11-2018	Green
919	Casa Blanca	28-11-2018	Green
920	Holy Cross Home Stays	28-11-2018	Green
921	Roshail Homestay	28-11-2018	Green
922	Fiesta Hospitality Services Pvt. Ltd	28-11-2018	Green
923	Advani Hotels & Resorts (I) Ltd (Ramada Caravela Beach Resort)	28-11-2018	Red
924	Anvi Ayurved Treatment Centre	28-11-2018	Green
925	Big Banana	28-11-2018	Green
926	Shalom Cottages	28-11-2018	Green
927	Café Oceanic (Harichandra Parulekar) Shack	28-11-2018	Green
928	Jospericho Apartments	28-11-2018	Green
929	Faciliation Centre	29-11-2018	Green
930	Safira (Venture Building Dreams)	29-11-2018	Green
931	Laliguras Villa	29-11-2018	Green
932	Karmali Brothers	29-11-2018	Orange
933	Kapil Industry	29-11-2018	Green
934	Ashish Guest Houae	29-11-2018	Orange
935	Shree Naina Containers Pvt Ltd	30-11-2018	Green
936	Rebelo Metals	30-11-2018	Orange
937	Café Horizon Beach Shack	30-11-2018	Green
938	Thomson Villa	30-11-2018	Green
939	The White House (Cosma A Mascarenhas)	30-11-2018	Green
940	Bosco's Beach Shack	30-11-2018	Green
941	Oceanic Beach Shack	30-11-2018	Green
942	Lario's Beach Shack	30-11-2018	Green
943	Cho-Co Marie Shack	30-11-2018	Green
944	Sea King Shack	30-11-2018	Green
945	Peter & Maria Guest House	30-11-2018	Green
946	Beachway Guest House 2	30-11-2018	Green
947	Tervines Shack	30-11-2018	Green
948	Shining Star Beach Shack	30-11-2018	Green

949	Jolina Guest House	30-11-2018	Green
950	Noah Ark Guest House	30-11-2018	Green
951	Caloura Mar Azul Guest House	30-11-2018	Green
952	Cynthia Judith Dcosta Guest House	30-11-2018	Green
953	Exotic Royal Villa Crystal	30-11-2018	Green
954	Diniz Guest House	30-11-2018	Green
955	Triple Beach Guest House	30-11-2018	Green
956	Ccc Guest House	30-11-2018	Green
957	Dona Esmira Guest House	30-11-2018	Green
958	Mario Resort	30-11-2018	Green
959	Marin Beach Shack	30-11-2018	Green
960	Bikru Guest House	30-11-2018	Green
961	Robust Reosrts & Hospitality Ltd	30-11-2018	Green
962	Emilia Guest House	30-11-2018	Green
963	Beachway Guest House 1	30-11-2018	Green
964	Crystal Cottages Guest House	30-11-2018	Green
965	Paying Guest House No 1106	30-11-2018	Green
966	Benny's Guest House	30-11-2018	Green
967	Satellite Guest House	30-11-2018	Green
968	Gauresh Enterprises	04-12-2018	Green
969	Agonda Beach Villa	04-12-2018	Green
970	Casa Maria Guest House	04-12-2018	Green
971	Vignesh Polymer	04-12-2018	Green
972	Hotel Raviraj	05-12-2018	Green
973	Subhash Guest House	05-12-2018	Green
974	Casa Arvana	05-12-2018	Green
975	Goa Medical College & Hospital	05-12-2018	Red
976	Alidia Beach Cottages	05-12-2018	Orange
977	Majestic Beach Comfort	06-12-2018	Orange
978	Latamarcem Brewers Pvt. Ltd	06-12-2018	Orange
979	Bharat Hotels	06-12-2018	Orange
980	Wiscon Granites	06-12-2018	Orange
981	Rohit Crushing Industry	06-12-2018	Orange
982	Vailankanni Metal Industries	06-12-2018	Orange
983	Grace Ann Guest House	06-12-2018	Green
984	Sebas Guest House	06-12-2018	Green
985	Nagzarkar Hospital & Clinic	06-12-2018	Orange
986	Kushawati Crushers	06-12-2018	Red
987	Sandhya Enterprises	06-12-2018	Orange
988	Paresh H. N. Karmali	06-12-2018	Orange
989	Lover's Corner Beach Shack	06-12-2018	Green
990	Buildwell Corporation	06-12-2018	Orange

991	Hallmark Holiday Homes	07-12-2018	Green
992	Casa Esmeralda	07-12-2018	Green
993	Ritsberds Cottages	07-12-2018	Green
994	Robust Reosrts & Hospitality Ltd	07-12-2018	Green
995	Squeeze Shack	07-12-2018	Green
996	Hindustan Petroleum Corporation Limited	07-12-2018	Orange
997	Aqua Resort And Spa Pvt Ltd	07-12-2018	Orange
998	Gervasio Fernandes & Sons	07-12-2018	Orange
999	Heart Rock Beach Shack	10-12-2018	Green
1000	Sharwani Guest House	10-12-2018	Green
1001	Alcon Constructions (Goa) Pvt Ltd	10-12-2018	Green
1002	Sharda Bar And Restaurant	11-12-2018	Green
1003	Travellers Alex (Sebastian Fernandes) Shack	11-12-2018	Green
1004	Sea Rock Beach Shack (Johnnylobo)	11-12-2018	Green
1005	Gregs Café (Shack 2017-19)	11-12-2018	Green
1006	Garden Villa	11-12-2018	Green
1007	Villa Fatima	11-12-2018	Green
1008	Franky Home	11-12-2018	Green
1009	Casa Esmeralda	11-12-2018	Green
1010	Demellos Beach Shack	11-12-2018	Green
1011	V K Foods	11-12-2018	Orange
1012	Wealth Avenue Cottage And Resorts (Wenzet Cottages)	11-12-2018	Orange
1013	Wash N Save Laundry	11-12-2018	Orange
1014	Abalone Resorts Pvt. Ltd	11-12-2018	Orange
1015	Ritesh Stone Crusher	11-12-2018	Orange
1016	Adhar Hospital	11-12-2018	Orange
1017	Maizons Lakeview Resorts	11-12-2018	Orange
1018	Andrews Shack	11-12-2018	Green
1019	Vimal Art Printery (Unit I)	12-12-2018	Orange
1020	Fishermans Paradise (Anthony Fernandes) Shack	12-12-2018	Green
1021	Christa Shack	12-12-2018	Green
1022	Vj's Shack	12-12-2018	Green
1023	Buckingham Beach Café (Shack)	12-12-2018	Green
1024	St. Anthony Guest House	12-12-2018	Green
1025	Vishwakarma Enterprises	12-12-2018	Orange
1026	Amey Chari Wash	12-12-2018	Orange
1027	Anand Salgaonkar	12-12-2018	Orange
1028	Deccan Fine Chemicals (India) Pvt. Ltd	12-12-2018	Red
1029	Deccan Fine Chemicals (India) Pvt. Ltd	12-12-2018	Red
1030	Deccan Fine Chemicals (India) Pvt. Ltd	12-12-2018	Red
1031	Sanjivani Sahakari Sakhar Karkhana Ltd	13-12-2018	Red

1032	Crab & Co.	14-12-2018	Green
1033	Paul M Gonsalves Guest House	14-12-2018	Green
1034	S.K. Metal Quarry	18-12-2018	Orange
1035	Oceans 7hotels & Resorts	18-12-2018	Orange
1036	Kamaxi Body Builders	18-12-2018	Green
1037	Dada's Painting Shop	18-12-2018	Orange
1038	Nestle India Limited	18-12-2018	Orange
1039	Pinson's Hotels Pvt. Ltd	18-12-2018	Orange
1040	De Alcazar	18-12-2018	Green
1041	Chronicle (Temporary Shack)	18-12-2018	Green
1042	Noel Guest House	18-12-2018	Green
1043	Landscape Royal Iii	18-12-2018	Green
1044	Renuka Engineering Works	20-12-2018	Green
1045	White Cottages	20-12-2018	Green
1046	Vijay Engineers		Orange
1047	Antonio Simao Ramos	21-12-2018	Green
1048	Hotel Mir Palace Beach Resort	21-12-2018	Green
1049	Herman Antonio Lobo	21-12-2018	Green
1050	Brisa Do Mar Guest House	21-12-2018	Green
1051	High Land Beach Resort	21-12-2018	Green
1052	Cantare Bar	21-12-2018	Green
1053	Rosy Guest House	21-12-2018	Green
1054	The Fisherman's Wharf	21-12-2018	Green
1055	Loura Doris Dsounza	21-12-2018	Green
1056	Dhond Bar	24-12-2018	Green
1057	K.B.Wood Works	24-12-2018	Green
1058	Lourdes Guest House (Vilo Villa)	24-12-2018	Green
1059	Khan Apartments	24-12-2018	Green
1060	Spruha Holidays Goa	24-12-2018	Green
1061	Alcrafts Industries	24-12-2018	Green
1062	Marios Rooms To Let	24-12-2018	Green
1063	Mohan N. Chari Rice & Flour Mill	24-12-2018	Green
1064	Ivo Brigit Carvalho	24-12-2018	Green
1065	Navin Engineering Industries	24-12-2018	Green
1066	Shruti Resorts	27-12-2018	Green
1067	Srushti Farm	27-12-2018	Green
1068	Vedanta Limited	27-12-2018	Red
1069	Om Trading Company	27-12-2018	Orange
1070	Priority Automobiles (I) Pvt. Ltd	28-12-2018	Orange
1071	Sesa Resources Ltd	31-12-2018	Red
1072	Sesa Goa Ltd	31-12-2018	Red
1073	Kamakshi Arogya Dham	31-12-2018	Orange

1074	Aguada Management Company	01-01-2019	Green
1075	Tgf Dream Guest House	01-01-2019	Green
1076	Jaikrishna Workshop	01-01-2019	Green
1077	White Sand Guest House	01-01-2019	Green
1078	Ashwin Guest House	01-01-2019	Green
1079	Pele Guest House	01-01-2019	Green
1080	Dom's Beach Shack	01-01-2019	Green
1081	Jammy Beach Shack	01-01-2019	Green
1082	Cornelio Beach Shack	01-01-2019	Green
1083	Apex Packing Products Pvt. Ltd	01-01-2019	Green
1084	Bhuvaneshwari Industries	01-01-2019	Green
1085	Sankalp Nursing Home	01-01-2019	Orange
1086	Timblo Pvt. Ltd (Capxem Barge Loading Jetty)	02-01-2019	Red
1087	St. Anthony Rice & Flour Mill	02-01-2019	Green
1088	Heritage Princess Real Estate Developers	03-01-2019	Green
1089	The Palm Trees	03-01-2019	Green
1090	Ivy Square Guest House	03-01-2019	Green
1091	Candolim Beach Homes	03-01-2019	Green
1092	Ocean Star Guest House	03-01-2019	Green
1093	Jahan Sheriar Irani Guest House	03-01-2019	Green
1094	Sumit Mount Building	03-01-2019	Green
1095	New Wave Shack (Clara Dsouza)	03-01-2019	Green
1096	Hotel Orient Royal Service Apartment	03-01-2019	Green
1097	The Indian Kitchen	03-01-2019	Green
1098	3101 Highland Beach Resort	03-01-2019	Green
1099	Terence Sydney Monteiro	03-01-2019	Green
1100	Café Delmar	03-01-2019	Green
1101	Molbio Diagnostics Pvt Ltd	03-01-2019	Orange
1102	Sapana Ceremics Pvt Ltd	07-01-2019	Green
1103	Polynova Industries	07-01-2019	Orange
1104	Coastal Infra	07-01-2019	Orange
1105	Navjeevan Ayurvedic Clinic	07-01-2019	Green
1106	Kamat Maternity & Surgical Hospital	08-01-2019	Orange
1107	Sai Sharad Guest House	08-01-2019	Green
1108	Glenmark Pharmaceuticals Ltd	08-01-2019	Orange
1109	Babu S Naik	08-01-2019	Orange
1110	Gonsalves Enterprises	08-01-2019	Orange
1111	Goa Antibiotic And Pharmaceuticals Ltd	08-01-2019	Orange
1112	Sandu Pharmaceuticals Ltd	08-01-2019	Orange
1113	Viggis Food & Allied Service	08-01-2019	Green
1114	Love Shack (2017-19) (Floyd Lopes)	08-01-2019	Green
1115	Coco Joe Beach Café	08-01-2019	Green

1116	Ritz Café Shack	08-01-2019	Green
1117	Goa Budget Holiday Makers	08-01-2019	Green
1118	Resort De Placido	08-01-2019	Green
1119	Satori Care Llp	08-01-2019	Green
1120	Joma Metal Industries	08-01-2019	Orange
1121	Alegria Guest House Cum Dance Floor	08-01-2019	Green
1122	White House (Josefina Pereira)	08-01-2019	Green
1123	Chowgule & Co. Pvt. Ltd	08-01-2019	Orange
1124	Michael Braganza	08-01-2019	Green
1125	Pradnya Industries	08-01-2019	Green
1126	Prachi Aqua Mineral Pvt. Ltd	08-01-2019	Green
1127	Ravat Furniture	08-01-2019	Green
1128	Miss Jenny's B&B (Homestay)	08-01-2019	Green
1129	Quinta Portuguesa	08-01-2019	Green
1130	Nanu's Bar N Restaurant	08-01-2019	Green
1131	Octopus Guest House	08-01-2019	Green
1132	Maria Santana Desouza	08-01-2019	Green
1133	Sal Otel	08-01-2019	Green
1134	Sesa Reources Ltd	09-01-2019	Red
1135	Chowgule & Company Private Limited	09-01-2019	Red
1136	Flora Foods & Flavours	09-01-2019	Orange
1137	Kamaxi Body Builders (Unit li)	09-01-2019	Orange
1138	Kalika Enginerring Works	09-01-2019	Red
1139	Halarankar Industries	09-01-2019	Orange
1140	Goldfield Fragrances Pvt. Ltd	09-01-2019	Orange
1141	Real Flour Mill	09-01-2019	Green
1142	Anusuya Industries	09-01-2019	Orange
1143	Orions	11-01-2019	Orange
1144	B.M.K Indutries	11-01-2019	Red
1145	Blue Ocean Beverages Pvt. Ltd	15-01-2019	Orange
1146	Smugglers Inn	15-01-2019	Green
1147	Wyn Inn Guest House	15-01-2019	Green
1148	Villa Anna Naria	15-01-2019	Green
1149	Casa Alexees	15-01-2019	Green
1150	Clinton Guest House	15-01-2019	Green
1151	Xavier Guest House	15-01-2019	Green
1152	Noah's Emporium	15-01-2019	Green
1153	Aguiar Guest House	15-01-2019	Green
1154	K.G.N Fabrication	15-01-2019	Green
1155	Ameera Inn	15-01-2019	Green
1156	Serrao Guest House	15-01-2019	Green
1157	Green Valley Guest House	15-01-2019	Green

1158	Lazy Frog	15-01-2019	Green
1159	Sabin's Nest Guest House	15-01-2019	Green
1160	Ibr Guest Home	15-01-2019	Green
1161	District Hospital	16-01-2019	Red
1162	United Breweries	16-01-2019	Orange
1163	The Avenue Calangute Goa	16-01-2019	Orange
1164	A W Faber- Castell I Pvt. Ltd	16-01-2019	Orange
1165	Putzmeister India Pvt Ltd	16-01-2019	Orange
1166	Hindustan Petroleum Corporation Limited	16-01-2019	Orange
1167	S.J. Enterprises	16-01-2019	Orange
1168	Aarvans Holiday Homes	17-01-2019	Green
1169	M & M Builders & Developers	17-01-2019	Green
1170	Antonio Beach Shack	17-01-2019	Green
1171	Vrundavan Shalby Hospitals Ltd	18-01-2019	Orange
1172	Hotel Sea Shore	18-01-2019	Orange
1173	Hotel Plazaa Inn	18-01-2019	Orange
1174	Goan Real Estate & Construction Pvt. Ltd	18-01-2019	Orange
1175	Merck Limited	19-01-2019	Red
1176	Nazri Resort	21-01-2019	Orange
1177	D.B. Bandodkar & Sons Pvt. Ltd	23-01-2019	Red
1178	Green House	23-01-2019	Green
1179	Royal Huts	24-01-2019	Green
1180	Electrotech	24-01-2019	Green
1181	Swagat Hotel	24-01-2019	Green
1182	Industrial Glass Company	24-01-2019	Green
1183	Venice Bar N Restaurant	29-01-2019	Green
1184	Gomes Serenity	29-01-2019	Green
1185	El Shaddai Chartitable Trust	29-01-2019	Green
1186	Unique Impression	29-01-2018	Orange
1187	J.V.Garage	29-01-2019	Orange
1188	Zuari Industries	30-01-2019	Green
1189	Dangui Bakery	30-01-2019	Green
1190	D'souza Brothers	30-01-2019	Green
1191	Grace Intensice Cardiac Care Centre	30-01-2019	Orange
1192	Joncia Guest House	04-02-2019	Green
1193	Ave Maria Guest House	04-02-2019	Green
1194	Viva Maria Guest House	04-02-2019	Green
1195	Samaira Guest House	04-02-2019	Green
1196	Chandra Cleaners	04-02-2019	Orange
1197	Kisan Garage	05-02-2019	Orange
1198	Goa Rajee Auto Pvt. Ltd	05-02-2019	Orange
1199	Goa Rajee Auto Pvt. Ltd	05-02-2019	Orange

1200	Jyoti Industries	05-02-2019	Orange
1201	Shraddha Plastics	05-02-2019	Green
1202	Hotel Go Goa	05-02-2019	Orange
1203	Kalika Engineering Works	07-02-2019	Orange
1204	Cosme Costa Construction Pvt. Ltd	07-02-2019	Orange
1205	Akar Creations Pvt. Ltd	07-02-2019	Red
1206	Marpol Pvt. Ltd	07-02-2019	Orange
1207	Subodh Maternity Home	07-02-2019	Orange
1208	Paying Guest House	12-02-2019	Green
1209	Paying Guest House	12-02-2019	Green
1210	Iapl Group Pvt. Ltd	12-02-2019	Orange
1211	Elvira's Guest House	12-02-2019	Green
1212	Luianna Resort	12-02-2019	Green
1213	Villa Romaria Guest House	12-02-2019	Green
1214	Koito Guest House	12-02-2019	Green
1215	Larios Beach Holidays	12-02-2019	Green
1216	Serenity Francis Fernandes	12-02-2019	Green
1217	Sally's Rooms & Restaurant	12-02-2019	Green
1218	Shalec Guest House	12-02-2019	Green
1219	Assumption P Fernandes Guest House	12-02-2019	Green
1220	Bharat Guest House	12-02-2019	Green
1221	Lourdin Guest House	12-02-2019	Green
1222	Crown Villa Vagator	12-02-2019	Green
1223	Assumption P Fernandes Guest House	12-02-2019	Green
1224	Sabina Gonsalves Guest House	13-02-2019	Green
1225	Leon's Guest House	13-02-2019	Green
1226	Raynav Engineering Works	18-02-2019	Red
1227	Property Bucket Pvt. Ltd	18-02-2019	Green
1228	Firmament Reach Builders Pvt. Ltd	19-02-2019	Orange
1229	Sai Service Private Limited	19-02-2019	Orange
1230	Group Tenplus	19-02-2019	Orange
1231	Majestic Buildcon Pvt. Ltd	19-02-2019	Orange
1232	Bosco Peter Travaso	19-02-2019	Orange
1233	Bce 3102 By Lindsay	21-02-2019	Orange
1234	Ayurclinic Goa	22-02-2019	Green
1235	City Metal Works & Coata	22-02-2019	Red
1236	Radhika Stone Crusher	26-02-2019	Orange
1237	Parwati Metal Works	26-02-2019	Orange
1238	Mormugao Port Trust	28-02-2019	Red
1239	Crompton Greaves Ltd	01-03-2019	Orange
1240	Pedro Guest House	05-03-2019	Green
1241	Michael Das Guest House	05-03-2019	Green

1242	Pentair Water India Pvt. Ltd	06-03-2019	Green
1243	The Cape Goa 2	06-03-2019	Green
1244	Encube Ethicals Pvt. Ltd	06-03-2019	Orange
1245	Godwin Resorts & Hotels Pvt. Ltd	07-03-2019	Orange
1246	Models Real Estate Developers	08-03-2019	Green
1247	R & H Spaces Private Limited	08-03-2019	Orange
1248	Ramatan Reosrts	08-03-2019	Orange
1249	Rathna Guest House	08-03-2019	Green
1250	Daynite Guest House	12-03-2019	Green
1251	Villa Franeliz Guest House	12-03-2019	Green
1252	Melvina Guest House	12-03-2019	Green
1253	Lucy Villa Guest House	12-03-2019	Green
1254	Mohiedin Manari Guest House	12-03-2019	Green
1255	Naga Cottages	12-03-2019	Green
1256	Xavier Guest House	12-03-2019	Green
1257	Vintage Bottlers Pvt. Ltd	12-03-2019	Orange
1258	Lakshmi Juneja Residential Complex At Sangolda	12-03-2019	Orange
1259	Go Medicare Devices Pvt. Ltd	12-03-2019	Orange
1260	De Nora India Limited	12-03-2019	Orange
1261	Peace Land Guest House (Kennedy Mendonca)	12-03-2019	Green
1262	Neogi Homeopathic And Ayurvedic Clinic	15-03-2019	Green
1263	Menny Flor Guest House	15-03-2019	Green
1264	Acron Niama Valley	15-03-2019	Green
1265	De Souza Guest House	15-03-2019	Green
1266	Baba Guest House	15-03-2019	Green
1267	Chowgule Industries Private Limited	15-03-2019	Orange
1268	Sainath Industrial Corporation	01/01/2019	Red
1269	Zeolites & Allied Products Pvt. Ltd	01/01/2019	Red
1270	Goa Glass Fibre Ltd	12/21/2018	Red
1271	Xelvona Barge Loading Jetty - Chowgule & Co. Pvt. Ltd.	12/31/2018	Red
1272	Raj Chopra & Company Private Limited	12/20/2018	Red
1273	Panduronga Timblo Industrias	11/29/2018	Red
1274	M/S. Venus Ethoxyether Pvt. Ltd.	12/18/2018	Red
1275	Khazan Barge Loading Jetty - Chowgule & Co. Pvt. Ltd.	12/07/2018	Red
1276	Sukraft Recycling Pvt. Ltd.	10/24/2018	Red
1277	Sesa Mining Corporation Limited Barge Loading Jetty Sarmanas	11/23/2018	Red
1278	Agencia Comercial Maritima (A Unit Of Parkkot Maritima Agencies Pvt. Ltd.)	02/13/2019	Red
1279	Pranavam Enterprises	01/17/2019	Red
1280	Nc Drinks Pvt Ltd	12/28/2018	Orange

1281	Mathias Ocean Park Residency	12/27/2018	Orange
1282	Ananya Car Washing Centre	12/13/2018	Orange
1283	Jmj Hospital	12/12/2018	Orange
1284	Sunil Foods Goa	12/11/2018	Orange
1285	A.V.Da Costa Memorial Clinic	12/10/2018	Orange
1286	M/S. Goa State Co-Operative Milk Producers' Union Ltd	12/27/2018	Orange
1287	Assess Build Chem Pvt Ltd	12/07/2018	Orange
1288	Mobrar Fisheries	12/05/2018	Orange
1289	Kamakshi Metal Industry	12/04/2018	Orange
1290	Nova Resorts Pvt. Ltd.	12/28/2018	Orange
1291	Seahath Canning Company	12/04/2018	Orange
1292	M/S So My Resorts Pvt. Ltd.	02/04/2019	Orange
1293	Amar Metal (Unit Ii)	02/04/2019	Orange
1294	Amar Metal (Unit I)	02/04/2019	Orange
1295	Finolex Cables Limited	12/14/2018	Orange
1296	M/S. Sonesta Inns Pvt. Ltd.	12/21/2018	Orange
1297	Casa Ahnna	11/26/2018	Orange
1298	The Icecreamist	11/21/2018	Orange
1299	Blu Resorts	11/16/2018	Orange
1300	Triumph Realty Pvt Ltd (Azaya Beach Resort)	11/02/2018	Orange
1301	Testnew	11/01/2018	Orange
1302	Eddie Car Spa	10/29/2018	Orange
1303	Taj Plastic Products & Traders	10/29/2018	Orange
1304	Vivanta By Taj	10/31/2018	Orange
1305	M/S. Sandalwood Resorts Pvt. Ltd.	12/24/2018	Orange
1306	Drop Service Centre	10/24/2018	Orange
1307	M/S Bharat Petroleum Corporation Limited	12/31/2018	Orange
1308	Goa Rajee Auto Pvt Ltd	10/30/2018	Orange
1309	Jai Bhuvan Builders Pvt Ltd	10/23/2018	Orange
1310	Jubliant Hospitality	11/09/2018	Orange
1311	Insignia Retreats & Spas Pvt Ltd	10/15/2018	Orange
1312	M/S Anil Cashew	10/24/2018	Orange
1313	Golden Peace Infrastructure Pvt Ltd (M.V Argosy Iv)	02/26/2019	Orange
1314	Molbio Diagnostics Private Ltd	02/19/2019	Orange
1315	Goa Coastal Resorts & Recreation Pvt Ltd (M. V. Pride Of Goa)	02/12/2019	Orange
1316	Anthony Holiday Home Guest House	02/15/2019	Green
1317	Balneario De Goa	02/04/2019	Green
1318	Ayurvedic Massage Centre	01/11/2019	Green
1319	Raikar Guest House	01/09/2019	Green
1320	T3 (Papa John) Villas	01/09/2019	Green

1321	Urja Resorts And Guest House	01/09/2019	Green
1322	Royal Saloon & Spa	01/09/2019	Green
1323	Hotel Vrundavan Lodging & Boarding	01/09/2019	Green
1324	Da Silva Guest House	01/08/2019	Green
1325	Shining Star Beach Shack	01/08/2019	Green
1326	Cafe Blue Moon	01/08/2019	Green
1327	Curries Guest House	01/07/2019	Green
1328	West Coast Garage And Industries Puc Center C/O Vassudev V Kamat	01/07/2019	Green
1329	Lacuna Shack	01/07/2019	Green
1330	Nestes On The Rock (Temporary Huts & Shack)	01/07/2019	Green
1331	Daisys Place	01/07/2019	Green
1332	Aarons Beach Hut	01/07/2019	Green
1333	Star Fish Beach Shack	01/07/2019	Green
1334	Vanias Paradise	01/07/2019	Green
1335	Pravin Holiday Homes	01/07/2019	Green
1336	Mario Beach Shack	01/07/2019	Green
1337	Aarons Beach Shack	01/03/2019	Green
1338	Leonoras Beach Shack	01/02/2019	Green
1339	Manglam Build Developers Ltd (Phase Ii)	01/22/2019	Green
1340	Mahamaya Food Products	02/04/2019	Green
1341	Gracy Dsouza Guest House (Rylan Guest House)	01/01/2019	Green
1342	Sukho Thai	12/31/2018	Green
1343	Sukho Thai	12/31/2018	Green
1344	Santana Guest House	12/31/2018	Green
1345	Jojo's Guest House	12/31/2018	Green
1346	Marina Shack	12/28/2018	Green
1347	Br Cottages And Shacks	12/27/2018	Green
1348	Mc Claire	12/27/2018	Green
1349	Goa Instruments Industries Pvt. Ltd. (Unit Ii)	12/27/2018	Green
1350	The Elysian Morjim	12/27/2018	Green
1351	Goa Instruments Industries Pvt. Ltd (Unit I)	12/27/2018	Green
1352	Kunal Guest House	12/27/2018	Green
1353	Sea Pearl Agonda	12/24/2018	Green
1354	Classic Pavers	02/04/2019	Green
1355	Funskool India Ltd	12/26/2018	Green
1356	Captains Cabin Beach Shack	12/21/2018	Green
1357	Anges Shack	12/21/2018	Green
1358	Tommys Guest House	12/21/2018	Green
1359	Melicio Cottages	12/21/2018	Green
1360	Izabel Guest House	12/20/2018	Green
1361	Bottle Bay Shack	12/20/2018	Green

1362	Rodrigues Villa	12/20/2018	Green
1363	Jonah Guest House	12/20/2018	Green
1364	Shantadurga Laminates	02/06/2019	Green
1365	Agnes Guest House	12/18/2018	Green
1366	21 In Guest House (Candida)	12/18/2018	Green
1367	Susegado Guest House	12/18/2018	Green
1368	Carmina Guest House	12/18/2018	Green
1369	Richard Guest House	12/18/2018	Green
1370	Eddys Palace	12/18/2018	Green
1371	Lobo Guest House (Hno 725/2)	12/18/2018	Green
1372	Lobo Guest House	12/18/2018	Green
1373	Lobo Guest House	12/18/2018	Green
1374	Sabinas Guest House	12/18/2018	Green
1375	Lawande Holiday Homes	12/17/2018	Green
1376	Wood House Beach Resort	12/17/2018	Green
1377	Planet Goa Bar And Restaurant	12/17/2018	Green
1378	Sebastian Shack And Wooden Cottages	12/17/2018	Green
1379	Samanta Inns	12/17/2018	Green
1380	Augustine Villa	12/17/2018	Green
1381	Craft Hostels	12/17/2018	Green
1382	Frank Rooms	12/17/2018	Green
1383	Marines Bay Resort	12/14/2018	Green
1384	Eumi Guest House	12/14/2018	Green
1385	Scraagy Hospitality	12/14/2018	Green
1386	Dream Stay Guest House	12/14/2018	Green
1387	J And B Holiday Homes	12/13/2018	Green
1388	Temporary Wooden Hut	12/22/2018	Green
1389	Shalroc Automobiles	12/13/2018	Green
1390	Nature Touch Ayurvedic Massage Centre	12/13/2018	Green
1391	Sankesh Sea View Guest House	12/13/2018	Green
1392	Casa Jondi	12/13/2018	Green
1393	Casa Anjo Guest House	12/12/2018	Green
1394	Pinacolada Shack	12/12/2018	Green
1395	Malibu Vacation	12/12/2018	Green
1396	Anris Place	12/12/2018	Green
1397	Minocos Shack	12/12/2018	Green
1398	Om Shivai Cafe	12/12/2018	Green
1399	Hangout Beach Shack	12/12/2018	Green
1400	Boscoss Beach Shack	12/12/2018	Green
1401	Buckingham Beach Cafe	12/12/2018	Green
1402	Marvista Beach House	12/12/2018	Green
1403	Manorama Guest House	12/11/2018	Green

1404	M/S. Samatama Estates Pvt. Ltd.	12/18/2018	Green
1405	Clacent Guest House	12/11/2018	Green
1406	The Vagator Backyard	12/11/2018	Green
1407	Gaunkar Enterprise	12/11/2018	Green
1408	Q-Ba Shack	12/10/2018	Green
1409	Flamingo Shack (Carmelina Dsouza)	12/10/2018	Green
1410	Nickytasha's Shack	12/10/2018	Green
1411	Lotus Mama Beach Shack (Perpetua Fernandes)	12/10/2018	Green
1412	Nico Guest House	12/10/2018	Green
1413	Pedro House	12/07/2018	Green
1414	Aakaash Manufacturing Company Private Limited	12/20/2018	Green
1415	George Dale Guest House	12/07/2018	Green
1416	Blue Waves	12/07/2018	Green
1417	Manulino Guest House	12/07/2018	Green
1418	Esmeralda Guest House	12/06/2018	Green
1419	Papa's Dream Guest House	12/06/2018	Green
1420	Savitri Guest House	12/06/2018	Green
1421	Lobo's Inn	12/06/2018	Green
1422	Agnelos Guest House	12/06/2018	Green
1423	Frank Rooms	12/06/2018	Green
1424	Lobo's Guest House	12/06/2018	Green
1425	Low Price Furniture	12/06/2018	Green
1426	Paresh Singbal	12/05/2018	Green
1427	Silver Spoon Beach Shack	12/05/2018	Green
1428	Roseal Guest House	12/17/2018	Green
1429	Hill Top Goa Lodge	12/05/2018	Green
1430	Camron Beach Shack	12/05/2018	Green
1431	Bunkd Hostel	12/05/2018	Green
1432	Villa Seventy	12/05/2018	Green
1433	Pedrus Guest House	12/05/2018	Green
1434	Casa Natividade	12/04/2018	Green
1435	Micle Guest House	12/04/2018	Green
1436	Valanka Villa	12/04/2018	Green
1437	Vel Vin Paper Products	01/07/2019	Green
1438	Bon Vivant Guest House	12/04/2018	Green
1439	Salkar Guest House	11/30/2018	Green
1440	Swati Guest House	11/30/2018	Green
1441	Savios Guest House	11/30/2018	Green
1442	The Vilej Holiday Home	11/30/2018	Green
1443	Rodrigues Guest House	11/30/2018	Green
1444	Jacinto Furtado Carpentry Workshop	11/30/2018	Green
1445	Kerala Bar And Restaurant	11/30/2018	Green

1446	Seahorse Beach Shack	11/30/2018	Green
1447	Fishermans Hut Shack	11/30/2018	Green
1448	Philomena Dsouza Paying Guest House	11/30/2018	Green
1449	Sameera Sea View	12/06/2018	Green
1450	Sangale Guest House	12/07/2018	Green
1451	Orange Villa	12/06/2018	Green
1452	Harichandra Pollution Checking Centre	11/28/2018	Green
1453	Kamakshi Auto Pollution Checking Centre	11/28/2018	Green
1454	The Seaways Beach Shack	11/28/2018	Green
1455	Dsilva Heritage	11/28/2018	Green
1456	Alida Guest House	11/28/2018	Green
1457	Ayurveda Clinic	11/28/2018	Green
1458	Bay Watch Beach Shack	11/28/2018	Green
1459	Sunshine Restaurant	11/27/2018	Green
1460	Casacy Guest House	11/27/2018	Green
1461	Shivkrupa Fabrication & Servicing Centre	01/22/2019	Green
1462	Sea Pearls Beach Cafe	11/27/2018	Green
1463	Hippo Cool Guest House	11/27/2018	Green
1464	Zumbrai	11/27/2018	Green
1465	The Lounge	11/27/2018	Green
1466	Paul Soares Guest House	11/27/2018	Green
1467	Dhuni Resorts	11/23/2018	Green
1468	Almas Guest House	11/23/2018	Green
1469	Cool Breeze Tavern	12/12/2018	Green
1470	Joel Guest House	11/23/2018	Green
1471	Pete's Shack	11/23/2018	Green
1472	Agusta Shack	11/23/2018	Green
1473	Cafe Oceanic (Beach Shack)	11/23/2018	Green
1474	Sonho Do Mar	11/23/2018	Green
1475	Manveers Kitchen	11/23/2018	Green
1476	Shalom Guest House	11/23/2018	Green
1477	Silvermoon Guest House	11/23/2018	Green
1478	Freinds Guest House	12/29/2018	Green
1479	Angies Guest House	11/22/2018	Green
1480	Alex Guest House	11/22/2018	Green
1481	Namrata N Chodankar Guest House	11/22/2018	Green
1482	Paul Fernandes	11/22/2018	Green
1483	Mario Fernandes & Co	11/22/2018	Green
1484	Beach Shade Shack	11/22/2018	Green
1485	Islandish Beach Shack	11/22/2018	Green
1486	Silver Sand Beach Shack	11/22/2018	Green
1487	Casa Miranda Guest House	11/22/2018	Green

1488	Doms Beach Shack	11/22/2018	Green
1489	Win Wins Beach Shack	11/22/2018	Green
1490	Michael Rodrigues	11/22/2018	Green
1491	Silver Waves	11/22/2018	Green
1492	Matilda Silveira	11/22/2018	Green
1493	Pink House 2	11/22/2018	Green
1494	Moonlight Shack	11/22/2018	Green
1495	Nikobar Cafe (Shack)	11/21/2018	Green
1496	Beach Way Home Stay	11/21/2018	Green
1497	Campal Beach Guest House	11/21/2018	Green
1498	Villa Fifty Five	11/21/2018	Green
1499	Ganesh Shack	11/21/2018	Green
1500	Sunset Shack	11/21/2018	Green
1501	Bells Cakes And Pasteries	11/21/2018	Green
1502	Health Care (Ayurvedic Clinic)	11/20/2018	Green
1503	Andrew Coutinho	11/20/2018	Green
1504	Caje Guest House	11/20/2018	Green
1505	Myron Guest House	11/20/2018	Green
1506	Jrs Associates	12/05/2018	Green
1507	Boons Ark	11/20/2018	Green
1508	Paulo Candido Beach Shack	11/20/2018	Green
1509	La Marin Beach Shack	11/20/2018	Green
1510	Xavier Beach Cafe	11/20/2018	Green
1511	Villa Barbosa Guest House	11/20/2018	Green
1512	Four Season Guest House	11/20/2018	Green
1513	Heritage The Bosque	01/04/2019	Green
1514	M/S. Manas Developers	12/21/2018	Green
1515	Vacations Station	11/16/2018	Green
1516	Dsilvas Shack (Caius Francis Dsilva Junior)	11/16/2018	Green
1517	Divine Homeopathic Healing Clinic	11/16/2018	Green
1518	Silent Waves Agonda	11/16/2018	Green
1519	Pyramid Beach Shack	11/16/2018	Green
1520	M/S Lotusfeet	11/16/2018	Green
1521	Jammy Beach Shack	11/16/2018	Green
1522	Nishas Beach Shack	11/16/2018	Green
1523	Lovers Corner Beach Shack	11/16/2018	Green
1524	Cezar Pinto (Paying Guest House II)	11/16/2018	Green
1525	Nandini Guest House	11/16/2018	Green
1526	Cesar Pinto (Paying Guest House I)	11/16/2018	Green
1527	Maria Guest House	11/16/2018	Green
1528	Mikes Cafe Oasis	11/16/2018	Green
1529	Sami Beach Huts	11/15/2018	Green

1530	Pratisha Guest House	11/15/2018	Green
1531	Royal Star Guest House	11/15/2018	Green
1532	Sand Agonda	11/15/2018	Green
1533	Royal Agonda (Temporary Huts)	11/15/2018	Green
1534	Zanzibar	11/15/2018	Green
1535	Diva Resort	11/15/2018	Green
1536	Diva Resort (Temporary Huts))	11/15/2018	Green
1537	Golden Bakery	02/04/2019	Green
1538	Squeeze Shack	11/15/2018	Green
1539	Marios Place	11/15/2018	Green
1540	Vraj Infra Buildcon Pvt Ltd	11/15/2018	Green
1541	Deja Blue	11/14/2018	Green
1542	Shawnels Beach Resort	11/14/2018	Green
1543	Sai Guest House	11/14/2018	Green
1544	Pavnai Industries Unit 4	11/15/2018	Green
1545	Moonlight Bar And Restaurant	11/14/2018	Green
1546	Shalini Residency	11/14/2018	Green
1547	Pink House	11/14/2018	Green
1548	Bramesh Guest House	11/13/2018	Green
1549	Domnic Guest House	11/13/2018	Green
1550	Tuljai Enterprises	11/13/2018	Green
1551	Crasto Mansion	11/13/2018	Green
1552	Agonda H2o	11/12/2018	Green
1553	Casa Elvino	11/12/2018	Green
1554	Flora Anjuna	01/23/2019	Green
1555	Agonda Paradise	11/12/2018	Green
1556	Violet Rose Inn	11/12/2018	Green
1557	Skin Art Aesthetics	11/12/2018	Green
1558	Joao Luis Fernandes	11/12/2018	Green
1559	Starco Guest House	11/12/2018	Green
1560	Uotward Green Test	11/12/2018	Green
1561	Cafe La Musica	11/12/2018	Green
1562	Golden Dream (Temporary Huts)	11/09/2018	Green
1563	Vailankani Guest House	11/09/2018	Green
1564	Origens	11/09/2018	Green
1565	The Quest Guest House	11/09/2018	Green
1566	The Sovereign Villa	11/09/2018	Green
1567	Nature Inn	11/09/2018	Green
1568	Big Banana Shack (Francisco Lobo)	11/14/2018	Green
1569	Pollution Testing Centre (Yogesh Nagvekar)	11/08/2018	Green
1570	M/S. Syndicate Printers Limited	12/06/2018	Green
1571	Dumiana Guest House	11/08/2018	Green

1572	Casa De Capita0 Guest House	11/08/2018	Green
1573	Barsa	11/08/2018	Green
1574	Come N Rest (Gajanan Simepurushkar)	11/07/2018	Green
1575	Johnrodrigues Guest House	11/07/2018	Green
1576	Dsouza Paying Guest House	11/07/2018	Green
1577	Jomat Guest House	11/05/2018	Green
1578	Kalpa Industry	11/05/2018	Green
1579	Laxmi Palace	11/05/2018	Green
1580	Tato Holdings (Tatos Fine Dining & Cafe Tato)	11/05/2018	Green
1581	Ocean View Cottages	11/05/2018	Green
1582	Notre Maison (Albertina Fernandes)	11/05/2018	Green
1583	Rickys Corner	11/05/2018	Green
1584	Carlos O M Gomes	11/05/2018	Green
1585	Cosme Costa Industries Llp	11/05/2018	Green
1586	Ayurvedic Massage Centre	12/14/2018	Green
1587	Rosy Guest House	11/05/2018	Green
1588	Joaquim Guest House	11/02/2018	Green
1589	Santana Guest House	11/02/2018	Green
1590	Mark Villa	11/02/2018	Green
1591	Shree Krishna Industry	11/02/2018	Green
1592	Maravilha	11/02/2018	Green
1593	Sharvani Industrial Product	11/05/2018	Green
1594	Leonoras Beach Shack	11/01/2018	Green
1595	Haven Guest House	11/01/2018	Green
1596	Lawrencio Shack	11/01/2018	Green
1597	Appi Shack	11/01/2018	Green
1598	Ocean Shack	11/01/2018	Green
1599	Namaste India Resorts & Hospitality Pvt Ltd (Hotel Goa Highridge Residency)	12/10/2018	Green
1600	Sams Beach Shack	10/31/2018	Green
1601	Dmellos Shack	10/31/2018	Green
1602	Tellen Guest House	10/31/2018	Green
1603	Wasbab Guest House	10/31/2018	Green
1604	Lourdes Guest House	10/31/2018	Green
1605	Jack Guest House	10/31/2018	Green
1606	Mariean Villa Guest House	10/30/2018	Green
1607	Secret Garden Resort	10/30/2018	Green
1608	Ram Shack	10/30/2018	Green
1609	Vonco Plastics Pvt. Ltd.	10/30/2018	Green
1610	Mary Guest House	10/29/2018	Green
1611	Seras Guest House	10/29/2018	Green
1612	Ocean Star Guest House	10/29/2018	Green

1613	Ocean Star	10/29/2018	Green
1614	Narayan Niwas Guest House	10/29/2018	Green
1615	Jcs Place	10/29/2018	Green
1616	Paying Guest House	11/16/2018	Green
1617	Shrikrishna Paying Guest House	10/29/2018	Green
1618	Kings Villa Resort	10/29/2018	Green
1619	Shaligram Ayurveda Centre	10/29/2018	Green
1620	Royal Woods Beach Resort	10/29/2018	Green
1621	Saffron Bar & Restaurent	10/29/2018	Green
1622	Shambala Guest House	10/29/2018	Green
1623	Coconut Valley Resort	10/29/2018	Green
1624	M/S Fredrick Cement Products	12/12/2018	Green
1625	Mahendra Guest House	10/26/2018	Green
1626	Tgi Friday Holiday Home	10/26/2018	Green
1627	Hill Top Nest (Manuel Dsouza)	10/26/2018	Green
1628	Baga Inn	10/26/2018	Green
1629	L Amour	10/26/2018	Green
1630	Livas Guest House (Liberata Rodrigues)	10/25/2018	Green
1631	Prashant Bapu Keluskar (Temporary Huts And Shack)	10/25/2018	Green
1632	Assagao Bay	10/25/2018	Green
1633	Anjuna Beach Resort	10/25/2018	Green
1634	Arambol Plaza	10/24/2018	Green
1635	Greg Valentina Guest House	10/24/2018	Green
1636	Bavish	11/02/2018	Green
1637	Mango Tree	10/24/2018	Green
1638	Ruchika Pollution Centre	10/24/2018	Green
1639	Julie Jolly	10/24/2018	Green
1640	J D Guest House	10/24/2018	Green
1641	Jolly Jolly Roma	10/24/2018	Green
1642	J D Guest House 1	10/24/2018	Green
1643	Antonio Rodrigues	10/24/2018	Green
1644	Antonette Dsouza	10/24/2018	Green
1645	Sabina Fernandes	10/24/2018	Green
1646	Laxman Naik Desai	10/23/2018	Green
1647	Niwas Holiday Homes	10/23/2018	Green
1648	Casa De Rosa	10/23/2018	Green
1649	Damaciano Rodrigues Guest House	10/23/2018	Green
1650	Francisco Guest House	10/23/2018	Green
1651	Sabs Guest House	10/23/2018	Green
1652	Roysal C Dsouza	10/23/2018	Green
1653	Tatu Pednekar Guest House	10/23/2018	Green

1654	Blue Heaven (Xaxticar)	10/23/2018	Green
1655	George Bay Dance Floor	10/23/2018	Green
1656	Avivenda Guest House	10/23/2018	Green
1657	Ocean Pearl Guest House	10/23/2018	Green
1658	Pamela Palms	10/22/2018	Green
1659	Ana Guest House	10/22/2018	Green
1660	Alesan Guest House	10/22/2018	Green
1661	Cassoi (Juliao Cardoso)	10/22/2018	Green
1662	Shri Mahalsa Plastics (Unit Iii)	10/22/2018	Green
1663	Shirleys Guest House	10/22/2018	Green
1664	Friends Corner (Tourism Beach Shack)	10/23/2018	Green
1665	Jyothi Electricals	10/22/2018	Green
1666	Martins Guest House	10/19/2018	Green
1667	Hill Top Inn	10/19/2018	Green
1668	Gonsalves Guest House	10/23/2018	Green
1669	Nifas Guest House	10/19/2018	Green
1670	Aleixo Francisco Dsouza (Guest House)	10/22/2018	Green
1671	Anthony Guest House	11/06/2018	Green
1672	Sea Pearl	10/17/2018	Green
1673	Cafe Horizon (Beach Shack 2017-2019 Simon Dsouza)	10/17/2018	Green
1674	Filomena Guest House	10/17/2018	Green
1675	Gloria Apartment	10/17/2018	Green
1676	Sea Pearl Guest House	10/17/2018	Green
1677	Mary Dsouza (Guest House)	10/17/2018	Green
1678	Victors Shack	10/16/2018	Green
1679	Gilly Guest House (9 Rooms)	10/16/2018	Green
1680	Gulmohar Cottages	10/16/2018	Green
1681	Gilly Guest House (6 Rooms)	10/16/2018	Green
1682	Ayurveda Elixir Clinic & Pharmacy	10/16/2018	Green
1683	Sunset Paradise (Tourism Shack)	10/16/2018	Green
1684	Lexziotic Hotel And Resorts Private Limited	10/16/2018	Green
1685	Casa De Olga	10/15/2018	Green
1686	Domnick Guest House	10/15/2018	Green
1687	Mercian Fisherman Guest House	10/15/2018	Green
1688	Claudina Guest House	10/15/2018	Green
1689	Guellen Guest House	10/15/2018	Green
1690	Abidal Resorts Pvt Ltd	11/08/2018	Green
1691	Cafe Goa Beach Shack	10/15/2018	Green
1692	Kedia Projects Pvt Ltd	12/11/2018	Green
1693	Hazel's Guest House	10/12/2018	Green
1694	Newton Beach Cafe	10/12/2018	Green

1694	Darshan Divkar Guest House	10/12/2018	Green
1695	Claudina's Shack	10/22/2018	Green
1696	St Anthony Beach Cafe	10/12/2018	Green
1697	Roseal Guest House	02/27/2019	Green
1698	Bellagio Baga Llp	02/22/2019	Green
1699	So My Anjuna (Unit Of So My Resorts Pvt Ltd)	02/22/2019	Green
1700	Don Joao Anjuna	02/22/2019	Green
1701	Sub Zero - Tube Ice Plant	02/21/2019	Green
1702	Our Shack	02/20/2019	Green
1703	Sea Front Wooden Cottages	02/20/2019	Green
1704	Sky Blue Guest House	02/19/2019	Green
1705	Parrikar Petro Services	02/19/2019	Green
1706	Sky Blue 2 Guest House	02/19/2019	Green
1707	Carmino Agnelo D'souza	02/18/2019	Green
1708	Alister Guest House	02/13/2019	Green
1709	M/S Hideaway Hospitality	02/12/2019	Green
1710	Meeting Pint	02/12/2019	Green
1711	Shrikant Chandrakant Parab	02/06/2019	Green
1712	Coco Goa	02/06/2019	Green
1713	Vaishali Guest House	02/06/2019	Green
1714	Jolly Boys Beach Shack	02/06/2019	Green
1715	Jojo's li Guest House	02/05/2019	Green
1716	Seby Guest House	02/05/2019	Green
1717	Lukes Place	02/05/2019	Green
1718	Avalon Inn	02/04/2019	Green
1719	Coloursfly Guest House	02/04/2019	Green
1720	Golden Guest House	01/31/2019	Green
1721	Shivshankar Mayekar (Residential & Commercial Complex)	01/31/2019	Green
1722	Jos Guest House	01/31/2019	Green
1723	Tcpl Packaging Ltd	02/14/2019	Green
1724	Balton Shack	02/05/2019	Green
1725	Balton The Raggae Shack	02/05/2019	Green
1726	Marin Beach Shack	01/30/2019	Green
1727	Shawns Holiday Home	01/29/2019	Green
1728	Fernandes Guest House	01/28/2019	Green
1729	M/S Hideaway Hospitality	01/25/2019	Green
1730	Hotel Duttraj	02/04/2019	Green
1731	Joao Lourenco Baptista (1/Basalt/04)	01/25/2019	Green
1732	Simoes Chateau	01/24/2019	Green
1733	Casa Empreza Guest House	01/24/2019	Green
1734	Santana Guest House	01/24/2019	Green

1735	De Sai Palace	01/23/2019	Green
1736	Vailankani Guest House 1	01/23/2019	Green
1737	Vailankani Guest House	01/23/2019	Green
1738	Xavis Place	01/22/2019	Green
1739	Aditri Guest House	01/22/2019	Green
1740	Bob's Shack	01/21/2019	Green
1741	Matias Guest House	01/21/2019	Green
1742	Rendevouz ((Amanda Cardozo)	01/21/2019	Green
1743	Domnicks Shack	01/21/2019	Green
1744	Cocktail And Dreams	01/21/2019	Green
1745	Lobos Paradise	01/18/2019	Green
1746	Saish Holiday Home	01/18/2019	Green
1747	The Goan House	01/18/2019	Green
1748	Goan Cafe	01/18/2019	Green
1749	Om Smruti Guest House	01/18/2019	Green
1750	Baga Prime	01/17/2019	Green
1751	Kshitij Industries	01/17/2019	Green
1752	Cornelio Beach Shack	01/17/2019	Green
1753	Vernon's Beach Shack	01/16/2019	Green
1754	Betty's Beach Shack	01/16/2019	Green
1755	Morjim Hermitage	01/16/2019	Green
1756	Casa Ambrosio Guest House	01/16/2019	Green
1757	Malvankar's Guest House	01/15/2019	Green
1758	New Wave Beach Shack	01/15/2019	Green
1759	Shoba Guest House	01/15/2019	Green
1760	Village By The Sea	01/15/2019	Green
1761	Soi Thai	01/14/2019	Green
1762	Pedru Guest House	01/15/2019	Green
1763	Alex Place Beach Shack	01/11/2019	Green

ANNEXURE III

AIR MONITORING DATA 2018-19

AMONA (MARCH 2018)										
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.03.2018	8.7	12.90	90.0	28.4	<0.5	<0.5	<0.01	90	SATISFACTORY
2.	07.03.2018	8.9	13.60	89.2	29.3	0.6	<0.5	0.88	89	SATISFACTORY
3.	09.03.2018	9.7	18.20	51.0	26.7	<0.5	<0.5	<0.01	81	SATISFACTORY
4.	14.03.2018	8.4	16.10	74.7	24.5	0.6	<0.5	0.56	75	SATISFACTORY
5.	16.03.2018	9.1	9.80	69.0	23.1	0.6	<0.5	<0.01	69	SATISFACTORY
6.	21.03.2018	6.8	13.30	64.4	21.0	0.7	<0.5	0.65	64	SATISFACTORY
7.	23.03.2018	6.5	15.00	74.4	23.9	0.7	<0.5	0.77	74	SATISFACTORY
8.	26.03.2018	8.6	12.3	73.4	23.8	<0.5	<0.5	0.71	73	SATISFACTORY
9.	28.03.2018	7.1	16.2	80.4	25.7	0.6	<0.5	<0.01	80	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

AMONA (APRIL 2018)										
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.04.2018	606.0	12.00	76.2	25.4	0.8	<0.5	0.88	76	SATISFACTORY
2.	06.04.2018	9.1	13.00	78.5	25.3	0.7	<0.5	0.97	79	SATISFACTORY
3.	11.04.2018	8.9	12.20	77.9	25.1	<0.5	<0.5	<0.01	78	SATISFACTORY
4.	13.04.2018	7.6	11.90	69.6	22.7	0.8	<0.5	0.78	70	SATISFACTORY
5.	18.04.2018	9.0	12.70	71.4	23.0	<0.5	<0.5	0.77	71	SATISFACTORY
6.	20.04.2018	8.5	11.40	61.1	19.9	0.6	<0.5	0.91	61	SATISFACTORY
7.	25.04.2018	8.1	13.20	71.5	23.3	<0.5	<0.5	<0.01	72	SATISFACTORY
8.	27.04.2018	7.3	10.8	64.7	21.2	0.6	<0.5	<0.01	65	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

AMONA (MAY 2018)										
Sr.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.05.2018	8.1	12.8	47.4	15.6	0.7	<0.5	<0.01	47	GOOD
2.	05.05.2018	8.6	14.4	70.8	23.6	<0.5	<0.5	0.65	71	SATISFACTORY
3.	09.05.2018	8.8	11.5	48	15.7	0.7	<0.5	0.52	48	GOOD
4.	11.05.2018	10.2	14.3	67.5	22	<0.5	<0.5	<0.01	68	SATISFACTORY
5.	16.05.2018	5.9	13.8	65.1	20.9	0.7	<0.5	0.78	65	SATISFACTORY
6.	18.05.2018	7.8	11.2	67.9	21.9	0.6	<0.5	<0.01	68	SATISFACTORY
7.	23.05.2018	9.8	13.2	84.1	27.1	0.8	<0.5	0.88	85	SATISFACTORY
8.	25.05.2018	8.3	12.7	64.4	20.3	<0.5	<0.5	0.75	64	SATISFACTORY
9.	30.05.2018	8.5	13.2	74.3	23.8	0.7	<0.5	<0.01	74	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

AMONA (JUNE 2018)										
Sr.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/ m3	Pb µg/ m3	CO µg/ m3	AQI	AQI remarks
1.	06.06.2018	6.6	10.4	40.3	13.6	<0.5	<0.5	0.44	40	GOOD
2.	08.06.2018	8.6	11.4	29.4	9.6	0.6	<0.5	0.35	29	GOOD
3.	13.06.2018	6.7	10.7	36.2	11.7	<0.5	<0.5	<0.01	36	GOOD
4.	15.06.2018	6.0	9.8	42.7	14.0	0.7	<0.5	0.51	43	GOOD
5.	20.06.2018	6.4	9.4	31.8	10.3	<0.5	<0.5	<0.01	32	GOOD
6.	22.06.2018	7.8	10.3	41.1	13.4	0.9	<0.5	0.41	41	GOOD
7.	26.01.2018	6.5	10.2	36.0	11.6	<0.5	<0.5	0.31	36	GOOD
8.	28.06.2018	6.2	8.0	32.5	10.4	0.8	<0.5	<0.01	33	GOOD
	Limits^:-	80	80	100	60	180	1	4		

AMONA (JULY 2018)										
Sr.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.07.2018	7.6	12.2	23.6	8.5	*	<0.5	0.48	24	GOOD
2.	06.07.2018	6.6	12.90	28.1	9.1	0.3	<0.5	<0.01	28	GOOD
3.	11.07.2018	5.7	10.1	25.7	8.4	0.5	<0.5	<0.01	26	GOOD
4.	13.07.2018	6.8	11.1	18.6	6.1	*	<0.5	<0.01	19	GOOD
5.	18.07.2018	6.0	11.5	27.7	9.0	0.7	<0.5	0.5	28	GOOD
6.	20.07.2018	6.9	10.4	24.1	7.9	0.4	<0.5	0.45	24	GOOD
7.	25.07.2018	6.7	10.0	30.4	10.0	0.6	<0.5	0.48	30	GOOD
8.	27.07.2018	7.3	11.4	30.2	9.8	0.6	<0.5	0.52	30	GOOD
	Limits^:-	80	80	100	60	180	1	4		

AMONA (AUGUST 2018)										
Sr.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/ m3	Pb µg/ m3	CO µg/ m3	AQI	AQI remarks
1.	03.08.2018	7.5	11.1	46.9	15.0	0.58	<0.5	0.63	40	GOOD
2.	08.08.2018	8.8	10.09	41.8	13.8	0.60	<0.5	0.58	29	GOOD
3.	10.08.2018	6.9	9.9	38.3	12.3	0.63	<0.5	<0.01	36	GOOD
4.	14.08.2018	6.4	10.5	36.3	11.6	0.23	<0.5	0.54	43	GOOD
5.	17.08.2018	7.6	10.3	33.5	10.9	0.16	<0.5	<0.01	32	GOOD
6.	22.08.2018	7.7	9.7	42.1	13.5	0.56	<0.5	0.65	41	GOOD
7.	24.08.2018	7.3	11.0	37.3	11.7	0.60	<0.5	0.31	36	GOOD
8.	29.08.2018	8.1	9.6	33.2	10.7	0.30	<0.5	0.38	38	GOOD
9.	31.08.2018	8.4	11.4	38.1	12.2	0.56	<0.5	0.56	33	GOOD
	Limits^:-	80	80	100	60	180	1	4		

AMONA (OTOBER 2018)										
Sr.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1	22.10.2018	12.49	16.15	80.61	34.59	16.70	Not detected	0.06	98	SATISFACTORY
2	26.10.2018	11.12	15.45	69.60	36.00	14.54	Not detected	0.05	102	MODERATE
3	29.10.2018	11.77	16.57	83.97	35.25	17.26	Not detected	0.07	101	MODERATE
	Limits^:-	80	80	100	60	180	1	4		

AMONA (NOVEMBER 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01.11.2018	12.54	16.95	73.51	42.91	16.90	<0.5	<0.5	74	SATISFACTORY
2.	05.11.2018	11.79	16.57	57.16	47.07	18.89	<0.5	<0.5	78	SATISFACTORY
3.	08.11.2018	11.44	16.17	74.56	64.15	16.40	<0.5	<0.5	114	MODERATE
4.	12.11.2018	11.56	16.52	106.01	48.74	15.46	<0.5	<0.5	104	MODERATE
5.	15.11.2018	11.46	17.08	99.92	49.16	16.05	<0.5	<0.5	100	MODERATE
6.	19.11.2018	13.54	16.98	53.93	31.53	15.46	<0.5	<0.5	54	SATISFACTORY
7.	22.11.2018	11.87	17.51	111.61	35.83	15.36	<0.5	<0.5	108	MODERATE
8.	26.11.2018	10.94	17.03	132.27	68.30	14.36	<0.5	<0.5	126	MODERATE
9.	29.11.2018	11.37	17.77	109.03	51.66	17.60	<0.5	<0.5	106	MODERATE
Limits for 24hrs:-		80	80	100	60	180	1	4		

AMONA (DECEMBER 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.12.2018	9.54	15.86	69.82	32.21	15.91	<0.5	0.09	70	SATISFACTORY
2.	07.12.2018	9.88	15.32	55.49	29.91	17.89	<0.5	0.10	55	SATISFACTORY
3.	11.12.2018	10.06	14.29	69.98	34.86	15.91	<0.5	0.07	70	SATISFACTORY
4.	14.12.2018	10.48	14.18	65.23	27.29	15.51	<0.5	0.10	65	SATISFACTORY
5.	18.12.2018	10.34	14.89	82.68	39.99	16.95	<0.5	0.09	83	SATISFACTORY
6.	21.12.2018	10.63	16.02	52.92	24.62	15.41	<0.5	0.08	53	SATISFACTORY
7.	25.12.2018	10.28	15.30	66.94	25.66	14.56	<0.5	0.09	67	SATISFACTORY
8.	28.12.2018	10.33	15.64	68.69	39.57	13.92	<0.5	0.08	69	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

AMONA (JANUARY 2019)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01.01.2019	11.49	16.01	108.28	87.53	11.93	<0.5	<0.5	192	MODERATE
2.	04.01.2019	11.92	15.08	84.08	63.70	19.38	<0.5	<0.5	112	MODERATE
3.	08.01.2019	11.53	14.11	111.54	84.52	13.92	<0.5	<0.5	184	MODERATE
4.	11.01.2019	11.50	15.11	131.73	119.64	15.41	<0.5	<0.5	299	POOR
5.	15.01.2019	11.70	14.63	115.04	74.98	15.41	<0.5	<0.5	150	MODERATE
6.	18.01.2019	11.70	15.19	124.03	94.15	10.44	<0.5	<0.5	214	POOR
7.	22.01.2019	11.27	15.23	110.90	66.24	14.41	<0.5	<0.5	121	MODERATE
8.	25.01.2019	11.00	14.09	94.46	79.44	13.42	<0.5	0.08	165	MODERATE
9.	29.01.2019	11.18	14.06	111.51	99.10	14.41	<0.5	0.08	230	POOR
Limits For 24hrs:-		80	80	100	60	180	1	4		

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AMONA (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.02.2019	12.40	15.46	97.80	53.20	12.03	<0.5	<0.5	98	SATISFACTORY
2.	05.02.2019	11.94	15.63	85.32	45.28	20.38	<0.5	<0.5	85	SATISFACTORY
3.	08.02.2019	11.39	15.14	121.07	60.07	12.92	<0.5	<0.5	114	MODERATE
4.	12.02.2019	12.16	14.45	143.43	49.78	13.42	<0.5	<0.5	129	MODERATE
5.	15.02.2019	11.73	14.77	103.04	52.11	14.41	<0.5	<0.5	102	MODERATE
6.	19.02.2019	11.77	14.70	103.83	56.82	11.43	<0.5	<0.5	103	MODERATE
7.	22.02.2019	11.44	15.74	142.18	55.70	15.41	<0.5	<0.5	128	MODERATE
8.	26.02.2019	11.21	14.49	114.12	54.11	13.42	<0.5	<0.5	109	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

AMONA (MARCH 2019)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01/03/2019	10.5	15.73	121.59	73.61	11.93	<0.5	0.08	145	Moderate
2.	05/03/2019	10.7	15.35	146.82	55.36	20.88	<0.5	0.07	131	Moderate
3.	08/03/2019	10.3	14.80	166.00	86.64	11.93	<0.5	0.07	189	Moderate
4.	12/03/2019	10.8	14.26	103.47	65.44	11.33	<0.5	0.08	118	Moderate
5.	15/03/2019	10.6	14.25	138.96	64.90	16.9	<0.5	0.08	126	Moderate
6.	19/03/2019	10.0	15.43	116.63	70.02	10.93	<0.5	0.08	133	Moderate
7.	22/03/2019	10.6	14.72	67.69	39.66	18.89	<0.5	0.08	68	Satisfactory
8.	26/03/2019	11.1	14.3	106.31	66.19	13.42	<0.5	0.07	121	Moderate
9.	29/03/2019	10.3	14.32	80.23	48.36	12.92	<0.5	0.08	81	Satisfactory
	Limits^:-	80	80	100	60	180	1	4		

ASSANORA (APRIL 2018)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.04.2018	9.1	14.4	56.7	19.1	1.4	<0.5	<0.01	57	SATISFACTORY
2.	06.04.2018	8.3	12.4	53.4	17.8	<0.5	<0.5	0.9	53	SATISFACTORY
3.	11.04.2018	7.9	13.7	82.3	25.7	0.9	<0.5	<0.01	82	SATISFACTORY
4.	13.04.2018	6.9	13.3	64.0	21.3	<0.5	<0.5	0.9	64	SATISFACTORY
5.	18.04.2018	7.6	15.0	75.3	24.2	1.0	<0.5	<0.01	75	SATISFACTORY
6.	20.04.2018	6.6	14.1	71.4	22.3	0.9	<0.5	1.0	71	SATISFACTORY
7.	25.04.2018	7.7	11.2	51.1	16.3	<0.5	<0.5	<0.01	51	SATISFACTORY
8.	27.04.2018	8.2	12.5	59.3	19.4	1.1	<0.5	0.7	59	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

ASSANORA MAY 2018)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.05.2018	8.2	15	62.2	21.1	<0.5	<0.5	<0.01	62	SATISFACTORY
2.	05.05.2018	8.4	14.3	42.5	14	1.1	<0.5	0.88	44	GOOD
3.	09.05.2018	7.9	12.9	48.5	15.6	<0.5	<0.5	<0.01	48	GOOD
4.	11.05.2018	9.2	13.4	31.8	10.7	1.1	<0.5	0.65	33	GOOD
5.	16.05.2018	9.1	11	47.3	15.2	<0.5	<0.5	<0.01	47	GOOD
6.	18.05.2018	8.8	14.9	45.2	14.5	0.9	<0.5	0.78	45	GOOD
7.	23.05.2018	9.4	15.5	65.9	20.9	<0.5	<0.5	<0.01	66	SATISFACTORY
8.	25.05.2018	10.9	14	55	16.6	1	<0.5	0.98	52	SATISFACTORY
9.	30.05.2018	7.8	15	51.7	15.4	<0.5	<0.5	0.68	52	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

ASSANORA (JUNE 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	06.06.2018	6.7	11.0	38.5	12.9	<0.5	<0.5	0.46	39	GOOD
2.	08.06.2018	6.5	11.8	41.9	14.1	<0.5	<0.5	<0.01	42	GOOD
3.	13.06.2018	5.9	10.1	35.4	11.5	1.1	<0.5	0.44	35	GOOD
4.	15.06.2018	5.7	10.7	32.7	11.4	0.9	<0.5	0.41	33	GOOD
5.	20.06.2018	7.3	10.2	31.9	10.2	1.7	<0.5	<0.01	32	GOOD
6.	22.06.2018	5.8	11.9	40.9	13.0	1.2	<0.5	0.38	41	GOOD
7.	27.06.2018	5.7	9.5	28.2	9.2	<0.5	<0.5	<0.01	28	GOOD
8.	29.06.2018	4.3	8.7	34.1	10.9	0.7	<0.5	0.37	34	GOOD
	Limits^:-	80	80	100	60	180	1	4		

ASSANORA (JULY 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.07.2018	6.6	12.1	32.3	10.8	0.8	<0.5	0.39	32	GOOD
2.	06.07.2018	7.0	11.3	25.0	8.1	0.3	<0.5	<0.01	25	GOOD
3.	11.07.2018	6.7	10.3	22.1	7.0	*	<0.5	<0.01	22	GOOD
4.	13.07.2018	6.2	11.0	26.1	9.0	0.5	<0.5	0.45	26	GOOD
5.	18.07.2018	5.9	11.1	25.0	8.2	0.2	<0.5	<0.01	25	GOOD
6.	20.07.2018	6.1	11.5	32.0	10.0	0.9	<0.5	0.58	32	GOOD
7.	25.07.2018	7.3	10.6	31.6	10.2	0.7	<0.5	0.48	32	GOOD
8.	27.07.2018	6.8	11.3	30.7	9.8	0.8	<0.5	0.4	31	GOOD
	Limits^:-	80	80	100	60	180	1	4		

ASSANORA (AUGUST 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.08.2018	6.7	9.3	37.5	12.5	0.92	<0.5	<0.01	38	GOOD
2.	08.08.2018	7.4	10.3	39.2	13.0	0.83	<0.5	0.5	39	GOOD
3.	10.08.2018	8.5	11.2	38.6	12.4	0.97	<0.5	<0.01	39	GOOD
4.	14.08.2018	7.6	10.2	35.0	12.0	0.21	<0.5	0.40	35	GOOD
5.	17.08.2018	7.3	11.4	31.6	9.8	0.36	<0.5	<0.01	32	GOOD
6.	22.08.2018	8.7	12.3	37.5	12.3	0.96	<0.5	0.55	38	GOOD
7.	24.08.2018	7.2	11.5	36.5	11.6	0.87	<0.5	<0.01	37	GOOD
8.	29.08.2018	7.0	9.9	34.9	11.1	0.38	<0.5	0.5	35	GOOD
9.	31.08.2018	8.2	10.4	37.4	12.1	0.81	<0.5	0.66	37	GOOD
Limits^:-		80	80	100	60	180	1	4		

ASSANORA (OCTOBER 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	22.10.2018	10.66	13.22	72.79	35.79	18.75	Not detected	0.11	101	MODERATE
2.	26.10.2018	13.33	16.17	77.10	35.17	20.54	Not detected	0.1	99	SATISFACTORY
3.	29.10.2018	12.89	15.63	86.26	33.13	20.13	Not detected	0.10	95	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

ASSANORA (DECEMBER 2018)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.12.2018	12.23	14.89	62.46	37.74	16.90	Not detected	0.09	63	SATISFACTORY
2.	07.12.2018	12.22	16.51	63.77	31.16	17.89	Not detected	0.10	64	SATISFACTORY
3.	11.12.2018	10.97	15.16	50.38	33.82	15.91	Not detected	0.08	56	SATISFACTORY
4.	14.12.2018	11.33	14.87	65.42	36.95	17.89	Not detected	0.10	65	SATISFACTORY
5.	18.12.2018	11.04	14.73	68.18	38.41	16.90	Not detected	0.09	68	SATISFACTORY
6.	21.12.2018	11.37	16.94	49.67	25.08	15.41	Not detected	0.09	50	GOOD
7.	25.12.2018	12.01	16.76	63.17	25.53	15.41	Not detected	0.08	53	SATISFACTORY
8.	28.12.2018	12.47	16.92	59.87	32.95	13.92	Not detected	0.08	60	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

ASSANORA (JANUARY 2019)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01.01.2019	11.49	15.37	72.06	39.03	14.41	Not detected	0.10	72	SATISFACTORY
2.	04.01.2019	11.09	15.03	78.04	20.25	15.41	Not detected	0.08	78	SATISFACTORY
3.	08.01.2019	11.09	15.87	109.61	21.87	15.41	Not detected	0.08	106	MODERATE
4.	11.01.2019	10.97	15.01	100.97	43.70	13.92	Not detected	0.10	101	MODERATE
5.	15.01.2019	10.85	15.54	76.38	35.37	16.90	Not detected	0.08	76	SATISFACTORY
6.	18.01.2019	11.07	15.99	84.45	45.82	15.41	Not detected	0.09	84	SATISFACTORY
7.	22.01.2019	12.48	14.63	62.88	34.78	13.92	Not detected	0.08	63	SATISFACTORY
8.	25.01.2019	11.49	16.01	64.80	46.82	14.91	Not detected	0.09	78	SATISFACTORY
9.	29.01.2019	11.53	14.02	68.37	23.70	15.41	Not detected	0.89	68	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

ASSANORA (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.02.2019	10.94	15.21	113.38	44.74	12.43	Not detected	0.08	109	MODERATE
2.	05.02.2019	10.75	14.12	76.98	35.16	14.41	Not detected	0.08	77	SATISFACTORY
3.	08.02.2019	10.80	15.16	68.98	33.41	15.95	Not detected	0.09	69	SATISFACTORY
4.	12.02.2019	11.00	14.99	116.10	56.32	17.99	Not detected	0.08	111	MODERATE
5.	15.02.2019	11.18	15.34	77.64	32.20	14.12	Not detected	0.08	78	SATISFACTORY
6.	19.02.2019	10.58	14.93	95.46	40.12	15.76	Not detected	0.09	95	SATISFACTORY
7.	22.02.2019	10.85	15.15	96.63	40.71	16.45	Not detected	0.07	97	SATISFACTORY
8.	26.02.2019	10.78	14.93	89.31	37.91	14.07	Not detected	0.08	89	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

ASSANORA (MARCH 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01/03/2019	10.66	14.99	72.21	43.95	10.93	Not Detected	0.07	73	Satisfactory
2.	05/03/2019	11.52	15.63	91.33	53.53	16.90	Not Detected	0.08	81	Satisfactory
3.	08/03/2019	10.00	15.25	128.63	61.36	12.43	Not Detected	0.08	119	Moderate
4.	12/03/2019	10.92	13.83	68.97	46.03	11.93	Not Detected	0.08	77	Satisfactory
5.	15/03/2019	10.60	15.10	83.13	52.40	15.41	Not Detected	0.08	87	Satisfactory
6.	18/03/2019	10.66	15.34	84.06	57.44	12.92	Not Detected	0.07	96	Satisfactory
7.	21/03/2019	10.27	15.15	75.43	40.37	14.41	Not Detected	0.07	75	Satisfactory
8.	25/03/2019	10.55	13.82	71.29	47.86	11.43	Not Detected	0.07	80	Satisfactory
9.	28/03/2019	10.28	14.87	80.23	47.28	13.92	Not Detected	0.07	80	Satisfactory
Limits^:-		80	80	100	60	180	1	4		

CODLI (MARCH 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.03.2018	8.6	12.3	87.4	29.2	<0.5	<0.5	0.44	87	SATISFACTORY
2.	06.03.2018	5.7	16.3	90.6	30.1	0.80	<0.5	0.71	91	SATISFACTORY
3.	08.03.2018	7.7	15.1	80.5	25.9	0.7	<0.5	0.8	81	SATISFACTORY
4.	13.03.2018	7.3	15.5	102.2	32.3	<0.5	<0.5	<0.01	101	MODERATELY POLLUTED
5.	15.03.2018	8.0	16.4	54.1	17.7	0.6	<0.5	<0.01	54	SATISFACTORY
6.	20.03.2018	6.6	12.9	66.7	21.6	0.70	<0.5	0.56	67	SATISFACTORY
7.	22.03.2018	7.7	12.8	52.1	16.6	<0.5	<0.5	0.77	52	SATISFACTORY
8.	27.03.2018	6.8	13.4	77.4	24.6	<0.5	<0.5	<0.01	77	SATISFACTORY
9.	29.03.2018	6.3	15.1	50.7	16.4	0.7	<0.5	<0.01	51	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

CODLI (APRIL 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.04.2018	5.3	10.1	38.4	12.3	0.6	<0.5	<0.01	38	GOOD
2.	05.04.2018	7.3	13.0	43.1	13.7	<0.5	<0.5	0.45	43	GOOD
3.	10.04.2018	8.1	9.6	81.2	26.6	0.6	<0.5	<0.01	81	SATISFACTORY
4.	12.04.2018	7.9	13.2	84.9	27.4	<0.5	<0.5	<0.01	85	SATISFACTORY
5.	17.04.2018	9.2	11.0	77.3	26.2	<0.5	<0.5	0.66	77	SATISFACTORY
6.	19.04.2018	7.2	9.0	75.8	25.1	0.80	<0.5	<0.01	76	SATISFACTORY
7.	24.04.2018	6.6	12.4	59.3	21.4	0.90	<0.5	0.78	59	SATISFACTORY
8.	26.04.2018	7.0	12.5	85.4	28.5	<0.5	<0.5	<0.01	85	SATISFACTORY
		80	80	100	60	180	1	4		

CODLI (MAY 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.05.2018	8.3	14.3	39.3	12.6	0.6	<0.5	0.89	45	GOOD
2.	04.05.2018	9.2	11.1	63.1	20.9	<0.5	<0.5	<0.01	63	SATISFACTORY
3.	08.05.2018	7.5	11.8	55.2	18.1	<0.5	<0.5	0.45	55	SATISFACTORY
4.	10.05.2018	9.8	15.3	76.2	17	<0.5	<0.5	<0.01	76	SATISFACTORY
5.	15.05.2018	8.7	15.4	39.6	13.9	0.9	<0.5	0.81	41	GOOD
6.	17.05.2018	9.6	12.8	49.4	16.8	<0.5	<0.5	<0.01	49	GOOD
7.	22.05.2018	6.4	15.5	71.8	22.5	0.6	<0.5	0.78	72	SATISFACTORY
8.	24.05.2018	5.9	12.9	41.8	13.7	<0.5	<0.5	0.77	42	GOOD
9.	29.05.2018	9.3	13.9	17.5	6.3	<0.5	<0.5	<0.01	18	GOOD
Limits^:-		80	80	100	60	180	1	4		

CODLI (JUNE 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	05.06.2018	5.0	8.6	40.0	13.1	0.7	<0.5	0.42	40	GOOD
2.	07.06.2018	4.0	9.2	34.7	11.4	0.6	<0.5	<0.01	35	GOOD
3.	12.06.2018	5.5	8.3	36.5	12.5	0.6	<0.5	0.41	37	GOOD
4.	14.06.2018	5.8	7.7	33.7	11.2	0.6	<0.5	<0.01	34	GOOD
5.	19.06.2018	5.7	9.0	27.6	9.3	<0.5	<0.5	0.4	28	GOOD
6.	21.06.2018	5.4	7.2	37.4	12.4	0.7	<0.5	<0.01	37	GOOD
7.	26.01.2018	4.4	6.4	33.2	12.1	<0.5	<0.5	0.37	33	GOOD
8.	28.06.2018	5.2	8.1	34.1	10.9	0.6	<0.5	0.38	34	GOOD
Limits^:-		80	80	100	60	180	1	4		

CODLI (JULY 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.07.2018	6.1	10.5	27.4	9.4	0.6	<0.5	0.47	27	GOOD
2.	05.07.2018	5.3	10.4	23.4	7.6	0.1	<0.5	<0.01	23	GOOD
3.	10.07.2018	7.0	11.0	24.6	7.9	0.1	<0.5	<0.01	25	GOOD
4.	12.07.2018	6.0	11.3	25.1	8.1	0.2	<0.5	<0.01	25	GOOD
5.	17.07.2018	6.6	9.6	36.0	12.2	0.3	<0.5	0.65	36	GOOD
6.	19.07.2018	6.5	10.9	34.9	11.7	0.8	<0.5	0.61	35	GOOD
7.	24.07.2018	7.1	11.1	33.9	12.4	0.6	<0.5	0.55	34	GOOD
8.	26.07.2018	5.9	11.8	31.7	11.0	0.7	<0.5	0.45	32	GOOD
Limits^:-		80	80	100	60	180	1	4		

CODLI (AUGUST 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	02.08.2018	9.3	10.7	42.2	13.4	0.79	<0.5	0.65	42	GOOD
2.	07.08.2018	8.2	10.6	44.7	14.4	0.6	<0.5	<0.01	45	GOOD
3.	09.08.2018	8.1	9.2	40.0	12.8	0.4	<0.5	0.54	40	GOOD
4.	13.08.2018	7.8	10.9	31.4	10.0	0.3	<0.5	<0.01	31	GOOD
5.	16.08.2018	9.1	11.0	33.0	11.0	0.27	<0.5	0.64	33	GOOD
6.	21.08.2018	7.5	9.3	39.1	13.3	0.8	<0.5	<0.01	39	GOOD
7.	23.08.2018	8.4	9.1	34.4	12.7	0.56	<0.5	0.66	34	GOOD
8.	28.08.2018	5.6	7.8	32.5	10.7	-	<0.5	<0.01	33	GOOD
9.	30.08.2018	6.1	9.1	37.3	11.8	0.63	<0.5	0.51	37	GOOD
Limits^:-		80	80	100	60	180	1	4		

CODLI (OCTOBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	22.10.2018	13.84	17.24	74.89	40.83	20.13	Not detected	0.06	114	MODERATE
2.	26.10.2018	13.48	17.40	87.60	41.67	23.82	Not detected	0.07	116	MODERATE
3.	29.10.2018	13.81	17.97	77.30	38.38	19.42	Not detected	0.05	108	MODERATE
	Limits^:-	80	80	100	60	180	1	4		

CODLI (NOVEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.11.2018	11.98	15.78	64.02	24.83	16.20	Not detected	0.09	64	SATISFACTORY
2.	05.11.2018	12.07	16.17	62.55	23.25	17.15	Not detected	0.08	63	SATISFACTORY
3.	08.11.2018	11.95	15.95	68.22	21.20	15.86	Not detected	0.07	68	SATISFACTORY
4.	12.11.2018	11.95	16.69	71.11	28.58	16.70	Not detected	0.08	71	SATISFACTORY
5.	15.11.2018	11.65	16.61	64.08	27.83	15.66	Not detected	0.07	64	SATISFACTORY
6.	19.11.2018	12.16	16.40	56.69	19.37	14.71	Not detected	0.08	57	SATISFACTORY
7.	22.11.2018	12.93	16.67	61.54	27.16	16.95	Not detected	0.09	62	SATISFACTORY
8.	26.11.2018	10.97	17.14	64.29	26.53	15.71	Not detected	0.08	64	SATISFACTORY
9.	29.11.2018	12.08	16.49	69.03	23.20	15.66	Not detected	0.07	69	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

CODLI (DECEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.12.2018	11.91	16.35	70.83	35.33	16.40	Not detected	0.08	71	SATISFACTORY
2.	07.12.2018	12.17	16.27	55.43	30.37	16.90	Not detected	0.10	55	SATISFACTORY
3.	11.12.2018	11.55	16.33	63.31	29.37	15.41	Not detected	0.07	63	SATISFACTORY
4.	14.12.2018	12.38	16.52	67.75	39.41	15.46	Not detected	0.10	66	SATISFACTORY
5.	18.12.2018	12.01	16.94	65.31	34.74	16.05	Not detected	0.09	65	SATISFACTORY
6.	21.12.2018	11.61	16.66	69.56	35.16	15.91	Not detected	0.09	70	SATISFACTORY
7.	25.12.2018	11.87	15.80	66.68	26.91	14.41	Not detected	0.09	67	SATISFACTORY
8.	28.12.2018	11.15	17.26	65.44	36.16	14.41	Not detected	0.09	65	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

CODLI (JANUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.01.2019	11.25	15.42	88.73	52.45	14.41	Not detected	0.09	89	SATISFACTORY
2.	04.01.2019	10.48	14.87	84.81	59.61	16.90	Not detected	0.08	99	SATISFACTORY
3.	08.01.2019	11.12	13.98	89.94	66.15	14.41	Not detected	0.09	121	MODERATE
4.	11.01.2019	11.39	15.77	80.35	55.15	15.41	Not detected	0.09	92	SATISFACTORY
5.	15.01.2019	10.75	14.93	94.03	59.69	16.04	Not detected	0.09	99	SATISFACTORY
6.	18.01.2019	10.69	15.37	92.56	49.69	14.41	Not detected	0.09	93	SATISFACTORY
7.	22.01.2019	11.53	16.07	78.01	57.07	14.91	Not detected	0.09	95	SATISFACTORY
8.	25.01.2019	11.43	15.21	92.20	81.27	15.41	Not detected	0.08	171	MODERATE
9.	29.01.2019	11.40	15.05	82.26	57.94	13.42	Not detected	0.09	91	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

CODLI (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.02.2019	11.07	16.23	90.26	37.78	14.41	Not detected	0.088	90	SATISFACTORY
2.	05.02.2019	11.85	14.93	75.73	42.03	15.91	Not detected	0.079	76	SATISFACTORY
3.	08.02.2019	10.92	13.59	90.68	55.45	15.91	Not detected	0.085	92	SATISFACTORY
4.	12.02.2019	10.79	14.69	83.75	44.45	13.42	Not detected	0.08	84	SATISFACTORY
5.	15.02.2019	10.60	14.20	65.03	35.45	15.41	Not detected	0.081	65	SATISFACTORY
6.	19.02.2019	10.72	14.91	90.74	43.24	16.90	Not detected	0.087	91	SATISFACTORY
7.	22.02.2019	11.18	15.68	96.53	58.03	16.40	Not detected	0.09	97	SATISFACTORY
8.	26.02.2019	11.16	14.89	91.83	55.82	16.90	Not detected	0.08	93	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

CODLI (MARCH 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01/03/2019	10.48	14.52	106.31	52.15	14.41	Not Detected	0.07	104	Moderate
2.	05/03/2019	10.34	14.92	116.29	51.07	13.92	Not Detected	0.07	111	Moderate
3.	08/03/2019	10.75	15.14	159.66	71.65	12.92	Not Detected	0.08	140	Moderate
4.	12/03/2019	10.57	13.79	111.02	64.57	15.41	Not Detected	0.08	115	Moderate
5.	15/03/2019	9.93	15.24	150.65	63.32	17.4	Not Detected	0.08	134	Moderate
6.	20/03/2019	10.52	14.60	93.17	54.78	13.42	Not Detected	0.07	93	Satisfactory
7.	23/03/2019	10.62	14.07	85.07	54.49	16.4	Not Detected	0.07	91	Satisfactory
8.	27/03/2019	10.42	13.7	133.54	72.90	13.42	Not Detected	0.07	143	Moderate
9.	30/03/2019	10.06	14.64	128.67	68.32	16.9	Not Detected	0.07	128	Moderate
	Limits^:-	80	80	100	60	180	1	4		

HONDA(APRIL 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.04.2018	7.0	12.9	81.9	25.6	0.7	<0.5	0.87	82	SATISFACTORY
2.	06.04.2018	7.8	11.9	89.4	28.4	<0.5	<0.5	0.77	89	SATISFACTORY
3.	09.04.2018	6.0	12.7	82.3	25.6	1.1	<0.5	<0.01	82	SATISFACTORY
4.	13.04.2018	5.4	15.4	69.4	21.7	<0.5	<0.5	0.74	69	SATISFACTORY
5.	16.04.2018	8.9	13.0	63.1	19.4	0.7	<0.5	<0.01	63	SATISFACTORY
6.	18.04.2018	7.4	14.4	54.4	17.3	0.7	<0.5	<0.01	54	SATISFACTORY
7.	25.04.2018	8.1	11.4	77.1	23.8	<0.5	<0.5	0.74	75	SATISFACTORY
8.	27.04.2018	9.3	12.1	65.5	20.6	0.9	<0.5	0.98	66	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

HONDA (MAY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.05.2018	8.4	11.3	56.6	17.4	1.2	<0.5	0.78	57	SATISFACTORY
2.	05.05.2018	9.3	15.3	57.6	18	<0.5	<0.5	<0.01	58	SATISFACTORY
3.	09.05.2018	8.6	12.5	65.7	20.6	<0.5	<0.5	0.98	66	SATISFACTORY
4.	11.05.2018	7.3	10	73.9	23.1	<0.5	<0.5	0.56	74	SATISFACTORY
5.	16.05.2018	6.9	12.5	70	21.7	0.6	<0.5	0.55	70	SATISFACTORY
6.	18.05.2018	9.6	13.6	48	14.8	<0.5	<0.5	<0.01	48	GOOD
7.	23.05.2018	9.8	10.3	44.3	13.8	0.8	<0.5	0.68	44	GOOD
8.	25.05.2018	8.3	15	37.3	11.8	<0.5	<0.5	0.87	44	GOOD
9.	30.05.2018	8.2	11.5	28.1	9	0.6	<0.5	<0.01	28	GOOD
	Limits^:-	80	80	100	60	180	1	4		

HONDA (JUNE 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	06.06.2018	7.0	11.7	39.3	12.2	1.1	<0.5	<0.01	39	GOOD
2.	08.06.2018	6.0	8.4	22.1	7.2	<0.5	<0.5	0.4	22	GOOD
3.	13.06.2018	6.3	10.5	34.3	11.1	0.9	<0.5	<0.01	34	GOOD
4.	15.06.2018	5.0	11.9	34.7	10.8	<0.5	<0.5	0.44	35	GOOD
5.	20.06.2018	4.8	9.7	26.0	8.3	0.7	<0.5	0.45	26	GOOD
6.	22.06.2018	5.3	12.7	28.8	9.1	1.1	<0.5	<0.01	29	GOOD
7.	27.06.2018	6.2	9.9	31.9	9.8	<0.5	<0.5	0.38	32	GOOD
8.	29.06.2018	6.0	10.4	26.9	8.5	<0.5	<0.5	<0.01	27	GOOD
	Limits^:-	80	80	100	60	180	1	4		

HONDA (JULY 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.07.2018	6.8	10.9	27.8	8.6	0.6	<0.5	<0.01	28	GOOD
2.	06.07.2018	6.0	10.0	25.4	7.6	0.2	<0.5	<0.01	25	GOOD
3.	11.07.2018	6.4	10.1	23.3	7.0	0.4	<0.5	<0.01	23	GOOD
4.	13.07.2018	6.7	11.6	25.0	8.2	0.3	<0.5	<0.01	25	GOOD
5.	18.07.2018	6.1	9.4	29.0	8.4	0.5	<0.5	0.55	29	GOOD
6.	20.07.2018	7.0	11.9	33.8	10.7	0.8	<0.5	0.59	34	GOOD
7.	25.07.2018	6.7	9.8	31.3	10.1	0.9	<0.5	0.45	31	GOOD
8.	27.07.2018	6.3	12.1	30.1	10.4	0.7	<0.5	0.52	30	GOOD
	Limits^:-	80	80	100	60	180	1	4		

HONDA (AUGUST 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.08.2018	6.9	11.2	41.6	12.8	0.75	<0.5	0.65	42	GOOD
2.	08.08.2018	6.4	11.7	40.7	13.3	0.74	<0.5	0.55	41	GOOD
3.	10.08.2018	7.5	10.7	37.7	12.2	0.66	<0.5	<0.01	38	GOOD
4.	14.08.2018	6.8	10.4	35.4	11.0	0.27	<0.5	0.56	35	GOOD
5.	17.08.2018	7.0	12.1	30.8	9.5	0.84	<0.5	<0.01	31	GOOD
6.	22.08.2018	7.9	11.0	38.0	12.0	1.01	<0.5	0.55	38	GOOD
7.	24.08.2018	8.4	12.0	36.2	11.8	0.52	<0.5	0.58	36	GOOD
8.	29.08.2018	7.6	11.7	34.7	10.8	0.27	<0.5	<0.01	35	GOOD
9.	31.08.2018	7.1	10.9	37.3	11.6	0.56	<0.5	0.52	37	GOOD
Limits^:-		80	80	100	60	180	1	4		

HONDA(OTOBER 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	22.10.2018	11.31	16.01	95.74	38.37	21.25	Not detected	0.1	108	MODERATE
2.	26.10.2018	11.28	16.02	87.88	38.91	19.87	Not detected	0.07	109	MODERATE
3.	29.10.2018	11.73	16.28	85.21	41.58	22.89	Not detected	0.09	116	MODERATE
Limits^:-		80	80	100	60	180	1	4		

HONDA (NOVEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.11.2018	12.20	16.12	45.64	29.79	15.86	Not detected	0.07	58	SATISFACTORY
2.	05.11.2018	11.83	16.62	32.56	12.45	15.71	Not detected	0.07	33	GOOD
3.	08.11.2018	11.37	15.04	54.46	13.08	17.84	Not detected	0.08	54	SATISFACTORY
4.	12.11.2018	12.20	13.65	56.27	21.12	15.95	Not detected	0.09	56	SATISFACTORY
5.	15.11.2018	11.29	15.47	64.21	22.91	16.20	Not detected	0.08	64	SATISFACTORY
6.	19.11.2018	12.35	15.65	57.28	26.08	15.51	Not detected	0.08	57	SATISFACTORY
7.	22.11.2018	12.25	15.91	59.82	28.08	15.71	Not detected	0.08	60	SATISFACTORY
8.	26.11.2018	11.91	15.46	57.72	38.20	15.81	Not detected	0.08	64	SATISFACTORY
9.	29.11.2018	11.59	15.15	60.72	23.29	16.10	Not detected	0.09	61	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

HONDA (DECEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.12.2018	12.03	16.76	70.30	34.03	12.43	Not detected	0.08	70	SATISFACTORY
2.	07.12.2018	12.31	16.89	63.39	41.41	17.99	Not detected	0.09	69	SATISFACTORY
3.	11.12.2018	11.58	16.55	60.89	38.83	16.40	Not detected	0.08	65	SATISFACTORY
4.	14.12.2018	11.59	17.15	68.89	34.33	17.89	Not detected	0.1	69	SATISFACTORY
5.	18.12.2018	12.23	15.73	65.47	30.83	18.39	Not detected	0.09	65	SATISFACTORY
6.	21.12.2018	11.57	17.04	56.21	37.82	13.42	Not detected	0.08	63	SATISFACTORY
7.	25.12.2018	11.79	17.03	77.06	38.16	16.90	Not detected	0.87	77	SATISFACTORY
8.	28.12.2018	11.79	16.00	63.05	39.07	17.15	Not detected	0.08	65	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

HONDA (JANUARY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.01.2019	10.81	14.89	89.96	56.36	13.92	Not detected	0.09	94	SATISFACTORY
2.	04.01.2019	11.10	14.93	94.65	62.69	15.91	Not detected	0.08	109	MODERATE
3.	08.01.2019	11.03	16.03	78.01	68.78	15.91	Not detected	0.09	129	MODERATE
4.	11.01.2019	10.81	15.86	91.32	53.65	14.41	Not detected	0.1	91	SATISFACTORY
5.	15.01.2019	10.98	15.82	86.07	64.94	15.41	Not detected	0.09	116	MODERATE
6.	18.01.2019	11.30	14.29	92.11	54.45	14.41	Not detected	0.09	92	SATISFACTORY
7.	22.01.2019	11.21	15.41	90.29	51.15	16.40	Not detected	0.09	90	SATISFACTORY
8.	25.01.2019	11.53	16.36	87.39	62.49	17.89	Not detected	0.08	108	MODERATE
9.	29.01.2019	11.64	15.39	90.86	40.16	16.90	Not detected	0.09	91	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

HONDA (FEBRUARY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.02.2019	10.70	13.70	97.80	49.44	16.90	Not detected	0.09	98	SATISFACTORY
2.	05.02.2019	10.73	15.49	97.34	54.94	17.89	Not detected	0.08	97	SATISFACTORY
3.	08.02.2019	10.60	14.86	90.35	47.95	16.40	Not detected	0.082	90	SATISFACTORY
4.	12.02.2019	10.61	13.39	95.31	52.28	19.38	Not detected	0.07	95	SATISFACTORY
5.	15.02.2019	10.97	13.97	97.94	66.40	16.40	Not detected	0.079	121	MODERATE
6.	19.02.2019	10.39	13.97	91.66	62.78	17.89	Not detected	0.085	109	MODERATE
7.	22.02.2019	10.78	13.02	99.18	28.87	16.90	Not detected	0.087	99	SATISFACTORY
8.	26.02.2019	10.67	13.87	105.55	65.73	15.41	Not detected	0.079	119	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

HONDA (MARCH 2019)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01/03/2019	10.6	15.75	82.3	51.2	12.87	Not Detected	0.07	85	Satisfactory
2.	04/03/2019	9.88	14.15	76.45	44.33	12.43	Not Detected	0.06	76	Satisfactory
3.	07/03/2019	10.42	14.22	105.46	50.82	17.4	Not Detected	0.09	104	Moderate
4.	11/03/2019	10.33	14.45	112.15	56.40	12.43	Not Detected	0.08	108	Moderate
5.	14/03/2019	10.22	14.72	73.79	36.99	10.93	Not Detected	0.07	74	Satisfactory
6.	19/03/2019	10.11	14.27	93.47	43.78	15.41	Not Detected	0.08	93	Satisfactory
7.	22/03/2019	10.19	14.12	76.54	38.70	12.92	Not Detected	0.08	77	Satisfactory
8.	26/03/2019	10.30	15.74	90.01	47.03	18.39	Not Detected	0.07	90	Satisfactory
9.	29/03/2019	11.21	14.49	99.96	54.70	13.92	Not Detected	0.07	100	Moderate
	Limits^:-	80	80	100	60	180	1	4		

KUNDAIM (APRIL 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.04.2018	8.9	14.2	52.5	17.3	0.9	<0.5	<0.01	53	SATISFACTORY
2.	07.04.2018	5.9	10.6	92.8	30.9	<0.5	<0.5	0.45	93	SATISFACTORY
3.	10.04.2018	8.2	12.4	62.8	20.9	<0.5	<0.5	0.76	63	SATISFACTORY
4.	12.04.2018	6.6	11.6	77.3	98.0	0.8	<0.5	0.98	77	SATISFACTORY
5.	17.04.2018	8.3	10.6	71.5	23.6	0.6	<0.5	<0.01	72	SATISFACTORY
6.	19.04.2018	7.8	13.7	81.1	25.1	<0.5	<0.5	0.87	81	SATISFACTORY
7.	24.04.2018	8.1	11.6	62.2	20.2	0.6	<0.5	<0.01	62	SATISFACTORY
8.	26.04.2018	7.7	13.1	56.5	18.7	0.6	<0.5	0.81	57	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

KUNDAIM (MAY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.05.2018	7.3	13.9	82.5	26.9	<0.5	<0.5	<0.01	83	SATISFACTORY
2.	04.05.2018	8.7	14.1	61.4	20	0.7	<0.5	0.98	61	SATISFACTORY
3.	08.05.2018	7.5	12.9	53.2	17.6	<0.5	<0.5	0.65	53	SATISFACTORY
4.	10.05.2018	7.1	11.6	41.5	13.6	0.9	<0.5	0.78	42	GOOD
5.	15.05.2018	8.9	10.9	48.5	16.2	<0.5	<0.5	<0.01	49	GOOD
6.	17.05.2018	9	16.5	56.2	18.3	<0.5	<0.5	0.88	56	SATISFACTORY
7.	22.05.2018	8.2	13.8	73.5	24	0.6	<0.5	0.45	74	SATISFACTORY
8.	25.05.2018	9.1	12.7	64.4	21.1	<0.5	<0.5	0.98	64	SATISFACTORY
9.	29.05.2018	8.4	10.3	54.9	18	0.7	<0.5	<0.01	55	SATISFACTORY
		80	80	100	60	180	1	4		

KUNDAIM (JUNE 2018)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	05.06.2018	6.1	9.9	43.2	14.3	<0.5	<0.5	<0.01	43	GOOD
2.	07.06.2018	5.3	10.6	29.3	9.7	0.8	<0.5	0.53	29	GOOD
3.	12.06.2018	5.5	10.1	28.0	9.4	<0.5	<0.5	0.48	28	GOOD
4.	14.06.2018	6.2	9.6	39.7	12.9	0.8	<0.5	0.51	40	GOOD
5.	19.06.2018	6.5	7.3	28.3	9.1	<0.5	<0.5	<0.01	28	GOOD
6.	21.06.2018	5.6	11.7	39.2	12.4	0.8	<0.5	<0.01	39	GOOD
7.	26.01.2018	6.6	11.0	30.8	10.2	0.6	<0.5	0.45	31	GOOD
8.	28.06.2018	6.4	9.1	32.0	10.8	1.2	<0.5	0.4	32	GOOD
	Limits^:-	80	80	100	60	180	1	4		

KUNDAIM (JULY 2018)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.07.2018	6.1	11.1	23.5	8.0	0.6	<0.5	0.35	24	GOOD
2.	05.07.2018	6.0	10.7	21.9	7.5	0.2	<0.5	<0.01	22	GOOD
3.	10.07.2018	5.7	11.3	23.6	7.3	0.1	<0.5	<0.01	24	GOOD
4.	12.07.2018	5.9	9.5	20.6	7.1	0.3	<0.5	<0.01	21	GOOD
5.	17.07.2018	6.1	10.9	33.6	11.1	0.6	<0.5	0.48	34	GOOD
6.	19.07.2018	7.0	12.1	30.8	9.6	0.9	<0.5	0.58	31	GOOD
7.	24.07.2018	6.9	10.6	34.4	11.2	0.8	<0.5	0.67	34	GOOD
8.	26.07.2018	6.6	10.1	36.0	11.4	0.7	<0.5	0.68	36	GOOD
Limits^:-		80	80	100	60	180	1	4		

KUNDAIM (AUGUST 2018)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.08.2018	6.2	9.9	43.8	14.2	0.75	<0.5	<0.01	44	GOOD
2.	07.08.2018	8.6	12.8	45.2	15.0	0.78	<0.5	0.51	45	GOOD
3.	09.08.2018	8.3	10.4	40.5	13.1	0.29	<0.5	0.48	41	GOOD
4.	13.08.2018	6.6	11.9	32.7	10.9	0.36	<0.5	0.56	33	GOOD
5.	16.08.2018	8.2	12.4	34.3	11.1	0.35	<0.5	<0.01	34	GOOD
6.	21.08.2018	8.9	10.4	36.0	12.1	0.83	<0.5	0.52	36	GOOD
7.	23.08.2018	8.0	11.9	33.4	10.7	0.62	<0.5	0.41	33	GOOD
8.	28.08.2018	7.7	12.6	31.8	10.0	-	<0.5	<0.01	32	GOOD
9.	30.08.2018	7.9	10.9	38.6	12.4	0.69	<0.5	0.36	39	GOOD
Limits^:-		80	80	100	60	180	1	4		

KUNDAIM (OTOBER 2018)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	22.10.2018	11.71	15.00	92.65	37.17	23.26	Not detected	0.10	105	MODERATE
2.	26.10.2018	11.20	14.93	81.78	38.45	19.46	Not detected	0.09	108	MODERATE
3.	29.10.2018	10.82	14.53	87.12	32.34	25.35	Not detected	0.10	93	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

KUNDAIM (NOVEMBER 2018)

Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01.11.2018	12.47	17.61	81.23	21.41	17.60	Not detected	0.07	81	SATISFACTORY
2.	05.11.2018	11.98	16.97	57.17	27.87	17.94	Not detected	0.07	57	SATISFACTORY
3.	08.11.2018	13.17	17.15	63.31	27.08	17.84	Not detected	0.08	63	SATISFACTORY
4.	12.11.2018	12.25	17.78	72.05	26.41	19.33	Not detected	0.09	73	SATISFACTORY
5.	15.11.2018	11.49	16.26	72.75	32.37	16.8	Not detected	0.07	73	SATISFACTORY
6.	19.11.2018	12.08	15.33	66.79	28.74	17.55	Not detected	0.09	67	SATISFACTORY
7.	22.11.2018	12.19	17.69	74.16	28.79	16.20	Not detected	0.10	74	SATISFACTORY
8.	26.11.2018	11.31	17.09	77.63	40.83	15.81	Not detected	0.09	78	SATISFACTORY
9.	29.11.2018	12.10	17.06	72.84	26.49	18.19	Not detected	0.07	73	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

KUNDAIM (DECEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.12.2018	10.65	14.31	58.87	34.32	16.40	Not detected	0.08	59	SATISFACTORY
2.	07.12.2018	10.73	13.92	52.59	30.04	16.40	Not detected	0.09	53	SATISFACTORY
3.	11.12.2018	10.38	14.98	63.30	37.41	14.41	Not detected	0.07	63	SATISFACTORY
4.	14.12.2018	10.82	16.15	71.41	34.08	16.90	Not detected	0.09	71	SATISFACTORY
5.	18.12.2018	10.24	15.36	72.61	35.37	18.39	Not detected	0.09	73	SATISFACTORY
6.	21.12.2018	10.34	15.71	54.65	35.32	14.91	Not detected	0.09	59	SATISFACTORY
7.	25.12.2018	10.77	14.80	54.45	38.29	14.91	Not detected	0.09	54	SATISFACTORY
8.	28.12.2018	10.03	15.81	84.26	35.66	16.90	Not detected	0.08	84	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

KUNDAIM (JANUARY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.01.2019	12.69	16.64	89.64	42.20	15.91	Not detected	0.09	91	SATISFACTORY
2.	04.01.2019	12.31	16.12	110.86	72.15	16.90	Not detected	0.08	141	MODERATE
3.	08.01.2019	12.04	15.34	125.62	67.11	15.91	Not detected	0.09	124	MODERATE
4.	11.01.2019	12.13	16.42	99.63	67.28	16.40	Not detected	0.10	124	MODERATE
5.	15.01.2019	12.05	15.83	86.56	73.69	16.90	Not detected	0.08	146	MODERATE
6.	18.01.2019	12.26	16.36	134.95	70.86	14.91	Not detected	0.99	136	MODERATE
7.	22.01.2019	12.28	16.59	115.51	82.94	18.89	Not detected	0.08	176	MODERATE
8.	25.01.2019	12.37	17.04	124.43	65.40	17.89	Not detected	0.09	118	MODERATE
9.	29.01.2019	11.29	16.12	96.15	72.02	20.88	Not detected	0.10	140	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

KUNDAIM (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01.02.2019	10.45	15.18	91.90	49.16	16.10	Not detected	0.09	92	SATISFACTORY
2.	05.02.2019	10.67	14.23	104.88	46.78	16.35	Not detected	0.08	103	MODERATE
3.	08.02.2019	10.60	14.25	138.22	46.24	14.41	Not detected	0.08	125	MODERATE
4.	12.02.2019	11.12	14.46	116.90	36.28	17.94	Not detected	0.10	111	MODERATE
5.	15.02.2019	10.92	14.09	87.91	39.99	17.50	Not detected	0.09	88	SATISFACTORY
6.	19.02.2019	10.60	15.23	91.46	33.37	14.61	Not detected	0.09	91	SATISFACTORY
7.	22.02.2019	10.89	14.14	99.33	42.91	17.99	Not detected	0.08	99	SATISFACTORY
8.	26.02.2019	10.64	14.07	63.87	36.66	16.90	Not detected	0.09	64	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

KUNDAIM (MARCH 2019)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01/03/2019	10.33	14.70	118.49	48.24	14.41	Not Detected	0.07	112	Moderate
2.	04/03/2019	10.34	14.95	104.74	49.53	12.92	Not Detected	0.08	103	Moderate
3.	08/03/2019	10.19	14.70	120.88	42.86	16.90	Not Detected	0.06	114	Moderate
4.	11/03/2019	10.38	14.57	76.15	47.07	12.43	Not Detected	0.07	78	Satisfactory
5.	14/03/2019	10.66	14.51	107.71	59.15	11.93	Not Detected	0.07	105	Moderate
6.	18/03/2019	11.73	17.73	97.39	42.91	14.41	Not Detected	0.08	97	Satisfactory
7.	22/03/2019	10.45	14.65	57.86	34.91	11.93	Not Detected	0.08	58	Satisfactory
8.	25/03/2019	10.51	14.66	78.50	34.16	17.40	Not Detected	0.08	79	Satisfactory
9.	29/03/2019	10.60	15.27	76.13	35.83	17.40	Not Detected	0.08	76	Satisfactory
	Limits^:-	80	80	100	60	180	1	4		

TUEM (APRIL 2018)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.04.2018	9.1	12.0	74.0	23.2	0.6	<0.5	0.78	74	SATISFACTORY
2.	06.04.2018	7.0	14.5	86.7	26.7	<0.5	<0.5	<0.01	87	SATISFACTORY
3.	11.04.2018	8.1	13.3	66.8	21.4	0.7	<0.5	0.87	67	SATISFACTORY
4.	13.04.2018	9.3	13.9	60.4	18.9	<0.5	<0.5	0.99	60	SATISFACTORY
5.	18.04.2018	9.5	14.9	85.3	25.9	0.7	<0.5	<0.01	85	SATISFACTORY
6.	20.04.2018	8.7	12.7	75.9	23.9	<0.5	<0.5	0.69	76	SATISFACTORY
7.	25.04.2018	7.3	13.2	53.4	17.0	<0.5	<0.5	0.88	53	SATISFACTORY
8.	27.04.2018	6.7	12.8	68.3	21.8	0.6	<0.5	<0.01	68	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

TUEM (MAY 2018)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.05.2018	9.1	13.6	72.8	23	0.6	<0.5	<0.01	73	SATISFACTORY
2.	05.05.2018	10	12.4	40.2	12.6	<0.5	<0.5	0.78	40	GOOD
3.	09.05.2018	7.7	15.5	44.3	14.9	<0.5	<0.5	0.65	44	GOOD
4.	11.05.2018	11	16	49.4	15.6	0.6	<0.5	<0.01	49	GOOD
5.	16.05.2018	9	12	68	21.4	0.8	<0.5	0.98	68	SATISFACTORY
6.	18.05.2018	9.5	16.5	53.9	17.1	<0.5	<0.5	<0.01	54	SATISFACTORY
7.	23.05.2018	9.9	12.3	70.2	22.5	0.8	<0.5	<0.01	70	SATISFACTORY
8.	25.05.2018	6.3	14.3	52.7	17.2	<0.5	<0.5	0.88	53	SATISFACTORY
9.	30.05.2018	8.7	14.7	33.9	10.6	0.7	<0.5	0.94	47	GOOD
	Limits^:-	80	80	100	60	180	1	4		

TUEM (JUNE 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	06.06.2018	6.1	10.6	39.3	12.5	<0.5	<0.5	0.55	39	GOOD
2.	08.06.2018	5.2	11.6	38.7	12.0	0.9	<0.5	<0.01	39	GOOD
3.	13.06.2018	7.2	11.2	31.6	9.9	0.6	<0.5	0.45	32	GOOD
4.	15.06.2018	6.7	12.7	36.8	11.8	<0.5	<0.5	<0.01	37	GOOD
5.	20.06.2018	7.2	10.5	31.5	9.8	<0.5	<0.5	0.35	32	GOOD
6.	22.06.2018	7.4	10.1	35.3	11.2	0.7	<0.5	<0.01	35	GOOD
7.	27.06.2018	6.0	10.4	33.7	10.9	0.6	<0.5	0.38	34	GOOD
8.	29.06.2018	7.0	10.2	42.8	13.9	<0.5	<0.5	<0.01	43	GOOD
Limits^:-		80	80	100	60	180	1	4		

TUEM (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.07.2018	6.2	10.5	26.3	7.5	0.6	<0.5	0.46	26	GOOD
2.	06.07.2018	6.7	11.3	24.7	7.7	0.2	<0.5	<0.01	25	GOOD
3.	11.07.2018	5.6	11.5	27.2	8.5	0.5	<0.5	<0.01	27	GOOD
4.	13.07.2018	5.9	11.7	25.8	8.0	0.4	<0.5	<0.01	26	GOOD
5.	17.07.2018	7.0	11.2	25.6	8.2	0.5	<0.5	0.42	26	GOOD
6.	21.07.2018	6.8	9.7	26.0	8.5	0.6	<0.5	0.48	26	GOOD
7.	25.07.2018	6.3	11.6	30.0	9.7	0.9	<0.5	0.45	30	GOOD
8.	27.07.2018	7.0	11.8	32.3	10.4	0.6	<0.5	0.62	32	GOOD
Limits^:-		80	80	100	60	180	1	4		

TUEM (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.08.2018	6.6	10.4	42.1	13.8	0.69	<0.5	<0.01	42	GOOD
2.	08.08.2018	7.0	11.7	41.9	13.0	0.56	<0.5	0.58	42	GOOD
3.	10.08.2018	7.3	12.4	43.8	13.7	0.63	<0.5	0.47	44	GOOD
4.	14.08.2018	6.3	11.3	36.8	11.5	0.72	<0.5	<0.01	37	GOOD
5.	17.08.2018	6.8	10.5	29.2	9.4	0.17	<0.5	0.57	29	GOOD
6.	22.08.2018	7.5	11.0	37.4	11.8	0.6	<0.5	<0.01	37	GOOD
7.	24.08.2018	8.0	11.6	34.4	10.8	0.58	<0.5	<0.01	34	GOOD
8.	29.08.2018	7.4	11.2	33.9	10.9	0.14	<0.5	0.44	34	GOOD
9.	31.08.2018	8.8	12.0	36.8	11.7	0.65	<0.5	0.6	37	GOOD
Limits^:-		80	80	100	60	180	1	4		

TUEM (OCTOBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	22.10.2018	11.47	14.14	83.75	37.63	18.49	Not detected	0.08	106	MODERATE
2.	26.10.2018	11.51	14.21	81.50	35.56	22.52	Not detected	0.08	101	MODERATE
3.	29.10.2018	11.19	14.38	87.89	35.30	19.72	Not detected	0.09	100	MODERATE
Limits^:-		80	80	100	60	180	1	4		

TUEM (NOVEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.11.2018	12.31	15.86	78.58	24.91	17.45	ND	0.10	79	SATISFACTORY
2.	05.11.2018	12.29	17.05	32.89	13.66	17.2	ND	ND	33	GOOD
3.	08.11.2018	12.90	18.35	60.91	16.00	17.94	ND	ND	61	SATISFACTORY
4.	12.11.2018	12.20	17.82	73.69	23.20	19.33	ND	ND	74	SATISFACTORY
5.	15.11.2018	11.31	17.70	49.44	36.53	18.09	ND	ND	74	SATISFACTORY
6.	19.11.2018	13.39	16.31	41.64	19.25	18.74	ND	ND	42	GOOD
7.	22.11.2018	11.99	18.41	54.70	24.66	17.69	ND	ND	55	SATISFACTORY
8.	26.11.2018	11.49	18.52	72.48	24.70	15.81	ND	ND	72	SATISFACTORY
9.	29.11.2018	11.88	18.34	94.10	27.16	18.19	ND	ND	94	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

TUEM (DECEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.12.2018	10.76	16.33	73.51	42.91	15.41	Not detected	0.10	74	SATISFACTORY
2.	06.12.2018	10.97	14.53	61.06	39.12	19.38	Not detected	0.09	65	SATISFACTORY
3.	10.12.2018	10.49	16.33	52.38	36.33	13.42	Not detected	0.09	61	SATISFACTORY
4.	13.12.2018	10.64	15.31	61.52	36.57	16.9	Not detected	0.10	62	SATISFACTORY
5.	17.12.2018	9.75	15.28	69.35	32.24	17.89	Not detected	0.09	69	SATISFACTORY
6.	20.12.2018	10.37	16.22	64.66	31.53	13.42	Not detected	0.10	65	SATISFACTORY
7.	24.12.2018	11.62	16.65	69.83	34.41	15.41	Not detected	0.09	70	SATISFACTORY
8.	27.12.2018	11.62	16.55	69.50	37.74	16.40	Not detected	0.08	70	SATISFACTORY
9.	31.12.2018	10.64	15.11	66.52	39.03	16.40	Not detected	0.10	67	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

TUEM (JANUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.01.2019	12.23	16.73	117.57	50.44	15.41	Not detected	0.09	112	MODERATE
2.	07.01.2019	11.24	14.22	88.03	38.37	15.91	Not detected	0.9	88	SATISFACTORY
3.	10.01.2019	11.07	15.00	121.94	67.69	15.41	Not detected	0.08	126	MODERATE
4.	14.01.2019	11.40	14.07	71.03	32.08	15.41	Not detected	0.09	71	SATISFACTORY
5.	17.01.2019	11.11	15.08	153.50	40.91	14.41	Not detected	0.09	136	MODERATE
6.	21.01.2019	11.55	15.28	106.55	52.61	16.4	Not detected	0.08	104	MODERATE
7.	24.01.2019	11.65	14.89	55.05	32.07	14.41	Not detected	0.07	55	SATISFACTORY
8.	28.01.2019	12.25	14.43	58.52	22.70	14.41	Not detected	0.09	59	SATISFACTORY
9.	31.01.2019	11.09	15.08	81.84	48.03	18.89	Not detected	0.09	82	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

TUEM (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.02.2019	12.17	15.62	72.66	38.50	16.5	Not detected	0.09	73	SATISFACTORY
2.	07.02.2019	12.32	15.12	86.90	36.50	16.55	Not detected	0.088	87	SATISFACTORY
3.	11.02.2019	11.83	17.12	90.33	51.50	18.19	Not detected	0.077	90	SATISFACTORY
4.	14.02.2019	12.16	14.92	81.21	40.25	16.6	Not detected	0.09	81	SATISFACTORY
5.	18.02.2019	12.86	15.57	69.12	46.40	16	Not detected	0.08	77	SATISFACTORY
6.	21.02.2019	12.66	16.10	66.15	44.58	17.64	Not detected	0.09	74	SATISFACTORY
7.	25.02.2019	13.23	16.02	109.68	32.54	14.41	Not detected	0.07	106	MODERATE
8.	28.02.2019	12.68	16.36	113.45	63.59	18.19	Not detected	0.088	112	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

TUEM (MARCH 2019)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04/03/2019	10.37	14.42	62.89	30.20	11.93	Not Detected	0.07	63	Satisfactory
2.	07/03/2019	10.61	14.62	82.92	38.58	16.9	Not Detected	0.08	83	Satisfactory
3.	11/03/2019	10.54	15.28	54.31	36.20	13.42	Not Detected	0.08	60	Satisfactory
4.	14/03/2019	10.27	14.70	70.76	40.24	11.43	Not Detected	0.06	71	Satisfactory
5.	18/03/2019	10.09	15.20	70.58	36.07	15.41	Not Detected	0.08	71	Satisfactory
6.	21/03/2019	10.33	14.55	71.00	44.49	13.42	Not Detected	0.07	74	Satisfactory
7.	25/03/2019	10.52	14.55	65.79	32.62	14.91	Not Detected	0.08	66	Satisfactory
8.	28/03/2019	10.24	15.4	68.35	37.53	10.44	Not Detected	0.07	68	Satisfactory
Limits^:-		80	80	100	60	180	1	4		

USGAO (APRIL 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.04.2018	7.1	12.6	44.8	14.7	0.8	<0.5	0.77	45	GOOD
2.	06.04.2018	6.3	10.8	46.9	15.5	0.6	<0.5	<0.01	47	GOOD
3.	11.04.2018	8.1	12.3	85.9	27.4	<0.5	<0.5	0.45	86	SATISFACTORY
4.	13.04.2018	7.2	11.9	81.3	26.2	<0.5	<0.5	<0.01	82	SATISFACTORY
5.	17.04.2018	9.1	12.0	64.3	20.8	0.8	<0.5	0.64	64	SATISFACTORY
6.	19.04.2018	6.5	12.2	55.0	17.8	<0.5	<0.5	<0.01	55	SATISFACTORY
7.	25.04.2018	8.1	12.1	59.9	19.1	0.8	<0.5	0.98	60	SATISFACTORY
8.	27.04.2018	7.5	11.5	57.8	18.7	<0.5	<0.5	0.93	58	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

USGAO (MAY 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.05.2018	9.5	13.8	79.8	25.6	0.7	<0.5	<0.01	80	SATISFACTORY
2.	05.05.2018	8.1	12.1	90.5	29.8	<0.5	<0.5	0.78	91	SATISFACTORY
3.	09.05.2018	8.4	10.8	38.4	12	0.6	<0.5	0.64	38	GOOD
4.	11.05.2018	9.3	15.1	28.6	9.7	<0.5	<0.5	<0.01	29	GOOD
5.	16.05.2018	8.6	11.3	47.2	15.3	0.8	<0.5	0.88	47	GOOD
6.	19.05.2018	6.9	14.2	37.6	12.1	<0.5	<0.5	0.97	49	GOOD
7.	23.05.2018	6.7	11.6	86.1	27.6	0.7	<0.5	<0.01	86	SATISFACTORY
8.	25.05.2018	8.6	13.7	73.8	23.5	<0.5	<0.5	0.64	74	SATISFACTORY
9.	31.05.2018	6.7	11.9	30.9	10.8	0.6	<0.5	<0.01	31	GOOD
Limits^:-		80	80	100	60	180	1	4		

USGAO (JUNE 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	06.06.2018	5.3	11.9	37.9	12.4	0.7	<0.5	<0.01	38	GOOD
2.	08.06.2018	6.7	11.1	31.8	11.2	<0.5	<0.5	0.41	32	GOOD
3.	13.06.2018	6.2	12.6	24.3	8.1	0.7	<0.5	0.38	24	GOOD
4.	15.06.2018	6.9	11.3	37.4	11.8	<0.5	<0.5	<0.01	37	GOOD
5.	20.06.2018	7.1	10.1	31.7	10.5	0.8	<0.5	0.45	32	GOOD
6.	22.06.2018	5.5	10.5	30.0	9.7	0.9	<0.5	<0.01	30	GOOD
7.	27.06.2018	7.1	12.3	33.6	10.8	<0.5	<0.5	0.39	34	GOOD
8.	29.06.2018	6.8	9.9	28.0	9.0	<0.5	<0.5	<0.01	28	GOOD
Limits^:-		80	80	100	60	180	1	4		

USGAO (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.07.2018	6.4	10.7	27.9	9.0	0.7	<0.5	0.45	28	GOOD
2.	06.07.2018	6.0	11.5	27.0	9.5	0.4	<0.5	<0.01	27	GOOD
3.	11.07.2018	7.1	10.0	29.3	9.3	0.3	<0.5	<0.01	29	GOOD
4.	13.07.2018	6.8	11.8	25.0	8.3	0.2	<0.5	<0.01	25	GOOD
5.	18.07.2018	6.0	9.1	31.1	10.1	0.3	<0.5	0.43	31	GOOD
6.	20.07.2018	5.7	11.0	28.4	9.4	0.6	<0.5	<0.01	28	GOOD
7.	25.07.2018	7.3	10.1	30.2	9.6	0.8	<0.5	0.55	30	GOOD
8.	27.07.2018	6.1	10.4	35.9	11.5	0.6	<0.5	0.61	36	GOOD
Limits^:-			80	100	60	180	1	4		

USGAO (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.08.2018	7.3	10.8	40.4	13.1	0.53	<0.5	0.65	40	GOOD
2.	08.08.2018	6.7	13.1	42.0	14.5	0.68	<0.5	0.68	42	GOOD
3.	10.08.2018	6.9	12.4	39.4	12.5	0.31	<0.5	0.61	39	GOOD
4.	14.08.2018	5.5	12.7	34.9	11.3	0.09	<0.5	<0.01	35	GOOD
5.	17.08.2018	5.3	11.5	32.0	10.4	0.85	<0.5	<0.01	32	GOOD
6.	22.08.2018	7.1	9.9	37.6	12.2	0.81	<0.5	0.67	38	GOOD
7.	24.08.2018	6.3	12.1	35.9	11.6	0.33	<0.5	0.55	36	GOOD
8.	29.08.2018	6.8	11.2	33.5	10.6	0.21	<0.5	<0.01	34	GOOD
9.	31.08.2018	7.6	10.8	37.2	11.9	0.59	<0.5	0.45	37	GOOD
Limits^:-		80	80	100	60	180	1	4		

USGAO (OCTOBER 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/ m3	Pb µg/m3	CO µg/ m3	AQI	AQI remarks
1.	22.10.2018	10.81	14.17	75.73	36.00	16.85	Not detected	0.08	102	MODERATE
2.	26.10.2018	11.06	14.46	76.52	34.58	16.44	Not detected	0.09	98	SATISFAC- TORY
3.	29.10.2018	10.60	14.48	87.19	36.05	18.23	Not detected	0.09	102	MODERATE
	Limits^:-	80	80	100	60	180	1	4		

USGAO (NOVEMBER 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/ m3	Pb µg/m3	CO µg/ m3	AQI	AQI remarks
1.	01.11.2018	11.71	17.32	73.99	30.37	17.50	Not detected	0.1	74	SATISFACTORY
2.	05.11.2018	11.24	15.59	81.03	26.83	16.95	Not detected	0.08	81	SATISFACTORY
3.	08.11.2018	12.37	16.24	73.55	25.78	17.84	Not detected	0.08	74	SATISFACTORY
4.	12.11.2018	11.27	15.93	74.11	23.20	19.33	Not detected	0.09	74	SATISFACTORY
5.	15.11.2018	11.49	16.26	69.65	36.53	18.24	Not detected	0.11	70	SATISFACTORY
6.	19.11.2018	12.08	15.33	68.95	23.79	17.55	Not detected	0.07	69	SATISFACTORY
7.	22.11.2018	11.36	16.54	81.13	27.53	16.20	Not detected	0.08	81	SATISFACTORY
8.	26.11.2018	11.18	15.67	109.41	50.82	15.81	Not detected	0.09	109	MODERATE
9.	29.11.2018	11.58	16.44	79.13	29.08	18.19	Not detected	0.09	79	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

USGAO (DECEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.12.2018	10.15	16.13	59.66	34.16	16.90	Not detected	0.08	60	SATISFACTORY
2.	06.12.2018	10.63	14.77	62.43	36.33	14.41	Not detected	0.09	62	SATISFACTORY
3.	10.12.2018	11.55	16.09	74.56	35.33	16.90	Not detected	0.08	75	SATISFACTORY
4.	13.12.2018	12.38	15.73	71.56	37.16	17.40	Not detected	0.10	71	SATISFACTORY
5.	17.12.2018	11.28	15.61	66.35	37.49	17.40	Not detected	0.09	68	SATISFACTORY
6.	20.12.2018	11.59	14.40	59.55	35.61	17.89	Not detected	0.08	60	SATISFACTORY
7.	24.12.2018	9.86	14.57	63.86	31.82	15.41	Not detected	0.09	64	SATISFACTORY
8.	27.12.2018	11.40	16.60	65.72	33.78	16.40	Not detected	0.09	66	SATISFACTORY
9.	31.12.2018	11.55	17.77	65.30	32.12	17.89	Not detected	0.10	65	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

USGAO (JANAURY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.01.2019	10.67	15.37	96.85	55.07	15.41	Not detected	0.09	97	SATISFACTORY
2.	07.01.2019	9.88	15.31	130.90	81.60	15.41	Not detected	0.10	172	MODERATE
3.	10.01.2019	11.15	15.65	152.39	98.94	15.91	Not detected	0.07	230	POOR
4.	14.01.2019	11.58	15.24	68.24	37.53	15.41	Not detected	0.08	68	SATISFACTORY
5.	17.01.2019	11.31	15.05	82.68	39.99	16.9	Not detected	0.09	83	SATISFACTORY
6.	21.01.2019	11.03	15.28	52.92	32.95	16.4	Not detected	0.08	55	SATISFACTORY
7.	24.01.2019	10.28	15.30	66.94	33.16	16.89	Not detected	0.09	67	SATISFACTORY
8.	28.01.2019	11.71	16.01	68.68	39.57	13.42	Not detected	0.08	69	SATISFACTORY
9.	31.01.2019	11.12	14.77	63.08	37.62	16.89	Not detected	0.09	63	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

USGAO (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.02.2019	10.72	15.01	105.52	49.91	15.41	Not detected	0.08	104	MODERATE
2.	07.02.2019	10.97	14.44	88.87	42.78	15.91	Not detected	0.08	89	SATISFACTORY
3.	11.02.2019	11.06	15.42	102.17	44.70	20.38	Not detected	0.077	101	MODERATE
4.	14.02.2019	11.22	15.68	108.91	41.61	16.9	Not detected	0.09	106	MODERATE
5.	18.02.2019	11.12	15.44	130.14	53.74	16.9	Not detected	0.076	120	MODERATE
6.	21.02.2019	11.16	14.42	99.74	47.07	15.91	Not detected	0.08	100	SATISFACTORY
7.	25.02.2019	11.10	13.88	92.27	47.91	23.86	Not detected	0.06	92	SATISFACTORY
8.	28.02.2019	11.15	15.79	96.48	42.82	18.89	Not detected	0.076	96	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

USGAO (MARCH 2019)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04/03/2019	10.20	14.38	77.26	49.15	13.92	Not Detected	0.06	82	Satisfactory
2.	07/03/2019	10.40	15.12	108.06	62.32	18.39	Not Detected	0.07	108	Moderate
3.	11/03/2019	10.75	14.75	90.29	55.61	13.42	Not Detected	0.08	93	Satisfactory
4.	14/03/2019	10.64	15.61	101.89	41.65	14.41	Not Detected	0.08	101	Moderate
5.	19/03/2019	10.66	15.95	82.65	52.57	15.91	Not Detected	0.08	88	Satisfactory
6.	22/03/2019	10.04	15.12	76.00	42.28	15.41	Not Detected	0.07	76	Satisfactory
7.	26/03/2019	10.55	14.84	74.12	29.83	14.41	Not Detected	0.08	74	Satisfactory
8.	29/03/2019	10.65	14.14	75.22	39.91	14.41	Not Detected	0.08	75	Satisfactory
Limits^:-		80	80	100	60	180	2	4		

TILAMOL (APRIL 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	02.04.2018	10.2	21.8	71.0	45.0	11.5	0.1	0.47	75	SATISFACTORY
2.	05.04.2018	11.4	16.1	82.2	48.7	12.2	0.2	0.51	82	SATISFACTORY
3.	09.04.2018	12.0	16.9	85.5	43.4	12.0	0.1	0.52	86	SATISFACTORY
4.	12.04.2018	11.4	18.5	79.4	45.0	14.2	0.2	0.47	79	SATISFACTORY
5.	16.04.2018	10.3	14.5	66.1	43.9	12.8	ND	0.52	73	SATISFACTORY
6.	19.04.2018	9.2	14.9	75.4	40.6	8.7	ND	0.49	75	SATISFACTORY
7.	23.04.2018	10.6	14.6	76.4	45.7	15.0	0.1	0.53	76	SATISFACTORY
8.	26.04.2018	10.0	15.8	64.2	41.0	13.1	ND	0.50	68	SATISFACTORY
9.	30.04.2018	9.6	13.1	70.1	38.9	13.9	ND	0.55	70	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

TILAMOL (MAY 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.05.2018	8.5	16.5	78.8	48.5	8.28	0.2	0.48	81	SATISFACTORY
2.	07.05.2018	10.0	14.2	67.6	49.7	13.27	0.2	0.52	83	SATISFACTORY
3.	10.05.2018	10.3	14.6	56.7	40.2	8.92	0.1	0.49	67	SATISFACTORY
4.	14.05.2018	9.0	13.9	61.4	43.7	13.86	0.1	0.51	73	SATISFACTORY
5.	17.05.2018	11.0	14.8	63.6	40.4	6.28	ND	0.50	67	SATISFACTORY
6.	21.05.2018	9.1	14.6	72.7	49.0	14.09	0.2	0.48	82	SATISFACTORY
7.	24.05.2018	11.2	14.9	71.6	39.5	13.56	0.2	0.52	72	SATISFACTORY
8.	28.05.2018	9.2	14.1	64.5	33.2	11.80	ND	0.53	65	SATISFACTORY
9.	31.05.2018	10.0	14.0	63.0	32.8	12.98	0.1	0.49	63	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

TILAMOL (JUNE 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.06.2018	7.3	12.8	61.8	31.6	BDL	ND	0.42	62	SATISFACTORY
2.	07.06.2018	8.6	12.3	58.6	34.2	BDL	ND	0.43	59	SATISFACTORY
3.	11.06.2018	8.1	12.1	32.1	17.9	BDL	ND	0.37	32	GOOD
4.	14.06.2018	7.3	13.2	29.7	14.6	BDL	ND	0.39	30	GOOD
5.	18.06.2018	7.7	10.5	24.8	12.3	BDL	ND	0.36	25	GOOD
6.	21.06.2018	7.4	11.6	25.7	14.2	BDL	ND	0.33	26	GOOD
7.	25.06.2018	6.7	10.8	25.8	16.6	BDL	ND	0.37	26	GOOD
8.	28.06.2018	7.1	11.3	32.9	18.7	BDL	ND	0.36	33	GOOD
Limits [^] :-		80	80	100	60	180	1	4		

TILAMOL (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.07.2018	6.9	12.2	33.9	15.4	BDL	ND	0.36	34	GOOD
2.	05.07.2018	7.5	11.7	32.4	12.5	6.1	ND	0.37	32	GOOD
3.	09.07.2018	5.8	11.9	32.9	15.0	7.9	ND	0.36	33	GOOD
4.	12.07.2018	6.6	12.0	35.7	18.7	BDL	ND	0.38	36	GOOD
5.	16.07.2018	7.4	9.9	30.8	16.6	BDL	0.10	0.36	31	GOOD
6.	19.07.2018	6.9	10.9	35.1	15.4	6.1	ND	0.33	35	GOOD
7.	23.07.2018	5.9	12.9	34.0	18.6	5.4	0.10	0.37	36	GOOD
8.	26.07.2018	6.7	13.3	36.4	22.1	9.4	ND	0.44	37	GOOD
9.	30.07.2018	8.1	14.8	40.5	25.4	7.7	ND	0.43	42	GOOD
Limits [^] :-		80	80	100	60	180	1	4		

TILAMOL (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.08.2018	9.2	11.6	41.3	30.0	10.07	0.1	0.37	50	GOOD
2.	06.08.2018	9.7	12.7	48.7	35.0	11.76	ND	0.41	54	SATISFACTORY
3.	09.08.2018	9.8	12.5	42.7	26.2	12.58	0.1	0.36	43	GOOD
4.	13.08.2018	8.2	14.9	57.0	35.0	10.41	0.1	0.38	57	SATISFACTORY
5.	16.08.2018	8.1	12.8	58.4	31.2	10.99	0.1	0.40	58	SATISFACTORY
6.	20.08.2018	9.3	12.5	55.3	33.7	8.34	ND	0.39	55	SATISFACTORY
7.	23.08.2018	8.6	12.0	52.1	38.7	14.34	0.1	0.43	59	SATISFACTORY
8.	27.08.2018	9.5	13.8	59.0	32.8	13.93	0.1	0.41	59	SATISFACTORY
9.	30.08.2018	8.0	12.8	57.0	37.5	13.30	ND	0.43	57	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

TILAMOL (OTOBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	22.10.2018	12.07	15.66	75.73	35.99	18.75	Not de- tected	0.13	102	MODERATE
2.	26.10.2018	12.25	15.65	79.50	34.33	18.90	Not de- tected	0.14	98	SATISFACTORY
3.	29.10.2018	11.28	15.14	80.36	35.17	17.26	Not de- tected	0.14	99	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

TILAMOL (NOVEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.11.2018	11.10	16.85	75.80	33.28	17.20	Not detected	0.10	76	SATISFACTORY
2.	05.11.2018	11.62	17.50	49.63	31.53	15.95	Not detected	0.09	53	SATISFACTORY
3.	08.11.2018	12.38	17.45	87.21	30.41	17.00	Not detected	0.09	87	SATISFACTORY
4.	12.11.2018	12.04	17.43	60.60	30.66	17.69	Not detected	0.07	61	SATISFACTORY
5.	15.11.2018	12.23	16.75	76.39	25.54	18.09	Not detected	0.09	76	SATISFACTORY
6.	19.11.2018	12.08	17.75	56.54	16.71	18.44	Not detected	0.07	57	SATISFACTORY
7.	22.11.2018	11.31	16.60	54.96	22.00	17.10	Not detected	0.10	55	SATISFACTORY
8.	26.11.2018	11.83	17.23	82.97	21.62	17.30	Not detected	0.10	83	SATISFACTORY
9.	29.11.2018	11.96	16.62	58.03	22.87	18.19	Not detected	0.09	58	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

TILAMOL (DECEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.12.2018	9.89	16.53	73.29	37.66	16.40	Not detected	0.08	73	SATISFACTORY
2.	06.12.2018	10.80	14.11	61.24	38.95	17.40	Not detected	0.10	65	SATISFACTORY
3.	10.12.2018	9.97	14.51	70.54	41.53	15.41	Not detected	0.07	71	SATISFACTORY
4.	13.12.2018	9.99	16.26	70.70	30.41	14.91	Not detected	0.10	71	SATISFACTORY
5.	17.12.2018	10.79	15.27	66.23	39.99	17.89	Not detected	0.09	67	SATISFACTORY
6.	20.12.2018	10.88	16.17	68.45	38.53	15.41	Not detected	0.09	58	SATISFACTORY
7.	24.12.2018	9.48	14.36	84.53	46.24	14.91	Not detected	0.08	85	SATISFACTORY
8.	27.12.2018	9.81	15.50	70.81	41.32	14.41	Not detected	0.09	70	SATISFACTORY
9.	31.12.2018	10.82	15.79	60.67	32.79	17.89	Not detected	0.10	71	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

TILAMOL (JANUARY 2019)									
Sr. No.	Sampling Date	SO ₂ µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.01.2019	11.49	88.89	47.03	15.41	Not detected	0.09	89	SATISFACTORY
2.	07.01.2019	12.20	131.99	64.78	17.89	Not detected	0.09	121	MODERATE
3.	10.01.2019	11.32	139.35	90.02	16.90	Not detected	0.08	200	POOR
4.	14.01.2019	10.48	109.76	70.48	15.91	Not detected	0.10	135	MODERATE
5.	17.01.2019	12.43	108.10	63.36	16.90	Not detected	0.09	111	MODERATE
6.	21.01.2019	11.53	91.40	49.74	15.91	Not detected	0.08	91	SATISFACTORY
7.	24.01.2019	10.28	113.91	69.86	15.41	Not detected	0.09	133	MODERATE
8.	28.01.2019	12.54	131.64	75.23	15.41	Not detected	0.09	151	MODERATE
9.	31.01.2019	11.03	110.61	77.23	17.40	Not detected	0.09	157	MODERATE
Limits For 24hrs:-		80	100	60	180	1	4		

TILAMOL (FEBRUARY 2019)									
Sr. No.	Sampling Date	SO ₂ µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.02.2019	10.79	109.05	153.00	17.94	Not detected	0.085	153	MODERATE
2.	07.02.2019	10.70	119.68	155.00	17.40	Not detected	0.091	155	MODERATE
3.	11.02.2019	9.97	101.08	118.00	17.40	Not detected	0.081	118	MODERATE
4.	14.02.2019	10.63	102.84	142.00	16.50	Not detected	0.09	142	MODERATE
5.	18.02.2019	10.69	94.84	144.00	17.50	Not detected	0.089	144	MODERATE
6.	21.02.2019	10.65	83.53	152.00	16.90	Not detected	0.078	152	MODERATE
7.	25.02.2019	11.27	91.09	153.00	14.41	Not detected	0.09	153	MODERATE
8.	28.02.2019	10.76	73.82	122.00	16.90	Not detected	0.09	122	MODERATE
Limits For 24hrs:-		80	100	60	180	1	4		

TILAMOL (MARCH 2019)								
Sr. No.	Sampling Date	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04/03/2019	76.48	40.0	12.92	Not Detected	0.08	76	Satisfactory
2.	07/03/2019	120.51	51.4	17.39	Not Detected	0.07	114	Moderate
3.	11/03/2019	99.03	47.5	11.93	Not Detected	0.08	99	Satisfactory
4.	14/03/2019	118.66	52.1	15.41	Not Detected	0.09	112	Moderate
5.	20/03/2019	100.57	50.6	11.93	Not Detected	0.07	100	Satisfactory
6.	23/03/2019	109.29	60.8	13.97	Not Detected	0.07	106	Moderate
7.	27/03/2019	88.25	41.2	16.9	Not Detected	0.07	88	Satisfactory
8.	30/03/2019	89.21	47.5	11.43	Not Detected	0.08	89	Satisfactory
Limits^:-		100	60	180	1	4		

BICHOLIM (MARCH 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.03.2018	8.0	13.2	121.6	38.7	<0.5	<0.5	0.9	114	MODERATELY POLLUTED
2.	07.03.2018	6.5	12.5	119.3	39.9	0.7	<0.5	<0.01	113	MODERATELY POLLUTED
3.	09.03.2018	7.7	12.2	120.6	39.2	<0.5	<0.5	0.8	114	MODERATELY POLLUTED
4.	14.03.2018	6.4	15.9	92.1	30.1	<0.5	<0.5	0.7	92	SATISFACTORY
5.	16.03.2018	8.1	11.2	75.6	24.6	0.7	<0.5	<0.01	76	SATISFACTORY
6.	21.03.2018	8.4	14.0	76.3	25.5	<0.5	<0.5	0.8	76	SATISFACTORY
7.	23.03.2018	5.9	14.1	84.8	28.0	0.9	<0.5	<0.01	85	SATISFACTORY
8.	26.03.2018	7.5	14.1	69.0	22.3	0.8	<0.5	0.6	69	SATISFACTORY
9	28.03.2018	7.1	12.7	68.3	22.6	<0.5	<0.5	<0.01	68	SATISFACTORY
Limits^:-		80.00	80	100	60	180	1	4		

BICHOLIM (APRIL 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.04.2018	6.6	12.2	69.3	22.6	1.5	<0.5	<0.01	69	SATISFACTORY
2.	06.04.2018	7.6	14.9	67.0	21.9	<0.5	<0.5	0.9	67	SATISFACTORY
3.	11.04.2018	8.8	13.3	70.3	22.2	<0.5	<0.5	<0.01	70	SATISFACTORY
4.	13.04.2018	8.2	14.3	72.3	23.9	1.2	<0.5	0.9	72	SATISFACTORY
5.	18.04.2018	9.2	11.4	84.8	27.5	<0.5	<0.5	0.5	85	SATISFACTORY
6.	20.04.2018	8.7	11.3	86.7	29.3	0.8	<0.5	<0.01	87	SATISFACTORY
7.	25.04.2018	9.1	13.6	57.9	25.0	1.2	<0.5	0.9	58	SATISFACTORY
8.	27.04.2018	7.2	14.0	75.5	24.7	<0.5	<0.5	<0.01	76	SATISFACTORY
Limits^:-		80.00	80	100	60	180	1	4		

BICHOLIM (MAY 2018)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.05.2018	8.2	15	62.2	21.1	<0.5	<0.5	<0.01	62	SATISFACTORY
2.	05.05.2018	8.4	14.3	42.5	14	1.1	<0.5	0.88	44	Good
3.	09.05.2018	7.9	12.9	48.5	15.6	<0.5	<0.5	<0.01	48	Good
4.	11.05.2018	9.2	13.4	31.8	10.7	1.1	<0.5	0.65	33	Good
5.	16.05.2018	9.1	11	47.3	15.2	<0.5	<0.5	<0.01	47	Good
6.	18.05.2018	8.8	14.9	45.2	14.5	0.9	<0.5	0.78	45	Good
7.	23.05.2018	9.4	15.5	65.9	20.9	<0.5	<0.5	<0.01	66	SATISFACTORY
8.	25.05.2018	10.9	14	55	16.6	1	<0.5	0.98	52	SATISFACTORY
9.	30.05.2018	7.8	15	51.7	15.4	<0.5	<0.5	0.68	52	SATISFACTORY
Limits^:-		80.00	80	100	60	180	1	4		

BICHOLIM (JUNE 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	06.06.2018	4.7	9.4	36.0	12.3	<0.5	<0.5	<0.01	36	Good
2.	08.06.2018	5.5	11.1	33.4	11.1	0.9	<0.5	0.49	33	Good
3.	13.06.2018	5.7	10.3	35.6	11.4	0.7	<0.5	0.31	36	Good
4.	15.06.2018	6.3	10.8	43.0	14.2	1.0	<0.5	<0.01	43	Good
5.	20.06.2018	6.6	10.4	41.2	13.7	<0.5	<0.5	0.41	41	Good
6.	22.06.2018	6.2	9.9	39.1	13.0	0.75	<0.5	<0.01	39	Good
7.	27.06.2018	6.1	12.1	32.0	10.9	0.8	<0.5	0.44	32	Good
8.	29.06.2018	5.3	10.0	33.9	11.0	<0.5	<0.5	<0.01	34	Good
Limits^:-		80.00	80	100	60	180	1	4		

BICHOLIM (JULY 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.07.2018	6.2	10.7	29.7	9.9	0.9	<0.5	<0.01	30	Good
2.	06.07.2018	5.5	11.3	19.7	6.6	0.2	<0.5	<0.01	20	Good
3.	11.07.2018	7.0	12.2	22.8	7.2	0.1	<0.5	<0.01	23	Good
4.	13.07.2018	7.1	11.5	32.7	10.8	0.6	<0.5	0.3	33	Good
5.	18.07.2018	6.4	12.0	33.2	11.0	0.2	<0.5	0.43	33	Good
6.	20.07.2018	6.7	12.3	34.9	11.5	0.4	<0.5	0.6	35	Good
7.	25.07.2018	6.5	10.4	31.0	10.0	0.7	<0.5	0.55	31	Good
8.	27.07.2018	6.8	11.1	30.9	10.3	0.7	<0.5	0.52	31	Good
Limits^:-		80.00	80	100	60	180	1	4		

BICHOLIM (AUGUST 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/ m3	Pb µg/ m3	CO µg/ m3	AQI	AQI remarks
1.	03.08.2018	6.1	9.4	41.9	13.8	0.63	<0.5	<0.01	42	GOOD
2.	08.08.2018	7.1	12.8	43.0	14.3	0.74	<0.5	0.60	43	GOOD
3.	10.08.2018	6.0	11.0	40.2	12.6	0.63	<0.5	0.52	40	GOOD
4.	14.08.2018	6.9	10.9	32.9	11.1	0.30	<0.5	<0.01	33	GOOD
5.	17.08.2018	8.4	12.1	34.4	10.8	0.15	<0.5	0.47	34	GOOD
6.	22.08.2018	7.0	11.0	38.4	12.8	0.80	<0.5	<0.01	38	GOOD
7.	24.08.2018	7.6	11.2	34.7	11.4	0.55	<0.5	0.55	35	GOOD
8.	29.08.2018	7.5	11.4	33.3	10.7	0.34	<0.5	<0.01	33	GOOD
9.	31.08.2018	6.4	10.4	35.4	11.7	0.67	<0.5	0.6	35	GOOD
Limits^:-		80.00	80	100	60	180	1	4		

BICHOLIM (NOVEMBER 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/ m3	Pb µg/ m3	CO µg/ m3	AQI	AQI remarks
1.	27.11.2018	12.47	15.02	76.03	30.64	17.10	Not de- tected	0.09	76	SATISFACTORY
2.	30.11.2018	13.27	15.69	81.86	33.44	14.86	Not de- tected	0.08	82	SATISFACTORY
Limits for 24hrs:-		80.00	80	100	60	180	1	4		

BICHOLIM (DECEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.12.2018	11.40	11.40	75.00	43.57	17.89	Not detected	0.08	75	SATISFACTORY
2.	06.12.2018	11.10	15.33	54.55	37.49	16.90	Not detected	0.08	62	SATISFACTORY
3.	10.12.2018	11.28	16.42	72.14	40.16	17.40	Not detected	0.07	72	SATISFACTORY
4.	13.12.2018	12.87	16.23	80.90	36.53	14.41	Not detected	0.10	81	SATISFACTORY
5.	17.12.2018	11.43	17.70	88.03	32.24	17.89	Not detected	0.09	88	SATISFACTORY
6.	20.12.2018	12.08	16.58	69.25	31.04	15.41	Not detected	0.09	89	SATISFACTORY
7.	24.12.2018	11.87	17.23	75.82	29.99	16.40	Not detected	0.09	76	SATISFACTORY
8.	27.12.2018	10.73	15.07	81.72	29.33	19.38	Not detected	0.08	82	SATISFACTORY
9.	31.12.2018	10.68	16.43	80.62	35.45	15.41	Not detected	0.08	81	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

BICHOLIM (JANUARY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.01.2019	11.43	17.33	67.36	40.03	15.91	Not detected	0.09	67	SATISFACTORY
2.	07.01.2019	11.16	15.70	75.60	48.99	14.41	Not detected	0.09	82	SATISFACTORY
3.	10.01.2019	11.41	13.64	79.65	35.20	13.92	Not detected	0.09	80	SATISFACTORY
4.	14.01.2019	11.12	13.49	86.69	43.03	16.40	Not detected	0.10	87	SATISFACTORY
5.	17.01.2019	10.94	14.38	91.95	57.91	17.89	Not detected	0.09	97	SATISFACTORY
6.	21.01.2019	11.16	15.57	76.76	39.66	15.41	Not detected	0.09	77	SATISFACTORY
7.	24.01.2019	11.50	15.55	83.62	40.49	13.92	Not detected	0.08	84	SATISFACTORY
8.	28.01.2019	11.15	14.69	83.02	32.78	14.41	Not detected	0.08	83	SATISFACTORY
9.	31.01.2019	11.34	14.71	85.24	48.53	15.91	Not detected	0.09	85	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

BICHOLIM (FEBRUARY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.02.2019	11.37	16.12	91.56	52.65	14.41	Not detected	0.08	92	SATISFACTORY
2.	07.02.2019	11.28	15.17	138.88	46.57	16.40	Not detected	0.08	126	MODERATE
3.	11.02.2019	11.33	14.13	116.24	54.65	14.41	Not detected	0.08	111	MODERATE
4.	14.02.2019	10.71	14.16	103.88	60.99	16.90	Not detected	0.09	103	MODERATE
5.	18.02.2019	10.70	13.62	94.33	48.20	13.42	Not detected	0.09	94	SATISFACTORY
6.	21.02.2019	10.85	15.86	114.10	57.07	16.40	Not detected	0.09	109	MODERATE
7.	25.02.2019	11.40	14.35	105.54	55.44	14.41	Not detected	0.08	104	MODERATE
8.	28.02.2019	11.34	14.86	111.32	56.19	14.61	Not detected	0.08	108	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

BICHOLIM (MARCH 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04/03/2019	10.51	14.21	80.02	43.99	14.81	Not Detected	0.07	80	Satisfactory
2.	07/03/2019	10.49	14.18	115.80	59.86	19.38	Not Detected	0.07	111	Moderate
3.	11/03/2019	10.78	14.07	86.45	39.57	15.41	Not Detected	0.07	86	Satisfactory
4.	14/03/2019	10.69	14.48	147.35	55.36	12.43	Not Detected	0.08	132	Moderate
5.	18/03/2019	10.54	14.92	123.13	62.07	16.4	Not Detected	0.08	115	Moderate
6.	23/03/2019	10.64	13.70	106.32	62.53	11.93	Not Detected	0.08	108	Moderate
7.	25/03/2019	10.51	14.06	84.65	43.28	14.91	Not Detected	0.06	85	Satisfactory
8.	28/03/2019	9.97	14.52	125.50	54.36	11.93	Not Detected	0.07	117	Moderate
	Limits^:-	80	80	100	60	180	1	4		

PONDA (APRIL 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.04.2018	6.8	13.6	105.1	32.9	1.1	<0.5	<0.01	103	Moderate
2.	06.04.2018	9.5	11.0	96.0	29.8	<0.5	<0.5	<0.01	96	Satisfactory
3.	10.04.2018	8.4	13.4	177.0	54.5	0.9	<0.5	0.88	151	Moderate
4.	12.04.2018	9.8	12.1	183.6	58.8	<0.5	<0.5	0.91	156	Moderate
5.	17.04.2018	8.2	15.2	158.1	50.1	1.1	<0.5	0.88	139	Moderate
6.	19.04.2018	8.9	11.6	143.9	43.7	<0.5	<0.5	0.89	129	Moderate
7.	24.04.2018	8.0	13.0	141.3	45.0	1.3	<0.5	0.78	128	Moderate
8.	26.04.2018	7.2	13.5	159.7	51.0	<0.5	<0.5	<0.01	140	Moderate
Limits^:-		80	80	100	60	180	1	4		

PONDA (MAY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.05.2018	8.2	16.1	59.7	19.5	1.3	<0.5	<0.01	60	SATISFACTORY
2.	04.05.2018	7.9	16.3	88.2	28.4	<0.5	<0.5	0.78	88	SATISFACTORY
3.	08.05.2018	8.5	13.5	71.6	22.1	1.4	<0.5	0.64	72	SATISFACTORY
4.	10.05.2018	7.4	14.9	65.2	20.6	<0.5	<0.5	<0.01	65	SATISFACTORY
5.	15.05.2018	7.5	11.9	44.3	14.4	1	<0.5	<0.01	44	GOOD
6.	17.05.2018	7.8	14.3	67	21.2	0.9	<0.5	0.78	67	SATISFACTORY
7.	22.05.2018	8.9	12.3	77.1	23.8	<0.5	<0.5	0.78	77	SATISFACTORY
8.	24.05.2018	9	14.2	79.3	25	1.1	<0.5	0.78	79	SATISFACTORY
9.	29.05.2018	9.7	14.8	73.6	23.3	<0.5	<0.5	<0.01	74	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

PONDA (JUNE 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	05.06.2018	5.5	9.9	38.9	12.6	1.1	<0.5	<0.01	39	GOOD
2.	07.06.2018	6.4	9.8	40.1	12.8	<0.5	<0.5	0.41	40	GOOD
3.	12.06.2018	5.1	11.7	32.9	10.9	<0.5	<0.5	0.55	33	GOOD
4.	14.06.2018	6.5	11.3	31.4	10.0	1.4	<0.5	0.38	31	GOOD
5.	19.06.2018	5.3	9.6	31.8	10.5	<0.5	<0.5	0.41	32	GOOD
6.	21.06.2018	6.9	9.3	35.7	10.9	<0.5	<0.5	<0.01	36	GOOD
7.	26.01.2018	4.7	9.4	37.8	12.2	1.3	<0.5	0.45	38	GOOD
8.	28.06.2018	5.7	10.2	23.5	8.1	1	<0.5	<0.01	24	GOOD
Limits^:-		80	80	100	60	180	1	4		

PONDA (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.07.2018	7.1	10.9	29.8	9.7	1.1	<0.5	0.45	30	GOOD
2.	05.07.2018	5.2	9.5	19.5	6.3	0.3	<0.5	<0.01	20	GOOD
3.	10.07.2018	6.1	11.8	25.8	8.2	0.2	<0.5	<0.01	26	GOOD
4.	12.07.2018	7.1	11.7	26.0	8.4	0.2	<0.5	0.45	26	GOOD
5.	17.07.2018	6.2	10.4	30.4	9.8	0.3	<0.5	<0.01	30	GOOD
6.	19.07.2018	6.9	10.8	35.0	10.8	0.9	<0.5	0.6	35	GOOD
7.	24.07.2018	7.6	11.0	31.5	10.1	0.6	<0.5	0.58	32	GOOD
8.	26.07.2018	6.8	12.0	33.2	11.0	0.8	<0.5	0.62	33	GOOD
Limits^:-		80	80	100	60	180	1	4		

PONDA (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.08.2018	7.4	11.2	39.2	12.1	0.91	<0.5	<0.01	39	GOOD
2.	07.08.2018	8.9	13.1	43.5	13.6	10.2	<0.5	0.68	44	GOOD
3.	09.08.2018	8.8	13.8	37.5	11.8	0.4	<0.5	0.61	38	GOOD
4.	13.08.2018	8.1	14.1	30.8	9.9	0.25	<0.5	<0.01	31	GOOD
5.	16.08.2018	7.7	14.0	33.0	10.7	0.98	<0.5	<0.01	33	GOOD
6.	21.08.2018	8.3	12.9	38.3	12.0	0.76	<0.5	0.45	38	GOOD
7.	23.08.2018	7.0	9.5	34.7	11.4	0.87	<0.5	0.6	35	GOOD
8.	28.08.2018	7.3	11.0	32.9	10.3	-	<0.5	<0.01	33	GOOD
9.	30.08.2018	7.6	11.8	40.4	12.7	1.01	<0.5	0.58	40	GOOD
Limits^:-		80	80	100	60	180	1	4		

PONDA (NOVEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	26.11.2018	10.86	13.20	68.31	28.61	15.56	Not detected	0.09	66	SATISFACTORY
2.	29.11.2018	11.21	13.52	68.96	30.77	17.89	Not detected	0.10	69	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

PONDA (DECEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.12.2018	10.48	15.81	68.96	34.45	15.41	Not detected	0.09	60	SATISFACTORY
2.	06.12.2018	11.41	15.94	64.77	33.45	17.40	Not detected	0.10	62	SATISFACTORY
3.	10.12.2018	10.04	15.83	59.56	34.45	17.40	Not detected	0.08	75	SATISFACTORY
4.	13.12.2018	9.78	15.84	81.58	40.45	15.91	Not detected	0.10	71	SATISFACTORY
5.	17.12.2018	10.28	14.53	70.27	40.24	17.40	Not detected	0.09	66	SATISFACTORY
6.	20.12.2018	10.00	15.34	63.37	36.20	16.40	Not detected	0.09	60	SATISFACTORY
7.	24.12.2018	11.16	14.57	61.54	34.41	15.41	Not detected	0.09	64	SATISFACTORY
8.	27.12.2018	9.88	17.36	71.16	41.45	15.91	Not detected	0.08	66	SATISFACTORY
9.	31.12.2018	10.28	14.42	75.59	41.66	17.89	Not detected	0.10	65	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

PONDA (JANUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.01.2019	10.65	16.12	84.03	46.74	17.89	Not detected	0.09	84	SATISFACTORY
2.	07.01.2019	10.83	15.55	83.06	53.86	16.90	Not detected	0.09	90	SATISFACTORY
3.	10.01.2019	10.82	15.07	94.47	65.19	15.41	Not detected	0.08	117	MODERATE
4.	14.01.2019	10.88	14.56	92.16	56.69	15.91	Not detected	0.10	94	SATISFACTORY
5.	17.01.2019	11.15	15.04	94.64	65.98	16.40	Not detected	0.09	120	MODERATE
6.	21.01.2019	10.89	15.68	88.25	63.78	16.40	Not detected	0.08	113	MODERATE
7.	24.01.2019	11.34	15.41	92.09	65.07	13.92	Not detected	0.09	117	MODERATE
8.	28.01.2019	11.70	15.25	85.04	63.52	13.92	Not detected	0.08	112	MODERATE
9.	31.01.2019	10.63	15.90	92.47	73.19	16.90	Not detected	0.09	114	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

PONDA (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.02.2019	10.39	14.43	119.64	54.61	16.40	Not detected	0.09	113	MODERATE
2.	07.02.2019	10.72	13.82	91.14	42.90	17.00	Not detected	0.09	91	SATISFACTORY
3.	11.02.2019	10.61	14.37	109.91	59.94	15.41	Not detected	0.08	107	MODERATE
4.	14.02.2019	10.91	14.16	117.38	63.65	14.41	Not detected	0.08	112	MODERATE
5.	18.02.2019	10.57	14.32	123.30	47.49	15.41	Not detected	0.09	116	MODERATE
6.	21.02.2019	10.55	13.41	127.45	58.23	17.50	Not detected	0.08	118	MODERATE
7.	25.02.2019	10.63	14.18	90.93	52.61	14.41	Not detected	0.08	91	SATISFACTORY
8.	28.02.2019	10.65	13.67	111.51	68.74	17.89	Not detected	0.09	129	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

PONDA (MARCH 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02/03/2019	10.10	14.20	123.0	47.91	10.93	Not Detected	0.08	115	Moderate
2.	04/03/2019	10.30	14.58	146.1	84.98	16.9	Not Detected	0.08	183	Moderate
3.	09/03/2019	9.94	14.88	129.2	51.66	15.61	Not Detected	0.08	119	Moderate
4.	12/03/2019	10.55	15.35	86.3	48.66	13.92	Not Detected	0.08	86	Satisfactory
5.	16/03/2019	10.51	15.36	129.5	55.82	16.9	Not Detected	0.08	120	Moderate
6.	19/03/2019	10.26	14.50	117.8	49.91	11.03	Not Detected	0.07	112	Moderate
7.	23/03/2019	10.48	14.38	97.6	59.99	18.39	Not Detected	0.07	100	Moderate
8.	26/03/2019	10.28	14.43	91.5	37.07	17.89	Not Detected	0.08	91	Satisfactory
9.	30/03/2019	10.22	14.69	79.6	38.7	13.92	Not Detected	0.07	80	Satisfactory
Limits^:-		80	80	100	60	180	1	4		

CUNCOLIM (MARCH 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.03.2018	9.9	14.3	84.3	49.1	9.5	0.1	0.5	84	SATISFACTORY
2.	05.03.2018	9.7	13.6	87.5	45.8	11.1	0.1	0.6	88	SATISFACTORY
3.	08.03.2018	10.6	12.6	86.4	42.3	9.0	0.2	0.5	86	SATISFACTORY
4.	12.03.2018	13.0	14.9	76.3	40.2	9.3	ND	0.6	76	SATISFACTORY
5.	15.03.2018	10.9	13.9	72.9	46.2	10.7	0.2	0.6	77	SATISFACTORY
6.	19.03.2018	14.0	15.2	70.8	51.7	12.6	0.1	0.5	86	SATISFACTORY
7.	22.03.2018	9.2	14.4	73.8	47.2	11.7	0.1	0.6	79	SATISFACTORY
8.	26.03.2018	9.9	13.8	75.8	43.5	10.7	ND	0.5	76	SATISFACTORY
9.	29.03.2018	10.6	12.9	71.4	41.4	12.4	0.2	0.5	71	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

CUNCOLIM (APRIL 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.04.2018	10.2	20.4	75.8	45.7	9.5	0.2	0.48	76	SATISFACTORY
2.	05.04.2018	13.4	16.4	78.2	41.7	7.1	0.1	0.53	78	SATISFACTORY
3.	09.04.2018	11.3	17.8	75.4	43.0	8.2	0.1	0.52	75	SATISFACTORY
4.	12.04.2018	11.8	17.3	71.1	38.1	8.2	0.1	0.60	71	SATISFACTORY
5.	16.04.2018	9.9	18.2	68.1	36.5	8.9	ND	0.56	68	SATISFACTORY
6.	19.04.2018	11.4	17.5	75.0	41.4	10.9	ND	0.57	75	SATISFACTORY
7.	23.04.2018	9.9	16.8	76.6	46.7	11.3	0.1	0.58	78	SATISFACTORY
8.	26.04.2018	10.2	17.1	79.6	42.3	14.5	0.1	0.52	80	SATISFACTORY
9.	30.04.2018	12.0	17.1	76.7	43.9	11.0	ND	0.55	77	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

CUNCOLIM (MAY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.05.2018	9.1	12.5	76.8	47.7	10.8	0.2	0.52	80	SATISFACTORY
2.	07.05.2018	9.5	13.1	87.2	44.8	12.0	0.2	0.51	87	SATISFACTORY
3.	10.05.2018	9.4	13.1	75.0	45.8	12.1	0.1	0.55	76	SATISFACTORY
4.	14.05.2018	7.9	11.8	69.3	37.5	12.2	0.1	0.53	69	SATISFACTORY
5.	17.05.2018	9.9	12.5	74.0	42.2	11.8	0.1	0.51	74	SATISFACTORY
6.	21.05.2018	9.5	13.6	73.8	48.2	12.8	0.2	0.50	80	SATISFACTORY
7.	24.05.2018	8.9	12.9	74.9	44.8	10.8	0.2	0.51	75	SATISFACTORY
8.	28.05.2018	8.6	14.4	73.4	47.2	10.2	ND	0.54	79	SATISFACTORY
9.	31.05.2018	8.4	13.3	82.9	45.3	13.2	0.1	0.46	83	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

CUNCOLIM (JUNE 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.06.2018	8.0	13.6	65.5	30.4	BDL	0.1	0.50	66	SATISFACTORY
2.	07.06.2018	8.5	11.6	70.7	32.9	BDL	ND	0.49	71	SATISFACTORY
3.	11.06.2018	10.1	14.1	50.3	22.9	BDL	ND	0.41	50	SATISFACTORY
4.	14.06.2018	9.7	13.8	56.5	26.2	0.10	ND	0.40	57	SATISFACTORY
5.	18.06.2018	7.6	14.2	56.0	29.6	0.10	ND	0.39	56	SATISFACTORY
6.	21.06.2018	8.5	12.1	57.6	25.4	0.10	0.1	0.40	58	SATISFACTORY
7.	25.06.2018	8.3	12.4	46.8	24.6	BDL	ND	0.41	47	GOOD
8.	28.06.2018	7.4	10.9	45.7	18.7	BDL	ND	0.39	46	GOOD
Limits^:-		80	80	100	60	180	1	4		

CUNCOLIM (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.07.2018	6.5	13.1	47.9	18.9	BDL	0.1	0.45	48	GOOD
2.	05.07.2018	7.1	10.6	42.1	13.9	BDL	0.1	0.41	42	GOOD
3.	09.07.2018	6.6	12.8	39.6	20.0	5.11	ND	0.40	40	GOOD
4.	12.07.2018	9.1	12.8	37.7	20.9	BDL	ND	0.39	38	GOOD
5.	16.07.2018	6.8	13.5	34.8	20.7	6.77	ND	0.37	35	GOOD
6.	19.07.2018	8.3	12.7	49.9	15.9	6.33	0.2	0.39	50	GOOD
7.	23.07.2018	7.1	12.5	61.1	22.2	6.07	0.2	0.47	61	SATISFACTORY
8.	26.07.2018	7.2	10.7	45.7	18.7	5.81	ND	0.41	46	GOOD
9.	30.07.2018	8.5	14.1	46.7	25.4	6.03	ND	0.40	47	GOOD
Limits^:-		80	80	100	60	180	1	4		

CUNCOLIM (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.08.2018	10.0	12.8	59.6	38.7	8.25	0.2	0.43	65	SATISFACTORY
2.	06.08.2018	8.2	11.9	66.0	41.9	8.79	0.1	0.49	70	SATISFACTORY
3.	09.08.2018	9.0	11.6	49.8	34.6	7.85	ND	0.47	58	SATISFACTORY
4.	13.08.2018	9.4	13.6	38.0	23.5	7.62	0.1	0.53	39	GOOD
5.	16.08.2018	8.2	12.8	45.5	28.7	8.12	ND	0.50	48	GOOD
6.	20.08.2018	7.8	11.9	48.7	27.9	7.40	0.1	0.43	49	GOOD
7.	23.08.2018	7.7	12.9	64.8	32.1	9.46	0.2	0.41	65	SATISFACTORY
8.	27.08.2018	8.0	13.5	66.1	33.7	10.81	0.1	0.43	66	SATISFACTORY
9.	30.08.2018	9.1	14.9	60.0	26.6	9.42	ND	0.45	60	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

CUNCOLIM (NOVEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	26.11.2018	11.58	13.85	71.67	33.67	20.43	Not detected	0.09	72	SATISFACTORY
2.	29.11.2018	11.45	16.57	90.37	37.02	19.29	Not detected	0.10	90	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

CUNCOLIM (DECEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.12.2018	11.92	17.20	66.61	39.45	16.90	Not detected	0.08	67	SATISFACTORY
2.	06.12.2018	11.71	17.26	71.21	37.20	17.89	Not detected	0.08	71	SATISFACTORY
3.	10.12.2018	10.57	15.50	59.86	33.62	16.90	Not detected	0.08	60	SATISFACTORY
4.	13.12.2018	11.83	17.33	89.71	39.53	17.89	Not detected	0.10	90	SATISFACTORY
5.	17.12.2018	12.02	16.50	72.25	33.24	17.69	Not detected	0.09	73	SATISFACTORY
6.	20.12.2018	11.86	17.08	53.93	31.53	16.40	Not detected	0.09	54	SATISFACTORY
7.	24.12.2018	11.53	15.25	76.95	35.16	18.89	Not detected	0.09	77	SATISFACTORY
8.	27.12.2018	11.01	15.75	88.04	38.62	16.40	Not detected	0.08	88	SATISFACTORY
9.	31.12.2018	11.39	17.23	71.44	33.61	16.90	Not detected	0.10	71	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

CUNCOLIM (JANUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.01.2019	12.04	16.35	98.45	57.49	15.91	Not detected	0.08	98	SATISFACTORY
2.	07.01.2019	12.02	15.03	100.31	42.99	15.91	Not detected	0.09	100	MODERATE
3.	10.01.2019	12.26	14.69	109.80	76.65	16.90	Not detected	0.08	156	MODERATE
4.	14.01.2019	11.96	13.39	104.76	62.95	14.41	Not detected	0.10	110	MODERATE
5.	17.01.2019	11.89	14.72	127.34	62.99	16.40	Not detected	0.09	118	MODERATE
6.	21.01.2019	11.09	16.30	100.68	69.36	17.40	Not detected	0.08	131	MODERATE
7.	24.01.2019	11.88	16.23	96.79	45.16	13.92	Not detected	0.09	97	SATISFACTORY
8.	28.01.2019	11.74	15.49	99.00	74.86	17.40	Not detected	0.08	150	MODERATE
9.	31.01.2019	11.80	14.72	102.97	64.48	15.41	Not detected	0.09	115	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

CUNCOLIM (FEBRUARY 2019)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.02.2019	10.72	15.43	126.87	46.65	14.41	Not detected	0.08	118	MODERATE
2.	07.02.2019	10.89	13.23	148.24	63.65	15.91	Not detected	0.076	132	MODERATE
3.	11.02.2019	11.10	15.07	145.12	53.99	16.20	Not detected	0.08	130	MODERATE
4.	14.02.2019	10.83	13.93	155.35	59.61	14.91	Not detected	0.09	137	MODERATE
5.	18.02.2019	10.72	14.83	181.61	53.32	15.91	Not detected	0.079	154	MODERATE
6.	21.02.2019	10.49	15.68	110.00	54.68	15.91	Not detected	0.074	107	MODERATE
7.	25.02.2019	11.01	16.07	146.93	55.15	14.22	Not detected	0.08	131	MODERATE
8.	28.02.2019	11.33	15.00	141.91	52.78	15.41	Not detected	0.08	128	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

CUNCOLIM (MARCH 2019)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQ	AQI remarks
1.	04/03/2019	10.12	16.00	143.32	56.28	12.92	Not Detected	0.09	129	Moderate
2.	07/03/2019	10.45	14.22	133.84	51.11	18.39	Not Detected	0.08	123	Moderate
3.	11/03/2019	10.08	14.83	106.97	55.28	12.43	Not Detected	0.07	105	Moderate
4.	14/03/2019	10.40	15.32	131.13	54.24	12.92	Not Detected	0.08	121	Moderate
5.	18/03/2019	10.08	14.60	154.00	62.48	15.91	Not Detected	0.07	136	Moderate
6.	23/03/2019	10.58	14.26	125.74	76.23	11.43	Not Detected	0.08	154	Moderate
7.	27/03/2019	10.12	14.61	164.53	72.98	16.4	Not Detected	0.07	143	Moderate
8.	30/03/2019	10.67	14.49	119.33	73.48	11.93	Not Detected	0.07	145	Moderate
Limits^:-		80	80	100	60	180	1	4		

MARGAO (APRIL 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.04.2018	7.7	13.3	50.9	16.3	0.6	<0.5	<0.01	51	SATISFACTORY
2.	06.04.2018	8.2	14.1	58.6	19.0	<0.5	<0.5	0.81	59	SATISFACTORY
3.	10.04.2018	8.5	13.6	67.1	21.3	<0.5	<0.5	0.77	67	SATISFACTORY
4.	12.04.2018	6.7	12.4	45.3	14.6	0.7	<0.5	<0.01	45	GOOD
5.	17.04.2018	6.5	13.9	43.7	13.7	<0.5	<0.5	0.87	44	GOOD
6.	19.04.2018	8.4	15.0	49.3	16.1	0.7	<0.5	<0.01	49	GOOD
7.	24.04.2018	9.3	13.1	68.6	21.4	<0.5	<0.5	0.29	69	SATISFACTORY
8.	26.04.2018	6.8	12.3	72.1	23.8	1	<0.5	<0.01	72	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

MARGAO (MAY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.05.2018	7.2	13.9	62.8	19.7	0.6	<0.5	<0.01	63	SATISFACTORY
2.	04.05.2018	8.7	11.2	62.2	19.9	<0.5	<0.5	0.81	62	SATISFACTORY
3.	08.05.2018	9	14.2	50	16	0.6	<0.5	0.6	50	GOOD
4.	10.05.2018	8.2	14.9	34.3	10.9	<0.5	<0.5	<0.01	34	GOOD
5.	15.05.2018	8.6	10.2	48.2	15.3	<0.5	<0.5	0.63	48	GOOD
6.	17.05.2018	8.8	15.8	67.2	21.7	<0.5	<0.5	<0.01	67	SATISFACTORY
7.	22.05.2018	8.5	13.5	63.1	20.1	0.7	<0.5	0.84	63	SATISFACTORY
8.	24.05.2018	7.6	12.4	80.8	25.3	<0.5	<0.5	0.8	81	SATISFACTORY
9.	29.05.2018	9	12.9	40.4	12.9	0.6	<0.5	<0.01	40	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

MARGAO (JUNE 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	05.06.2018	5.9	9.7	43.5	14.8	0.7	<0.5	0.55	44	GOOD
2.	07.06.2018	4.7	11.5	39.0	12.7	<0.5	<0.5	<0.01	39	GOOD
3.	12.06.2018	6.5	8.5	41.8	13.3	0.7	<0.5	0.48	42	GOOD
4.	14.06.2018	5.8	10.6	30.2	10.0	<0.5	<0.5	<0.01	30	GOOD
5.	19.06.2018	6.3	11.0	41.7	13.6	0.8	<0.5	0.5	42	GOOD
6.	21.06.2018	5.9	11.3	32.6	11.0	<0.5	<0.5	<0.01	33	GOOD
7.	26.01.2018	6.7	9.3	38.4	12.1	0.7	<0.5	0.41	38	GOOD
8.	28.06.2018	6.0	10.4	25.9	9.2	<0.5	<0.5	0.45	26	GOOD
Limits^:-		80	80	100	60	180	1	4		

MARGAO (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.07.2018	6.3	10.7	31.9	9.7	0.7	<0.5	0.6	32	GOOD
2.	05.07.2018	6.6	9.1	23.2	7.5	0.5	<0.5	<0.01	23	GOOD
3.	10.07.2018	5.9	10.5	24.9	7.9	0.1	<0.5	<0.01	25	GOOD
4.	12.07.2018	6.1	11.9	22.1	7.2	0.5	<0.5	<0.01	22	GOOD
5.	17.07.2018	7.2	10.9	31.8	9.8	0.1	<0.5	0.6	32	GOOD
6.	19.07.2018	7.1	10.8	33.6	10.6	0.6	<0.5	0.55	34	GOOD
7.	24.07.2018	7.6	11.3	28.9	9.1	0.6	<0.5	<0.01	29	GOOD
8.	26.07.2018	6.5	11.1	31.2	10.4	0.7	<0.5	0.6	31	GOOD
Limits^:-		80	80	100	60	180	1	4		

MARGAO (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.08.2018	6.0	8.9	39.9	12.6	0.61	<0.5	<0.01	40	GOOD
2.	07.08.2018	8.1	10.7	41.5	13.2	0.70	<0.5	0.61	42	GOOD
3.	09.08.2018	6.8	10.8	40.2	12.8	0.22	<0.5	0.6	40	GOOD
4.	13.08.2018	5.1	9.2	31.0	9.9	0.20	<0.5	<0.01	31	GOOD
5.	16.08.2018	7.2	10.0	34.7	11.1	0.45	<0.5	0.63	35	GOOD
6.	21.08.2018	7.7	10.4	39.4	12.3	0.64	<0.5	<0.01	39	GOOD
7.	23.08.2018	6.4	9.9	37.2	11.7	0.66	<0.5	0.45	37	GOOD
8.	28.08.2018	6.5	9.2	34.2	11.0	-	<0.5	<0.01	34	GOOD
9.	30.08.2018	7.3	8.8	38.7	12.1	0.57	<0.5	0.58	39	GOOD
Limits^:-		80	80	100	60	180	1	4		

MARGAO (NOVEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	26.11.2018	12.28	14.63	81.28	36.46	19.83	Not detected	0.09	81	SATISFACTORY
2.	29.11.2018	12.35	15.83	78.37	33.68	15.91	Not detected	0.10	78	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

MARGAO (DECEMBER 2018)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.12.2018	11.10	15.47	63.41	42.91	16.90	Not detected	0.09	72	SATISFACTORY
2.	06.12.2018	9.89	15.14	55.94	36.78	15.41	Not detected	0.09	61	SATISFACTORY
3.	10.12.2018	10.60	13.68	60.58	33.24	16.40	Not detected	0.08	61	SATISFACTORY
4.	13.12.2018	10.66	14.95	89.44	42.16	16.90	Not detected	0.1	89	SATISFACTORY
5.	17.12.2018	10.97	15.08	75.14	38.32	15.41	Not detected	0.09	75	SATISFACTORY
6.	20.12.2018	11.27	15.72	66.10	36.62	15.76	Not detected	0.09	66	SATISFACTORY
7.	24.12.2018	11.39	14.86	66.09	32.32	14.91	Not detected	0.09	66	SATISFACTORY
8.	27.12.2018	9.75	15.83	64.57	35.49	15.91	Not detected	0.08	65	SATISFACTORY
9.	31.12.2018	10.92	15.17	66.95	39.16	17.89	Not detected	0.10	67	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

MARGAO (JANUARY 2019)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	03.01.2019	11.47	15.05	73.13	35.70	15.41	Not detected	0.08	73	SATISFACTORY
2.	07.01.2019	11.12	3.56	121.55	65.90	16.40	Not detected	0.88	120	MODERATE
3.	10.01.2019	10.06	14.29	123.64	68.61	15.91	Not detected	0.07	129	MODERATE
4.	14.01.2019	11.85	15.20	90.38	69.07	15.41	Not detected	0.09	130	MODERATE
5.	17.01.2019	11.28	14.89	117.32	71.99	14.40	Not detected	0.09	140	MODERATE
6.	21.01.2019	11.40	15.29	72.13	35.58	16.40	Not detected	0.09	72	SATISFACTORY
7.	24.01.2019	11.93	13.05	115.81	73.23	15.41	Not detected	0.09	144	MODERATE
8.	28.01.2019	10.33	15.64	111.93	78.15	13.92	Not detected	0.08	161	MODERATE
9.	31.01.2019	11.30	15.23	90.76	66.32	14.40	Not detected	0.09	121	MODERATE
Limits For 24hrs:-		80	80	100	60	180	1	4		

MARGAO (FEBRUARY 2019)

Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	04.02.2019	10.57	14.10	92.45	48.95	18.39	Not detected	0.078	92	SATISFACTORY
2.	07.02.2019	10.36	14.19	74.42	38.24	15.41	Not detected	0.078	74	SATISFACTORY
3.	11.02.2019	10.89	13.87	94.04	56.36	14.41	Not detected	0.078	94	SATISFACTORY
4.	14.02.2019	10.45	14.52	87.27	41.86	16.90	Not detected	0.087	87	SATISFACTORY
5.	18.02.2019	10.73	14.55	83.14	51.90	15.41	Not detected	0.08	87	SATISFACTORY
6.	21.02.2019	10.85	13.96	73.37	33.16	17.40	Not detected	0.086	73	SATISFACTORY
7.	25.02.2019	10.38	13.82	59.87	34.07	16.90	Not detected	0.09	60	SATISFACTORY
8.	28.02.2019	10.54	14.06	73.35	41.28	15.91	Not detected	0.08	73	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

MARGAO (MARCH 2019)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	05/03/2019	10.60	15.48	138.31	44.70	11.43	Not Detected	0.08	126	Moderate
2.	07/03/2019	10.18	14.29	131.51	48.28	20.88	Not Detected	0.08	121	Moderate
3.	11/03/2019	9.93	14.98	72.37	39.95	11.93	Not Detected	0.08	72	Satisfactory
4.	14/03/2019	10.16	14.48	124.43	44.66	14.41	Not Detected	0.07	116	Moderate
5.	20/03/2019	10.63	15.10	83.04	41.99	14.91	Not Detected	0.08	83	Satisfactory
6.	23/03/2019	10.30	14.77	85.51	48.70	12.43	Not Detected	0.08	86	Satisfactory
7.	27/03/2019	10.51	15.73	73.97	41.28	17.89	Not Detected	0.08	74	Satisfactory
8.	30/03/2019	10.21	15.36	91.98	51.66	13.92	Not Detected	0.08	92	Satisfactory
Limits^:-		80	80	100	60	180	1	4		

SANGUEM (APRIL 2018)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQ I	Remarks
1.	03.04.2018	11.0	19.6	68.0	36.7	10.4	0.1	0.41	68	SATISFACTORY
2.	06.04.2018	10.6	18.5	71.3	39.6	11.8	0.1	0.45	71	SATISFACTORY
3.	10.04.2018	10.5	19.9	58.7	31.3	10.9	ND	0.46	59	SATISFACTORY
4.	13.04.2018	12.0	19.4	65.1	40.0	9.8	0.1	0.51	67	SATISFACTORY
5.	17.04.2018	11.0	18.7	69.5	35.7	8.4	0.1	0.46	70	SATISFACTORY
6.	20.04.2018	8.9	16.0	66.9	36.6	9.0	ND	0.45	67	SATISFACTORY
7.	24.04.2018	11.3	18.8	69.1	35.5	12.0	0.2	0.55	69	SATISFACTORY
8.	27.04.2018	9.4	16.0	66.6	34.5	13.3	ND	0.59	67	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

SANGUEM (MAY 2018)										
Sr. No	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01.05.2018	10.1	13.3	76.3	39.1	12.8	0.2	0.47	76	SATISFACTORY
2.	04.05.2018	9.3	12.1	65.2	30.4	15.3	0.2	0.46	65	SATISFACTORY
3.	08.05.2018	9.8	13.1	66.3	36.5	11.3	ND	0.43	66	SATISFACTORY
4.	11.05.2018	9.3	12.0	61.0	34.7	12.4	0.2	0.52	61	SATISFACTORY
5.	15.05.2018	9.7	12.4	59.4	33.8	11.0	0.1	0.51	59	SATISFACTORY
6.	18.05.2018	8.9	12.3	62.4	35.4	7.2	0.2	0.49	62	SATISFACTORY
7.	22.05.2018	9.1	11.6	67.3	35.0	13.4	0.1	0.53	67	SATISFACTORY
8.	25.05.2018	9.0	12.1	73.5	40.0	12.3	0.1	0.41	74	SATISFACTORY
9.	29.05.2018	8.8	13.2	65.1	37.5	13.7	0.1	0.44	65	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

SANGUEM (JUNE 2018)										
Sr. No.	Sampling Date	SO2 µg/m3	NOX µg/m3	PM10 µg/m3	PM2.5 µg/m3	O3 µg/m3	Pb µg/m3	CO µg/m3	AQI	AQI remarks
1.	01.06.2018	9.1	12.6	49.1	30.1	BDL	ND	0.40	49	GOOD
2.	05.06.2018	6.8	13.1	55.8	31.2	BDL	ND	0.41	56	SATISFACTORY
3.	08.06.2018	7.9	12.7	31.6	19.6	BDL	ND	0.39	32	GOOD
4.	12.06.2018	7.5	11.8	36.8	19.1	BDL	ND	0.38	37	GOOD
5.	15.06.2018	7.6	11.4	33.1	17.5	BDL	ND	0.39	33	GOOD
6.	19.06.2018	7.0	12.9	35.6	12.4	BDL	ND	0.35	36	GOOD
7.	22.06.2018	7.9	12.1	30.7	16.7	BDL	ND	0.37	31	GOOD
8.	26.06.2018	6.5	11.7	40.0	29.6	BDL	ND	0.39	40	GOOD
9.	29.06.2018	9.0	12.3	38.4	18.3	BDL	ND	0.37	38	GOOD
Limits^:-		80	80	100	60	180	1	4		

SANGUEM (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.07.2018	6.6	11.0	25.2	11.4	BDL	ND	0.34	25	GOOD
2.	06.07.2018	6.5	11.4	27.6	14.4	BDL	ND	0.35	28	GOOD
3.	10.07.2018	6.2	12.3	36.7	14.6	8.9	ND	0.38	37	GOOD
4.	13.07.2018	6.0	11.9	40.3	20.3	7.3	ND	0.41	40	GOOD
5.	17.07.2018	7.1	11.0	33.1	15.8	BDL	ND	0.39	33	GOOD
6.	20.07.2018	7.5	11.9	54.2	21.0	6.13	ND	0.32	54	SATISFACTORY
7.	24.07.2018	6.7	12.4	57.3	21.9	8.65	0.1	0.36	57	SATISFACTORY
8.	27.07.2018	7.8	12.9	46.0	24.5	7.30	ND	0.42	46	GOOD
9.	31.07.2018	8.9	13.5	31.7	15.8	8.79	ND	0.36	32	GOOD
Limits^:-		80	80	100	60	180	1			

SANGUEM (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.08.2018	7.5	14.0	41.0	27.5	9.07	ND	0.40	46	GOOD
2.	07.08.2018	8.2	11.9	45.0	30.4	10.50	0.1	0.41	51	SATISFACTORY
3.	10.08.2018	9.2	12.9	48.8	30.3	9.95	0.1	0.39	51	SATISFACTORY
4.	14.08.2018	10.3	11.9	58.1	32.5	6.72	0.1	0.38	58	SATISFACTORY
5.	17.08.2018	8.3	12.0	52.9	34.2	7.17	0.2	0.39	57	SATISFACTORY
6.	21.08.2018	9.1	11.5	56.1	25.9	6.06	ND	0.35	56	SATISFACTORY
7.	24.08.2018	7.6	12.7	55.8	25.4	5.69	0.1	0.37	56	SATISFACTORY
8.	28.08.2018	9.8	15.6	43.7	22.5	11.11	ND	0.39	44	GOOD
9.	31.08.2018	7.6	13.2	51.1	28.7	10.27	ND	0.37	51	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

SANGUEM (NOVEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	27.11.2018	12.04	16.22	89.51	34.84	18.19	Not detected	0.09	90	SATISFACTORY
2.	30.11.2018	12.44	16.08	67.65	35.40	14.86	Not detected	0.10	68	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

SANGUEM (DECEMBER 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	04.12.2018	10.49	15.97	61.49	37.53	16.90	Not detected	0.08	63	SATISFACTORY
2.	07.12.2018	11.18	16.27	61.76	34.66	16.90	Not detected	0.10	62	SATISFACTORY
3.	11.12.2018	10.66	16.28	63.09	38.45	16.40	Not detected	0.08	64	SATISFACTORY
4.	14.12.2018	10.91	16.52	76.63	38.11	15.91	Not detected	0.10	77	SATISFACTORY
5.	18.12.2018	10.95	15.02	62.35	39.16	16.90	Not detected	0.09	65	SATISFACTORY
6.	21.12.2018	10.03	16.29	60.70	34.24	15.91	Not detected	0.09	61	SATISFACTORY
7.	25.12.2018	11.87	16.81	64.16	32.49	14.41	Not detected	0.09	64	SATISFACTORY
8.	28.12.2018	11.31	15.42	69.60	37.41	17.40	Not detected	0.09	70	SATISFACTORY
Limits for 24hrs:-		80	80	100	60	180	1	4		

SANGUEM (JANUARY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.01.2019	11.80	15.25	73.50	42.91	14.41	Not detected	0.09	74	SATISFACTORY
2.	04.01.2019	11.68	15.57	78.53	51.82	18.89	Not detected	0.08	86	SATISFACTORY
3.	08.01.2019	11.56	15.83	105.71	67.73	13.42	Not detected	0.09	126	MODERATE
4.	11.01.2019	12.20	15.40	103.78	61.28	16.90	Not detected	0.10	104	MODERATE
5.	15.01.2019	11.41	14.70	95.87	44.20	16.40	Not detected	0.08	96	SATISFACTORY
6.	18.01.2019	11.50	15.09	93.61	55.07	15.41	Not detected	0.08	94	SATISFACTORY
7.	22.01.2019	11.83	16.20	67.03	48.99	17.40	Not detected	0.09	82	SATISFACTORY
8.	25.01.2019	11.81	16.54	77.10	53.07	16.40	Not detected	0.08	88	SATISFACTORY
9.	29.01.2019	11.90	15.11	97.77	58.61	16.40	Not detected	0.10	98	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

SANGUEM (FEBRUARY 2019)

Sr. No.	Sampling Date	SO ₂ µg/m ³	NOX µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.02.2019	10.55	14.05	80.89	47.90	14.41	Not detected	0.07	81	SATISFACTORY
2.	05.02.2019	10.92	15.01	60.65	33.37	20.38	Not detected	0.081	61	SATISFACTORY
3.	08.02.2019	10.73	14.12	78.11	40.66	17.40	Not detected	0.078	78	SATISFACTORY
4.	12.02.2019	10.85	14.40	71.64	35.37	17.50	Not detected	0.09	72	SATISFACTORY
5.	15.02.2019	10.56	14.47	69.57	36.28	15.91	Not detected	0.08	70	SATISFACTORY
6.	19.02.2019	10.55	14.23	66.76	30.91	16.90	Not detected	0.085	67	SATISFACTORY
7.	22.02.2019	10.68	14.07	85.24	33.33	17.25	Not detected	0.08	85	SATISFACTORY
8.	26.02.2019	10.17	14.69	79.13	29.16	16.90	Not detected	0.08	79	SATISFACTORY
Limits For 24hrs:-		80	80	100	60	180	1	4		

SANGUEM (MARCH 2019)										
Sr. No	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01/03/2019	10.06	14.68	90.7	39.16	14.81	Not Detected	0.07	91	Satisfactory
2.	05/03/2019	10.70	14.97	139.7	64.15	16.4	Not Detected	0.07	126	Moderate
3.	08/03/2019	10.83	14.70	128.5	48.70	15.91	Not Detected	0.08	119	Moderate
4.	12/03/2019	10.63	14.83	61.0	31.62	16.9	Not Detected	0.08	61	Satisfactory
5.	15/03/2019	10.57	14.92	145.2	49.53	15.41	Not Detected	0.07	130	Moderate
6.	20/03/2019	10.33	14.71	90.4	42.91	14.91	Not Detected	0.08	90	Satisfactory
7.	23/03/2019	10.57	14.74	73.4	38.12	17.89	Not Detected	0.07	73	Satisfactory
8.	27/03/2019	10.58	14.33	90.7	39.24	14.91	Not Detected	0.07	91	Satisfactory
9.	30/03/2019	10.54	14.86	69.3	36.66	14.41	Not Detected	0.09	69	Satisfactory
	Limits^:-	80	80	100	60	180	1	4		

CURCHOREM (MARCH 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	02.03.2018	9.1	13.8	74.4	35.4	9.1	ND	0.5	74	SATISFACTORY
2.	06.03.2018	10.3	12.3	77.1	32.7	11.4	ND	0.4	77	SATISFACTORY
3.	09.03.2018	9.7	15.1	82.5	37.6	11.3	ND	0.4	83	SATISFACTORY
4.	13.03.2018	10.0	14.1	78.6	33.0	10.5	0.1	0.5	79	SATISFACTORY
5.	16.03.2018	9.9	13.4	66.2	36.7	12.6	ND	0.4	66	SATISFACTORY
6.	20.03.2018	10.4	14.5	64.2	30.5	14.9	0.1	0.5	64	SATISFACTORY
7.	23.03.2018	11.2	13.0	65.4	30.8	15.0	ND	0.5	65	SATISFACTORY
8.	27.03.2018	10.6	14.1	69.0	38.1	11.9	ND	0.6	69	SATISFACTORY
9.	30.03.2018	10.1	14.4	65.6	36.2	12.9	ND	0.4	66	SATISFACTORY
	Limits^:-	80	80	100	60	180	1	4		

CURCHOREM (APRIL 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.04.2018	9.9	15.1	64.1	33.1	12.15	ND	0.42	64	SATISFACTORY
2.	06.04.2018	11.5	14.8	68.9	37.1	8.75	0.1	0.40	69	SATISFACTORY
3.	10.04.2018	9.5	15.5	57.1	29.6	9.56	ND	0.38	57	SATISFACTORY
4.	13.04.2018	10.5	17.9	63.3	38.6	8.20	0.1	0.40	64	SATISFACTORY
5.	17.04.2018	9.1	14.9	62.5	32.1	8.85	ND	0.41	63	SATISFACTORY
6.	20.04.2018	9.4	15.3	65.6	32.0	11.32	0.1	0.49	66	SATISFACTORY
7.	24.04.2018	10.7	16.9	70.0	36.5	14.79	0.1	0.52	70	SATISFACTORY
8.	27.04.2018	9.4	15.2	74.7	41.6	14.18	0.1	0.54	75	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

CURCHOREM (MAY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.05.2018	9.9	12.6	74.1	37.5	10.68	ND	0.45	74	SATISFACTORY
2.	04.05.2018	10.0	13.0	59.6	35.8	12.42	0.2	0.50	60	SATISFACTORY
3.	08.05.2018	9.8	12.3	67.5	37.0	13.60	ND	0.52	68	SATISFACTORY
4.	11.05.2018	10.2	13.4	65.6	34.3	12.76	0.3	0.51	66	SATISFACTORY
5.	15.05.2018	9.1	12.7	65.8	33.3	14.05	0.2	0.52	66	SATISFACTORY
6.	18.05.2018	10.4	13.0	68.4	35.9	14.00	0.2	0.51	68	SATISFACTORY
7.	22.05.2018	9.0	12.8	74.0	34.2	11.52	ND	0.49	74	SATISFACTORY
8.	25.05.2018	7.8	13.1	69.6	32.3	10.79	0.3	0.42	70	SATISFACTORY
9.	29.05.2018	8.5	11.8	64.5	35.7	10.91	0.2	0.45	65	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

CURCHOREM (JUNE 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	01.06.2018	9.5	13.4	59.0	30.4	BDL	ND	0.43	59	SATISFACTORY
2.	05.06.2018	6.6	13.5	55.8	27.9	BDL	ND	0.47	56	SATISFACTORY
3.	08.06.2018	7.7	13.0	33.5	18.7	BDL	ND	0.38	34	GOOD
4.	12.06.2018	6.2	10.4	25.2	16.2	BDL	ND	0.45	25	GOOD
5.	15.06.2018	7.9	13.3	28.0	15.4	BDL	ND	0.39	28	GOOD
6.	19.06.2018	7.4	13.0	27.6	14.8	BDL	ND	0.45	28	GOOD
7.	22.06.2018	6.4	12.6	32.9	16.8	BDL	ND	0.44	33	GOOD
8.	26.06.2018	7.1	12.0	50.6	26.3	BDL	ND	0.44	51	SATISFACTORY
9.	29.06.2018	7.4	12.4	36.7	17.1	BDL	ND	0.40	37	GOOD
Limits^:-		80	80	100	60	180	1	4		

CURCHOREM (JULY 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.07.2018	7.5	12.3	30.6	14.6	BDL	ND	0.39	31	GOOD
2.	06.07.2018	6.8	12.1	27.7	16.1	BDL	ND	0.36	33	GOOD
3.	10.07.2018	6.5	11.7	32.2	15.4	9.24	ND	0.38	32	GOOD
4.	13.07.2018	6.9	11.0	36.5	20.8	9.15	0.10	0.33	37	GOOD
5.	17.07.2018	7.9	11.9	28.0	15.4	BDL	ND	0.39	28	GOOD
6.	20.07.2018	6.8	12.8	21.7	11.2	5.02	ND	0.38	22	GOOD
7.	24.07.2018	6.8	12.0	32.9	18.7	8.07	ND	0.40	33	GOOD
8.	27.07.2018	8.8	13.7	49.8	24.6	5.63	0.10	0.37	50	GOOD
9.	31.07.2018	7.7	12.3	21.3	14.2	6.24	ND	0.40	24	GOOD
Limits^:-		80	80	100	60	180	1	4		

CURCHOREM (AUGUST 2018)										
Sr. No.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	O ₃ µg/m ³	Pb µg/m ³	CO µg/m ³	AQI	AQI remarks
1.	03.08.2018	8.7	12.2	43.3	33.1	7.37	ND	0.40	55	SATISFACTORY
2.	07.08.2018	7.0	10.7	38.4	20.5	6.89	ND	0.41	38	GOOD
3.	10.08.2018	7.2	109.0	57.1	29.6	9.20	0.1	0.38	57	SATISFACTORY
4.	14.08.2018	6.9	10.2	52.5	38.6	8.38	0.1	0.39	64	SATISFACTORY
5.	17.08.2018	7.9	12.1	47.7	32.1	7.90	ND	0.40	54	SATISFACTORY
6.	21.08.2018	8.3	10.2	51.1	23.7	9.20	ND	0.44	51	SATISFACTORY
7.	24.08.2018	7.6	12.7	57.0	32.5	11.18	0.1	0.47	57	SATISFACTORY
8.	28.08.2018	7.7	13.5	36.9	23.9	10.84	ND	0.46	40	GOOD
9.	31.08.2018	7.2	13.8	51.1	34.1	6.17	0.2	0.41	57	SATISFACTORY
Limits^:-		80	80	100	60	180	1	4		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	04-04-2018	BDL	8	59	9	59	SATISFACTORY
2.	06-04-2018	BDL	6	55	5	55	SATISFACTORY
3.	11-04-2018	7	18	69		69	SATISFACTORY
4.	13-04-2018	BDL	14	54		54	SATISFACTORY
5.	18-04-2018	5	10	51	3	51	SATISFACTORY
6.	20-04-2018	9	18	60	1	60	SATISFACTORY
7.	25-04-2018	BDL	11	50	2	50	SATISFACTORY
8.	27-04-2018	19	5	78	12	78	SATISFACTORY
Limits^:-		80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	02-05-2018	9	BDL	118	15	112	MODERATE
2.	04-05-2018	BDL	10	47	15	47	GOOD
3.	09-05-2018	5	BDL	53	19	53	SATISFACTORY
4.	11-05-2018	7	9	29		29	GOOD
5.	16-05-2018	10	12	67	6	67	SATISFACTORY
6.	18-05-2018	5	BDL	24	2	24	GOOD
7.	23-05-2018	BDL	10	46	3	46	GOOD
8.	25-05-2018	4	BDL	45	4	45	GOOD
9.	30-05-2018	4	BDL	34		34	GOOD
Limits [^] :-		80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	01-06-2018	BDL	BDL	34		34	GOOD
2.	06-06-2018	BDL	14	32		32	GOOD
3.	08-06-2018	BDL	13	12		16	GOOD
4.	13-06-2018	5	BDL	85		85	SATISFACTORY
5.	15-06-2018	BDL	BDL	36		36	GOOD
6.	22-06-2018	11	BDL	64		64	SATISFACTORY
7.	27-06-2018	15	12	44		44	GOOD
8.	29-06-2018	BDL	21	25		26	GOOD
Limits [^] :-		80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	04-07-2018	BDL	BDL	127		118	MODERATE
2.	06-07-2018	BDL	15	56		56	SATISFACTORY
3.	13-07-2018	BDL	BDL	84		84	SATISFACTORY
4.	18-07-2018	BDL	13	62		62	SATISFACTORY
5.	20-07-2018	BDL	BDL	38		38	GOOD
6.	25-07-2018	BDL	BDL	74		74	SATISFACTORY
7.	27-07-2018	4	BDL	50		50	GOOD
Limits^:-		80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	01-08-2018	6	BDL	121		114	MODERATE
2.	03-08-2018	6	BDL	134		123	MODERATE
3.	08-08-2018	BDL	BDL	133		122	MODERATE
4.	10-08-2018	4	BDL	47		47	GOOD
5.	24-08-2018	BDL	12	128		119	MODERATE
6.	29-08-2018	BDL	BDL	33		33	GOOD
7.	31-08-2018	BDL	BDL	20		20	GOOD
	Limits^:-	80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	05-09-2018	BDL	12	20		20	GOOD
2.	07-09-2018	BDL	15	47		47	GOOD
3.	12-09-2018	BDL	11	61		61	SATISFACTORY
4.	18-09-2018	BDL	BDL	49		49	GOOD
5.	20-09-2018	BDL	11	61		61	SATISFACTORY
6.	26-09-2018	BDL	10	19		19	GOOD
Limits^:-		80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	03-10-2018	BDL	BDL	42		42	GOOD
2.	05-10-2018	BDL	11	42		42	GOOD
3.	10-10-2018	BDL	12	66		66	SATISFACTORY
4.	12-10-2018	BDL	BDL	107		105	MODERATE
5.	17-10-2018	BDL	BDL	70		70	SATISFACTORY
6.	19-10-2018	BDL	BDL	117		112	MODERATE
7.	24-10-2018	5	18	72		72	SATISFACTORY
8.	26-10-2018	5	29	118		112	MODERATE
9.	30-10-2018	BDL	13	76		76	SATISFACTORY
Limits^:-		80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	01-11-2018	BDL	14	128		119	MODERATE
2.	03-11-2018	BDL	BDL	74	15	74	SATISFACTORY
3.	04-11-2018	BDL	12	278	106	228	POOR
4.	05-11-2018	BDL	9	94	157	94	SATISFACTORY
5.	07-11-2018	BDL	20	77	48	77	SATISFACTORY
6.	09-11-2018	BDL	14	82	22	82	SATISFACTORY
7.	11-11-2018	BDL	21	79	48	79	SATISFACTORY
8.	13-11-2018	BDL	BDL	93	86	93	SATISFACTORY
9.	15-11-2018	BDL	19	80	55	80	SATISFACTORY
10.	21-11-2018	BDL	11	35	30	35	GOOD
11.	23-11-2018	4	14	63	4	63	SATISFACTORY
12.	28-11-2018	BDL	19	81	34	81	SATISFACTORY
13.	30-11-2018	8	14	96	73	96	SATISFACTORY
	Limits^:-	80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	05-12-2018	8	16	62	37	62	SATISFACTORY
2.	07-12-2018	5	10	63	66	63	SATISFACTORY
3.	12-12-2018	6	16	91	50	91	SATISFACTORY
4.	14-12-2018	7	17	111	31	108	MODERATE
5.	18-12-2018	6	22	69	24	69	SATISFACTORY
6.	21-12-2018	7	22	155	71	137	MODERATE
7.	26-12-2018	7	27	81	82	81	SATISFACTORY
8.	28-12-2018	7	28	209	76	172	MODERATE
	Limits^:-	80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	02-01-2019	BDL	15	100	32	100	SATISFACTORY
2.	04-01-2019	BDL	13	77	68	77	SATISFACTORY
3.	09-01-2019	BDL	BDL	233	76	188	MODERATE
4.	11-01-2019	BDL	13	128	47	119	MODERATE
5.	16-01-2019	5	19	120	69	114	MODERATE
6.	18-01-2019	5	10	173	80	149	MODERATE
7.	23-01-2019	5	35	52	35	52	SATISFACTORY
8.	25-01-2019	4	17	82	27	82	SATISFACTORY
9.	30-01-2019	7	12	169	48	146	MODERATE
Limits [^] :-		80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	01-02-2019	BDL	20	139	84	127	MODERATE
2.	06-02-2019	BDL	24	116	67	111	MODERATE
3.	08-02-2019	BDL	27	116	35	111	MODERATE
4.	13-02-2019	BDL	28	141	38	126	MODERATE
5.	15-02-2019	BDL	12	100	47	100	SATISFACTORY
6.	20-02-2019	17	12	95	44	95	SATISFACTORY
7.	22-02-2019	BDL	16	97	58	97	SATISFACTORY
8.	27-02-2019	BDL	BDL	128	55	119	MODERATE
	Limits [^] :-	80	80	100	60		

PANAJI							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	01-03-2019	BDL	18	100	51	100	SATISFACTORY
2.	06-03-2019	BDL	13	99	54	99	SATISFACTORY
3.	08-03-2019	BDL	12	135	89	123	MODERATE
4.	13-03-2019	BDL	13	117	46	112	MODERATE
5.	15-03-2019	5	15	107	69	105	MODERATE
6.	19-03-2019	9	19	80	58	80	SATISFACTORY
7.	22-03-2019	9	13	71	28	71	SATISFACTORY
8.	27-03-2019	4	19	78	67	78	SATISFACTORY
9.	29-03-2019	7	16	69	39	69	SATISFACTORY
Limits^:-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	11-04-2018	12	BDL	162		141	MODERATE
2.	13-04-2018	7	BDL	140		127	MODERATE
3.	20-04-2018	10	BDL	147		131	MODERATE
4.	25-04-2018	BDL	BDL	142		128	MODERATE
Limits^:-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	22-06-2018	7	BDL	195		163	MODERATE
2.	27-06-2018	11	14	86		86	SATISFACTORY
3.	29-06-2018	6	BDL	46		46	GOOD
Limits^:-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	05-07-2018	BDL	BDL	54		54	SATISFACTORY
2.	10-07-2018	BDL	BDL	58		58	SATISFACTORY
3.	12-07-2018	BDL	BDL	41		41	GOOD
4.	19-07-2018	BDL	BDL	99		99	SATISFACTORY
5.	24-07-2018	BDL	BDL	53		53	SATISFACTORY
6.	26-07-2018	7	BDL	47		47	GOOD
7.	31-07-2018	BDL	BDL	60		60	SATISFACTORY
Limits [^] :-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	02-08-2018	6	BDL	111		111	MODERATE
2.	07-08-2018	BDL	12	38		38	GOOD
3.	09-08-2018	BDL	22	41		41	GOOD
4.	14-08-2018	BDL	BDL	75		75	SATISFACTORY
5.	21-08-2018	BDL	16	58		58	SATISFACTORY
6.	23-08-2018	BDL	10	62		62	SATISFACTORY
7.	30-08-2018	BDL	BDL	28		28	GOOD
Limits [^] :-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	04-09-2018	BDL	15	51		51	SATISFACTORY
2.	06-09-2018	BDL	BDL	65		65	SATISFACTORY
3.	11-09-2018	BDL	14	21		21	GOOD
4.	19-09-2018	BDL	BDL	44		44	GOOD
5.	21-09-2018	5	BDL	36		36	GOOD
6.	25-09-2018	BDL	BDL	66		66	SATISFACTORY
7.	27-09-2018	BDL	9	33		33	GOOD
Limits^:-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	04-10-2018	BDL	17	54		54	SATISFACTORY
2.	09-10-2018	BDL	15	28		28	GOOD
3.	11-10-2018	BDL	14	52		52	SATISFACTORY
4.	16-10-2018	BDL	16	57		57	SATISFACTORY
5.	23-10-2018	BDL	24	28		28	GOOD
6.	25-10-2018	9	18	60		60	SATISFACTORY
7.	31-10-2018	BDL	BDL	50		50	SATISFACTORY
Limits^:-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	02-11-2018	BDL	BDL	230		186	MODERATE
2.	05-11-2018	BDL	BDL	35		35	GOOD
3.	08-11-2018	BDL	BDL	134		123	MODERATE
4.	14-11-2018	BDL	25	272		222	POOR
5.	16-11-2018	BDL	21	296		246	POOR
6.	20-11-2018	5	BDL	46		46	GOOD
7.	22-11-2018	4	14	55		55	SATISFACTORY
8.	27-11-2018	6	19	134	66	123	MODERATE
9.	29-11-2018	6	20	156		137	MODERATE
Limits [^] :-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	04-12-2018	6	23	296		246	POOR
2.	06-12-2018	7	9	113		109	MODERATE
3.	11-12-2018	7	15	153		135	MODERATE
4.	13-12-2018	6	14	58		58	SATISFACTORY
5.	18-12-2018	5	16	50	28	50	SATISFACTORY
6.	20-12-2018	5	BDL	181	28	154	MODERATE
7.	27-12-2018	7	BDL	297	7	247	POOR
8.	29-12-2018	6	BDL	257	18	207	POOR
Limits [^] :-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	01-01-2019	BDL	13	69	51	69	SATISFACTORY
2.	03-01-2019	BDL	11	55	28	55	SATISFACTORY
3.	08-01-2019	BDL	12	256	93	206	POOR
4.	10-01-2019	BDL	12	153	82	135	MODERATE
5.	15-01-2019	BDL	13	262	33	212	POOR
6.	17-01-2019	BDL	BDL	253	13	203	POOR
7.	22-01-2019	7	18	93	64	93	SATISFACTORY
8.	24-01-2019	6	24	95	60	95	SATISFACTORY
9.	29-01-2019	BDL	14	60	27	60	SATISFACTORY
10.	31-01-2019	9	9	93	57	93	
Limits [^] :-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	05-02-2019	BDL	10	390	19	350	VERY POOR
2.	07-02-2019	BDL	11	437	33	437	SEVERE
3.	13-02-2019	BDL	17	106	73	104	MODERATE
4.	15-02-2019	BDL	18	77	40	77	SATISFACTORY
5.	18-02-2019	BDL	10	75	70	75	SATISFACTORY
6.	21-02-2019	4	10	61	46	61	SATISFACTORY
7.	25-02-2019	BDL	45	59	49	59	SATISFACTORY
8.	27-02-2019	BDL	BDL	146	97	131	MODERATE
Limits [^] :-		80	80	100	60		

MPT							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	05-03-2019	BDL	16	118	87	112	MODERATE
2.	07-03-2019	BDL	BDL	148	114	132	MODERATE
3.	11-03-2019	4	9	140	78	127	MODERATE
4.	13-03-2019	6	13	272	116	222	POOR
5.	20-03-2019	5	18	228	63	185	MODERATE
6.	22-03-2019	7	13	137	69	125	MODERATE
7.	27-03-2019	8	BDL	34	22	34	GOOD
8.	29-03-2019	4	BDL	135	66	123	MODERATE
Limits^:-		80	80	100	60		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	03-04-2018	BDL	BDL	47	47	GOOD
2.	05-04-2018	BDL	9	57	57	SATISFACTORY
3.	10-04-2018	4	BDL	65	65	SATISFACTORY
4.	12-04-2018	BDL	BDL	47	47	GOOD
5.	17-04-2018	6	BDL	37	37	GOOD
6.	19-04-2018	5	BDL	40	40	GOOD
7.	24-04-2018	BDL	BDL	46	46	GOOD
8.	26-04-2018	BDL	BDL	37	37	GOOD
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	03-05-2018	6	BDL	40	40	GOOD
2.	08-05-2018	7	BDL	33	33	GOOD
3.	10-05-2018	4	15	31	31	GOOD
4.	15-05-2018	6	BDL	37	37	GOOD
5.	17-05-2018	7	BDL	36	36	GOOD
6.	22-05-2018	4	BDL	55	55	SATISFACTORY
7.	24-05-2018	BDL	BDL	55	55	SATISFACTORY
8.	29-05-2018	4	BDL	32	32	GOOD
9.	31-05-2018	6	BDL	38	38	GOOD
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	07-06-2018	BDL	BDL	21	21	GOOD
2.	12-06-2018	BDL	BDL	65	65	SATISFACTORY
3.	14-06-2018	BDL	BDL	38	38	GOOD
4.	21-06-2018	13	BDL	99	99	SATISFACTORY
5.	26-06-2018	BDL	9	38	38	GOOD
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	05-07-2018	BDL	BDL	53	53	SATISFACTORY
2.	19-07-2018	BDL	BDL	52	52	SATISFACTORY
3.	24-07-2018	BDL	BDL	52	52	SATISFACTORY
4.	26-07-2018	BDL	BDL	35	35	GOOD
5.	31-07-2018	BDL	BDL	46	46	GOOD
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	02-08-2018	6	BDL	40	40	GOOD
2.	07-08-2018	BDL	9	20	20	GOOD
3.	09-08-2018	BDL	BDL	27	27	GOOD
4.	13-08-2018	BDL	BDL	13	13	GOOD
5.	21-08-2018	BDL	BDL	62	62	SATISFACTORY
6.	23-08-2018	BDL	9	70	70	SATISFACTORY
7.	30-08-2018	BDL	13	91	91	SATISFACTORY
8.	02-08-2018	6	BDL	40	40	GOOD
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	04-09-2018	BDL	13	76	76	SATISFACTORY
2.	06-09-2018	BDL	15	29	29	GOOD
3.	11-09-2018	BDL	BDL	10	10	GOOD
4.	18-09-2018	BDL	11	62	62	SATISFACTORY
5.	20-09-2018	BDL	BDL	42	42	GOOD
6.	25-09-2018	BDL	BDL	60	60	SATISFACTORY
7.	27-09-2018	BDL	BDL	56	56	SATISFACTORY
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	AQI	AQI remarks
1.	03-10-2018	BDL	BDL	41	41	GOOD
2.	05-10-2018	BDL	BDL	51	51	SATISFACTORY
3.	09-10-2018	BDL	10	39	39	GOOD
4.	11-10-2018	BDL	15	84	84	SATISFACTORY
5.	16-10-2018	BDL	BDL	52	52	SATISFACTORY
6.	19-10-2018	BDL	BDL	23	23	GOOD
7.	23-10-2018	BDL	BDL	87	87	SATISFACTORY
8.	25-10-2018	BDL	BDL	72	72	SATISFACTORY
9.	30-10-2018	BDL	BDL	64	64	SATISFACTORY
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	AQI	AQI remarks
1.	01-11-2018	BDL	BDL	66	66	SATISFACTORY
2.	07-11-2018	BDL	BDL	52	52	SATISFACTORY
3.	09-11-2018	BDL	BDL	68	68	SATISFACTORY
4.	13-11-2018	BDL	BDL	90	90	SATISFACTORY
5.	15-11-2018	BDL	BDL	77	77	SATISFACTORY
6.	20-11-2018	BDL	BDL	28	19	GOOD
7.	22-11-2018	9	BDL	84	84	SATISFACTORY
8.	27-11-2018	BDL	BDL	94	94	SATISFACTORY
9.	29-11-2018	6	BDL	186	157	MODERATE
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	04-12-2018	7	BDL	85	85	SATISFACTORY
2.	06-12-2018	7	BDL	162	141	MODERATE
3.	11-12-2018	6	BDL	100	100	SATISFACTORY
4.	13-12-2018	6	BDL	48	48	SATISFACTORY
5.	17-12-2018	4	BDL	124	116	MODERATE
6.	20-12-2018	6	15	62	62	SATISFACTORY
7.	24-12-2018	6	BDL	96	96	SATISFACTORY
8.	27-12-2018	5	21	83	83	SATISFACTORY
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	01-01-2019	BDL	11	117	112	MODERATE
2.	03-01-2019	4	BDL	83	83	SATISFACTORY
3.	08-01-2019	BDL	BDL	94	94	SATISFACTORY
4.	10-01-2019	BDL	16	132	121	MODERATE
5.	15-01-2019	5	14	108	106	MODERATE
6.	17-01-2019	4	BDL	108	106	MODERATE
7.	22-01-2019	BDL	11	75	75	SATISFACTORY
8.	24-01-2019	6	19	49	49	GOOD
9.	29-01-2019	6	BDL	73	73	SATISFACTORY
10.	31-01-2019	BDL	BDL	79	79	SATISFACTORY
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	05-02-2019	BDL	BDL	87	87	SATISFACTORY
2.	07-02-2019	BDL	15	84	84	SATISFACTORY
3.	12-02-2019	BDL	BDL	91	91	SATISFACTORY
4.	14-02-2019	BDL	9	98	98	SATISFACTORY
5.	19-02-2019	BDL	BDL	48	48	GOOD
6.	21-02-2019	BDL	BDL	98	98	SATISFACTORY
7.	26-02-2019	BDL	16	80	80	SATISFACTORY
8.	28-02-2019	BDL	9	58	58	SATISFACTORY
Limits^:-		80	80	100		

MAPUSA						
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	AQI	AQI remarks
1.	05-03-2019	BDL	13	100	100	SATISFACTORY
2.	07-03-2019	BDL	BDL	74	74	SATISFACTORY
3.	12-03-2019	BDL	12	102	102	MODERATE
4.	14-03-2019	BDL	BDL	146	131	MODERATE
5.	18-03-2019	BDL	BDL	76	76	SATISFACTORY
6.	20-03-2019	4	BDL	87	87	SATISFACTORY
7.	26-03-2019	4	BDL	71	71	SATISFACTORY
8.	28-03-2019	4	BDL	71	71	SATISFACTORY
Limits^:-		80	80	100		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	04-04-2018	BDL	BDL	58		58	SATISFACTORY
2.	06-04-2018	BDL	BDL	75		75	SATISFACTORY
3.	11-04-2018	4	9	78		78	SATISFACTORY
4.	13-04-2018	BDL	BDL	46		46	GOOD
5.	18-04-2018	4	BDL	178		152	MODERATE
6.	20-04-2018	9	BDL	62		62	SATISFACTORY
7.	25-04-2018	BDL	BDL	52		52	SATISFACTORY
8.	27-04-2018	14	BDL	41		41	GOOD
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	02-05-2018	9	BDL	54		54	SATISFACTORY
2.	04-05-2018	4	BDL	32		32	GOOD
3.	09-05-2018	BDL	BDL	58		58	SATISFACTORY
4.	11-05-2018	6	9	34		34	GOOD
5.	16-05-2018	8	BDL	50		50	GOOD
6.	18-05-2018	10	20	31		31	GOOD
7.	23-05-2018	7	9	70		70	SATISFACTORY
8.	25-05-2018	8	10	88		88	SATISFACTORY
9.	30-05-2018	4	18	56		56	SATISFACTORY
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	01-06-2018	4	BDL	42		42	GOOD
2.	06-06-2018	BDL	12	17		17	GOOD
3.	08-06-2018	BDL	19	17		24	GOOD
4.	13-06-2018	BDL	21	75		75	SATISFACTORY
5.	15-06-2018	5	14	249		199	MODERATE
6.	22-06-2018	BDL	BDL	96		96	SATISFACTORY
7.	27-06-2018	14	12	95		95	SATISFACTORY
8.	29-06-2018	8	13	47		47	GOOD
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	05-07-2018	BDL	BDL	92		92	SATISFACTORY
2.	10-07-2018	BDL	9	31		31	GOOD
3.	12-07-2018	BDL	BDL	39		39	GOOD
4.	17-07-2018	BDL	BDL	58		58	SATISFACTORY
5.	19-07-2018	BDL	9	60		60	SATISFACTORY
6.	24-07-2018	8	BDL	71		71	SATISFACTORY
7.	26-07-2018	4	9	70		70	SATISFACTORY
8.	31-07-2018	BDL	BDL	37		37	GOOD
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	02-08-2018	8	BDL	31		31	GOOD
2.	07-08-2018	BDL	BDL	38		38	GOOD
3.	09-08-2018	BDL	BDL	35		35	GOOD
4.	14-08-2018	BDL	BDL	44		44	GOOD
5.	21-08-2018	4	9	55		55	SATISFACTORY
6.	23-08-2018	8	15	36		36	GOOD
7.	30-08-2018	BDL	BDL	19		19	GOOD
Limits [^] :-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	04-09-2018	BDL	BDL	71		71	SATISFACTORY
2.	06-09-2018	BDL	BDL	102		102	MODERATE
3.	11-09-2018	BDL	11	19		19	GOOD
4.	19-09-2018	BDL	BDL	49		49	GOOD
5.	21-09-2018	BDL	17	48		48	GOOD
6.	25-09-2018	BDL	9	117		117	MODERATE
7.	27-09-2018	BDL	10	105		105	MODERATE
Limits [^] :-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	04-10-2018	BDL	13	45		45	SATISFACTORY
2.	09-10-2018	BDL	17	34		34	GOOD
3.	11-10-2018	BDL	13	49		49	GOOD
4.	16-10-2018	BDL	10	59		59	SATISFACTORY
5.	23-10-2018	BDL	15	88		88	SATISFACTORY
6.	25-10-2018	BDL	17	39		39	GOOD
7.	31-10-2018	BDL	BDL	63		63	SATISFACTORY
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	02-11-2018	BDL	13	41		41	GOOD
2.	05-11-2018	4	BDL	27		27	GOOD
3.	08-11-2018	BDL	BDL	100		100	SATISFACTORY
4.	14-11-2018	BDL	17	159		139	MODERATE
5.	16-11-2018	BDL	21	112		108	MODERATE
6.	20-11-2018	5	12	25		25	GOOD
7.	22-11-2018	6	26	50		50	GOOD
8.	27-11-2018	7	12	150	98	133	MODERATE
9.	29-11-2018	7	BDL	155	97	137	MODERATE
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5 µg/m ³	AQI	AQI remarks
1.	04-12-2018	6	21	187		158	MODERATE
2.	06-12-2018	6	12	221		180	MODERATE
3.	11-12-2018	7	13	59	77	59	SATISFACTORY
4.	13-12-2018	7	BDL	53	64	53	SATISFACTORY
5.	18-12-2018	8	BDL	41	24	41	GOOD
6.	20-12-2018	BDL	BDL	78	15	78	SATISFACTORY
7.	27-12-2018	BDL	BDL	304	64	254	POOR
8.	29-12-2018	BDL	BDL	180	44	153	MODERATE
9.	04-12-2018	6	21	187		158	MODERATE
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO2 µg/m ³	NOX µg/m ³	PM10 µg/m ³	PM2.5µg/m ³	AQI	AQI remarks
1.	01-01-2019	BDL	16	169	44	146	MODERATE
2.	03-01-2019	BDL	19	46	9	46	GOOD
3.	08-01-2019	BDL	13	222	105	181	MODERATE
4.	10-01-2019	BDL	15	116	53	111	MODERATE
5.	15-01-2019	BDL	11	208	43	172	MODERATE
6.	17-01-2019	BDL	16	123	41	116	MODERATE
7.	22-01-2019	6	29	31	14	31	GOOD
8.	24-01-2019	8	24	28		28	GOOD
9.	29-01-2019	5	9	112		108	MODERATE
10.	31-01-2019	BDL	BDL	44		44	GOOD
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	05-02-2019	BDL	9	249		199	MODERATE
2.	07-02-2019	BDL	9	126		118	MODERATE
3.	13-02-2019	BDL	18	116		111	MODERATE
4.	15-02-2019	BDL	BDL	84	41	84	SATISFACTORY
5.	18-02-2019	10	26	96	86	96	SATISFACTORY
6.	21-02-2019	5	BDL	98	59	98	SATISFACTORY
7.	25-02-2019	BDL	19	109	35	106	MODERATE
8.	27-02-2019	BDL	BDL	126	35	118	MODERATE
Limits^:-		80	80	100	60		

VASCO : FUSE CALL							
Sr.	Sampling Date	SO ₂ µg/m ³	NO _X µg/m ³	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	AQI	AQI remarks
1.	05-03-2019	BDL	20	148	114	132	MODERATE
2.	07-03-2019	BDL	14	124	58	116	MODERATE
3.	11-03-2019	5	BDL	181	8	154	MODERATE
4.	13-03-2019	7	11	263	43	213	POOR
5.	20-03-2019	7	9	52	36	52	SATISFACTORY
6.	22-03-2019	7	13	215	11	176	MODERATE
7.	27-03-2019	8	9	77	69	77	SATISFACTORY
8.	29-03-2019	3	BDL	50	48	50	GOOD
Limits^:-		80	80	100	60		

ANNEXURE IV

NWMP DATA FOR THE YEAR 2018-2019														
RIVER CHAPORA NEAR ALORNA FORT, PERNEM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	7.4	7.5	8.2	7.11	7.8	6.58	7.4	7.18	7.1	6.3	8.1	6.9	6-9
2	Temperature °C	28.1	33	28	27	28	28	30	27	27	27	29	30	
3	Conductivity µs/cm	7108	1181	78.23	97.03	71.63	66.1	89	135.73	4278	2897	1577	2340	
4	Dissolved Oxygen mg/l	5.7	6.8	6.9	7.6	6.4	7.9	7.2	7.3	4.8	7.4	7.9	7.2	4 mg/l or more
5	Turbidity (NTU)	3.47	4.2	30.5	7.43	8.06	5.01	5.06	2.51	2.83	2.37	2.21	2.95	
6	Nitrite Nitrogen mg/l	0.017	BDL	0.045	0.01	BDL	BDL	BDL	0.01	BDL	0.07	0.006	0.15	
7	Nitrogen(Nitrate) mg/l	1.44	BDL	1.12	0.26	BDL	0.143	0.21	0.21	BDL	BDL	0.08	0.08	
8	Phosphate mg/l	0.02	BDL	0.06		0.02	BDL	BDL	0.27	BDL	0.07	0.43	0.58	
9	BOD mg/l	0.9	1.2	1.1	2.2	0.5	1.2	0.7	BDL	2	2.9	BDL	2.6	3 mg/l or less
10	COD mg/l		4	20	4	2	6	4	4	8	6	8	4	
11	Chloride mg/l	2104	437	7.8	19.08	32.5	99.97	6	31.5	1578	1223.03	284.91	607	
12	Fecal Coliform MPN/100 ml	3300	780	13000	4900			3300	3300	2300	780	1300	780	
13	Total Coliform MPN/100 ml	7900	1300	24000	7900			7900	4900	3300	1300	2300	1300	5000 or less MPN/100 ml
14	Ammonia mg/l	0.26	0.08	0.1	0.04	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
15	Total Dissolved Solids(mg/l)	4205	802	56	63	48	123	52	81	2769	1692	759	1481	
16	Total Fixed Solids (mg/l)	2358	248	20	41	34	53	21	70	1917	1101	662	889	
17	Total Suspended Solid (mg/l)	13	8	60	46	13	59	11	3	18	9	12	24	
18	Hardness(mg/l)	682	112	30	26	18	36	26	24	550	360	440	222	
19	Fluoride(mg/l)	0.73	0.76	BDL	0.13	BDL	BDL	0	0.62	1.06	0.01		0	
20	Boron(mg/l)	1.05	1.7					0.16	1.4	0.46			2.64	
21	Sulphate (mg/l)	195.6	372	9.4	4.07	2.48	5.42	2	3.14	62	357.3	182.56	52.8	
22	Total Alkalinity(mg/l)	52	70	28	34	24	24	32	30	30	36	56	54	
23	Phenolphthalein Alkalinity(mg/l)	8	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	601.1	192	7.1	10.8	5.4	7.4	7.9	6.1	799	4.2	287.1	328.3	
25	Potassium(mg/l)	53.4	7.6	2.8	2.2	1.9	1.9	2.1	52.6	75.3	2.2	12	17.8	
26	Calcium as CaCO ₃ (mg/l)	54.51	11.2	8	6.4	5.61	8	4.81	7.21	60	32.1	112.2	19.24	
27	Magnesium(mg/l)	132.7	20	2	2.43	BDL	6.8	3.4	BDL	97	68.04	38.9	42.3	
28	Nickel(mg/l)	BDL						0.2						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						0.02						
32	Zinc(mg/l)	0.03						0.09						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.24						0.54						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						

40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)	BDL												
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER KALNA AT CHANDEL, PERNEM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	7.1	7.4	7.8	6.78	7.86	6.98	7.3	6.79	7.4	6.5	7.9	6.7	6-9
2	Temperature °C	28.3	32	28	27	28	28	31	27	27	27	29	30	
3	Conductivity µs/cm	145	104.6	80.49	55.36	60.17	59.7	84	76.96	73	62	67.25	219	
4	Dissolved Oxygen mg/l	7.1	6.9	6.7	5	7.2	7.5	7.5	7.8	7.3	7.7	7.2	7.2	4 mg/l or more
5	Turbidity (NTU)	2.01	3.16	33.5	7.91	11.72	5.72	20.1	2.52	1.94	2.55	2.69	2.2	
6	Nitrite Nitrogen mg/l	0.008	BDL	0.03	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.005	BDL	
7	Nitrogen(Nitrate) mg/l	0.07	BDL	0.98	BDL	BDL	0.14	0.19	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	0.28	0.07		0.06	0.014	BDL	0.044	0.04	0.02	0.34	0.03	
9	BOD mg/l	BDL	1	1.3	0.6	0.5	1.7	1.8	1.5	2	2.9	4	BDL	3 mg/l or less
10	COD mg/l	6	10	20	6	2	28	4	4	4	4	4	4	
11	Chloride mg/l	43.5	20	7	9.29	5	30.0	5	9	9	8.32	6.5	10	
12	Fecal Coliform MPN/100 ml	450	3300	13000	2300			4900	3300	1700	1300	780	1100	
13	Total Coliform MPN/100 ml	780	7900	24000	3300			7900	4900	3300	1700	1700	1700	5000 or less MPN/100 ml
14	Ammonia mg/l	0.19	0.09	0.15	BDL	BDL	0.02	BDL	BDL	BDL	BDL	BDL	BDL	
15	Total Dissolved Solids(mg/l)	87	70	60	37	43	31.0	51	45	51	37	44	131	
16	Total Fixed Solids (mg/l)	48	31	22	23	34	59	180	34	36	20	37	66	
17	Total Suspended Solid (mg/l)	10	8	58	18	8	65	26	4	8	8	2	19	
18	Hardness(mg/l)	32	30	36	24	6	76	48	30	28	54	36	26	
19	Fluoride(mg/l)	BDL	0.56	BDL	0.14	BDL	BDL	0	BDL	0	0.03		0	
20	Boron(mg/l)	0.04	0.44					0.13	1.29	0.02			3.78	
21	Sulphate (mg/l)	6	12	9.8	BDL	2.8	22.14	1.99	2.53	2.32	3.09	13.21	1.34	
22	Total Alkalinity(mg/l)	36	34	30	26	28	24	32	40	30	32	36	24	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	44.4	11.5	8	5.7	4.4	74.2	9	5.3	7.8	4.3	8.6	9.3	
25	Potassium(mg/l)	7.7	3.3	2.8	2	1.6	4.2	1.8	1.9	2.5	2.1	1.6	4.8	

26	Calcium as CaCO ₃ (mg/l)	7.21	6	7	5.6	BDL	13.6	8.02	7.21	7	11.2	6.41	6.41	
27	Magnesium(mg/l)	3.4	4	4	2.43	BDL	15.16	6.8	2.9	2.4	6.32	4.9	2.43	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	BDL						0.04						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						1.57						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER MAPUSA ON CULVERT ON HIGHWAY MAPUSA-PANAJI 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	6.93	7.1	7.4	6.63	7.19	6.51	6.6	6.56	6.7	6.2	7.2	7	6.5 - 8.5
2	Temperature °C	30	34	29	28	28	28	30	29	28	28	30	31	
3	Conductivity ms/cm	1418	1655	257.2	184.1	302.91	202.08	429	686.08	5125	7649	7590	3311	
4	Dissolved Oxygen mg/l	4.1	2.4	3.6	4.2	5.1	4.9	2.3	2.9	3.4	3.8	3.1	2.6	4 mg/l or more
5	Turbidity (NTU)	8.01	11.78	45.4	57.3	17.11	20.8	10.35	3.06	7.09	3.77	3.76	3.15	30 NTU
6	Nitrite Nitrogen mg/l	0.222	BDL	0.1	0.036	0.044	BDL	0.09	BDL	BDL	BDL	0.02	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	1.14	0.44	0.66	0.237	0.46	BDL	BDL	BDL	0.68	BDL	
8	Phosphate mg/l	0.06	0.07	0.1		0.08	0.076	0.05	0.031	0.06	0.02	0.08	0.03	
9	BOD mg/l	3.4	4.2	4	BDL	2.1	2.3	6.7	1.6	2	2.9	BDL	3.2	3 mg/l or less
10	COD mg/l	14	30	30	6	6	26	16	6	30		12	10	
11	Chloride mg/l	440.3	534	39	34.73	50.5	49.98		130	1578	2935.3	1874.4	881	
12	Fecal Coliform MPN/100 ml	24000	7900	24000	11000			7900	4900	3300	2300	3300	4900	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	54000	17000	35000	17000			13000	7000	4900	3300	7900	11000	
14	Ammonia mg/l	0.03	0.3	0.3	BDL	BDL	0.19	BDL	BDL	BDL	0.12	0.08	BDL	
15	Total Dissolved Solids(mg/l)	851	982	180	115	194	139	257	427	2821	4360	2774	1987	
16	Total Fixed Solids (mg/l)	489	514	60	80	157	101	114	345	2212	3199	1672	1020	

17	Total Suspended Solid (mg/l)	20	15	84	19	14	14	26	5	23	8	15	12	
18	Hardness(mg/l)	156	204	320	50	42	56	60	160	600	1200	680	334	
19	Fluoride(mg/l)	BDL	1.19	BDL	0.11		BDL	0	1.31	1.23	0.04		0	
20	Boron(mg/l)	0.35	1.72					0.61	1.32	0.56			1.44	
21	Sulphate (mg/l)	1048.4	734	102	16	317	13.87	35.66	46.4	110	749.1	17.6	16.69	
22	Total Alkalinity(mg/l)	66	142	28	42	36	32	40	52	56	66	84	40	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	2	
24	Sodium(mg/l)	197.7	252	25.3	21.8	28.6	22.5	50.5	80	640	6.4	1161	459.7	
25	Potassium(mg/l)	15.2	12.4	5.7	3.8	3.7	3.2	5.1	16.9	62	2.2	52.2	24	
26	Calcium as CaCO3(mg/l)	17.6	23	64	10.4	12.02	5.6	12.83	24.1	80	240.5	144.3	35.27	
27	Magnesium(mg/l)	27.2	35	39	5.83	2.9	12.25	6.8	24.3	97	145.8	77.8	59.78	
28	Nickel(mg/l)	BDL						0.19						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.02						0.06						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.21						2.65						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL												

RIVER ASSANORA AT ASSANORA 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	6.67	6.86	8.28	6.99	6.67	6.31	6.9	7.12	6.5	7.8	6.2	6.4	6-9
2	Temperature °C	32	29.1	28	27	28	25.2	29	28	29	29	29	31	
3	Conductivity µs/cm	64.47	52.67	57.49	45.29	54.36	110.33	58	144	190	55	50	55	
4	Dissolved Oxygen mg/l	6.1	6.5	5.5	6.8	6.8	7.7	6.8	6.9	7.8	9.3	6.8	7	4 mg/l or more
5	Turbidity (NTU)	2.22	2.16	12.17	10.35	5.86	3.51	6.69	3.49	1.84	2.58	3.09	3.45	
6	Nitrite Nitrogen mg/l	BDL	BDL	0.011	BDL	BDL	0.006	BDL	BDL	BDL	BDL	BDL	0.06	
7	Nitrogen(Nitrate) mg/l	BDL	0.05	BDL	0.196	0.27	0.11	0.07	0.13	0.49	0.02	0.1	0.06	
8	Phosphate mg/l	BDL	BDL	0.023	BDL	0.022	BDL	0	0.05	BDL	BDL	0.05	0.05	
9	BOD mg/l	0.6	0.7	BDL	0.5	0.8	1.7	1.5	1.9	1.9	BDL	2.1	BDL	3 mg/l or less
10	COD mg/l	2	10	4	2	4	4	4	2	4	2	14	11	
11	Chloride mg/l	10.5	9.29	13.2	5	6.36	15	8.81	6.49	6.36	19.1	2.94	17.9	
12	Fecal Coliform MPN/100 ml	24000	13000	5400	790		2300	1300	790	130	170	490	1300	
13	Total Coliform MPN/100 ml	54000	24000	9200	1400		3300	2300	1700	170	220	940	2200	5000 or less MPN/100 ml
14	Ammonia mg/l	0.06	0.04	0.12	0.03	0.04	0.02	0.02	0.007	0.03	0.05	BDL	BDL	
15	Total Dissolved Solids(mg/l)	41	33	35	28	33	68	37	86	116	34	30	31	
16	Total Fixed Solids (mg/l)	35	20	22	21	26	30	27	60	62	14	10	21	
17	Total Suspended Solid (mg/l)	2	2	6	6	26	4	12	6	37	6	24	19	
18	Hardness(mg/l)	20	20	20	14	16	30	16	22	30	24	28	22	
19	Fluoride(mg/l)	0.41	2.63	0.78	0.09	BDL	BDL	0.03	BDL	0.08	0		21	
20	Boron(mg/l)	3.3	0.88	0.92				0.8	2.71	0.05	1.91		0.77	
21	Sulphate (mg/l)	3.9	2.82	6.5	2.44	4.22	3.19	2.08	4.7	BDL	2.74	BDL	5.42	
22	Total Alkalinity(mg/l)	28	34	24	14	22	30	24	18	42	22	46	38	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	11.9	3.6	9	7.4	6.3	6.8	7.1	5	7	6.2	4.3	16.7	
25	Potassium(mg/l)	7.1	2	2.3	2	1.8	4.5	1.6	1.8	2.4	2.3	1.2	2.9	
26	Calcium as CaCO ₃ (mg/l)	4	4.8	6.4	3.21	5.6	4.8	4.8	5.61	5.61	5.61	4.01	12	
27	Magnesium(mg/l)	2.4	BDL	BDL	BDL	BDL	4.37	BDL	BDL	3.89	2.43	4.37	2.4	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	BDL						0.01						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.13						0.02						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						

42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER VALVANTI AT SANQUELIM 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	7.1	7.18	8.02	6.92	6.72	7.03	7.08	7	6.5	7.6	6.4	6.5	6-9
2	Temperature °C	32.2	30.1	28	26	27	26	29	29	30	28	29	31	
3	Conductivity µs/cm	61.4	58.99	55.48	54.03	54.71	68.36	66.4	158.2	198	66	59	64	
4	Dissolved Oxygen mg/l	7.7	7.1	6.7	7.3	7.4	7.5	6.6	7.2	8.1	8.1	7.3	7.9	4 mg/l or more
5	Turbidity (NTU)	BDL	1.21	6.14	16.15	3.36	2.51	2.18	2.27	1.31	3.05	2.05	3.96	
6	Nitrite Nitrogen mg/l	BDL	BDL	BDL	0.197	0.28	BDL	BDL	BDL	BDL	BDL	0.006	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	0.05	BDL	BDL	BDL	0.1	0.09	0.119	0.17	BDL	0.11	BDL	
8	Phosphate mg/l	BDL	BDL	0.031	BDL	0.028	0.02	BDL	0.05	BDL	0.02	0.04	0.07	
9	BOD mg/l	1.7	1.7	0.6	0.5	BDL	1.2	0.9	2	1.9	2.1	2	BDL	3 mg/l or less
10	COD mg/l	2	8	4	2	2	6	6	18	6	3	8	7	
11	Chloride mg/l	7.5	7.34	7.83	5.5	5.38	5.5	9.29	8.49	5.87	7.8	13.2	8.74	
12	Fecal Coliform MPN/100 ml	1300	1100	7000	13000		4900	2300	3300	3300	2300	1300	1300	
13	Total Coliform MPN/100 ml	2200	1300	11000	17000		7000	4900	4900	4900	3300	2200	2300	5000 or less MPN/100 ml
14	Ammonia mg/l	0.11	0.1	0.04	0.03	0.05	0.07	0.05	0.03	0.02	0.09	BDL	BDL	
15	Total Dissolved Solids(mg/l)	44	36	37	34	36	43	41	94	119	40	36	39	
16	Total Fixed Solids (mg/l)	35	22	20	18	20	16	25	66	59	20	13	24	
17	Total Suspended Solid (mg/l)	7	5	7	15	8	4	8	5	46	11	33	11	
18	Hardness(mg/l)	18	20	18	14	18	32	24	22	32	26	30	50	
19	Fluoride(mg/l)	0.36	0.62	1.05	0.12	BDL	BDL	0.04	BDL	0.06	0		0	
20	Boron(mg/l)	3.1	0.93	0.98				0.99	1.54	0.21	1		0.72	
21	Sulphate (mg/l)	2.4	2.01	2.69	2.83	4.63	2	3.62	5.81	2.21	2.21	2.36	3.46	
22	Total Alkalinity(mg/l)	36	28	26	18	20	34	28	28	40	24	36	44	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	10.1	3.7	5.5	5.1	5.3	4.8	8.3	10.3	7.3	6.3	5.3	15.2	
25	Potassium(mg/l)	6.9	1.9	2	1.9	1.6	1.4	1.8	3.6	2.3	2.2	1.3	1.5	
26	Calcium as CaCO3(mg/l)	6.4	5.6	4.8	3.21	5.6	5.6	5.6	6.41	4.81	5.61	6.41	32	
27	Magnesium(mg/l)	BDL	BDL	BDL	BDL	BDL	4.37	2.43	BDL	4.86	2.92	3.4	4.4	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.14						0.07						

33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						4.25						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	(mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER MADEI AT DABOSE, VALPOI 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	7.1	6.94	7.7	7.09	7.09	6.71	7.14	7.18	6.4	7.6	6.2	6.5	6-9
2	Temperature °C	32.2	30	29	26	27	25	28	29	29	28	29	31	
3	Conductivity µs/cm	101.2	119.2	104.5	59.14	55.08	64.18	219.2	181.2	227	87	95	119	
4	Dissolved Oxygen mg/l	7	6.5	5.8	7.8	7.6	7.5	7.4	7.6	8.1	7.7	7.2	7.3	4 mg/l or more
5	Turbidity (NTU)	1.59	2.38	2.78	11.35	5.94	8.82	3.52	2.42	1	1.58	1.32	2.78	
6	Nitrite Nitrogen mg/l	BDL	BDL	BDL	BDL	BDL	BDL	0.006	BDL	0.015	BDL	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	0.05	BDL	4	0.17	0.08	0.08	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	0.016	0.032	0.02	0.032	BDL	0.06	0.05	0.02	BDL	0.02	0.06	
9	BOD mg/l	1.4	BDL	0.7	0.6	0.7	1.2	1	2.2	1.7	BDL	2.7	2.5	3 mg/l or less
10	COD mg/l	2	8	4	8	6	4	6	10	4	6	4	7	
11	Chloride mg/l	9	8.81	6.85	4	5.87	6.5	37.18	10.49	8.81	6.9	8.32	7.77	
12	Fecal Coliform MPN/100 ml	200	450	3300	4600		3300	4900	3300	1700	1300	2200	1300	
13	Total Coliform MPN/100 ml	450	680	4900	7000		7000	7000	7000	2200	1700	2600	2200	5000 or less MPN/100 ml
14	Ammonia mg/l	0.17	0.07	0.15	0.02	0.06	0.04	0.28	0.03	BDL	0.13	0.08	BDL	
15	Total Dissolved Solids(mg/l)	65	72	60	36	72	40	125	108	135	58	57	69	
16	Total Fixed Solids (mg/l)	53	41	35	29	51	12	85	74	65	38	19	36	
17	Total Suspended Solid (mg/l)	3	7	13	46	10	8	23	7	24	14	22	17	
18	Hardness(mg/l)	40	54	44	18	20	40	34	32	48	42	40	30	
19	Fluoride(mg/l)	BDL	2.38	0.81	0.06	BDL	BDL	0.03	BDL	0.13	0		0	

20	Boron(mg/l)	3.2	1.5	1.58				0.94	8.39	0.06	2.2		0.86	
21	Sulphate (mg/l)	2.5	4.16	2.9	2.54	4.29	4.96	10.64	3.35	BDL	BDL	2.48	BDL	
22	Total Alkalinity(mg/l)	58	66	12	24	22	44	38	36	52	48	56	24	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	10.4	3.9	5.6	4.6	5.5	3.9	28.6	7.4	7.4	5.5	6	16.2	
25	Potassium(mg/l)	7.1	2.3	2.5	1.9	1.8	1.6	3.2	2.6	2.4	2.4	1.6	5.4	
26	Calcium as CaCO3(mg/l)	6.41	13.6	12	4.81	6.4	10.4	9.6	9.61	4.81	11.2	9.62	14	
27	Magnesium(mg/l)	5.8	4.86	3.4	BDL	BDL	3.4	2.43	BDL	8.75	3.4	3.89	3.9	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.15						0.03						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						0.22						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER KHANDEPAR, OPA, PONDA 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	6.96	8.12	7.86	7.41	6.52	6.3	7.8	7.14	7	7.2	6.1	7.5	6-9
2	Temperature °C	31.2	32	29	27	27.9	27	30	28	27	28	27	31	
3	Conductivity µs/cm	103.8	133.77	56.43	79.57	47.7	66.58	69	84.5	221	105.2	83	288	
4	Dissolved Oxygen mg/l	7.1	7.8	7.9	7.5	7.5	7.7	6.9	7.2	6.5	7.6	7.8	7.1	4 mg/l or more
5	Turbidity (NTU)	2.31	3.78	29.5	7.92	14	4.93	1.64	1.87	1.41	2.77	2.03	3.87	
6	Nitrite Nitrogen mg/l	0.01	BDL	BDL	BDL	0.005	BDL	BDL	BDL	BDL	0.007	BDL	0.03	
7	Nitrogen(Nitrate) mg/l	BDL	0.23	0.65	0.24	0.34	BDL	BDL	0.14	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	BDL	BDL		BDL	0.015	BDL	BDL	BDL	0.03	0.12	BDL	
9	BOD mg/l	1	2.2	2.4	2	0.8	0.5	0.8	BDL	0.6	4.2	BDL	2.9	3 mg/l or less
10	COD mg/l	4	18	8	4	4	4	4	2	4	14	4	6	
11	Chloride mg/l	7.83		5.99	13.21	3.91	8.32	8	11	7.5	45.42	12.72	8.98	
12	Fecal Coliform MPN/100 ml	200	790	4900	780		790	1300	230	78	130	130	68	
13	Total Coliform MPN/100 ml	780	1100	7900	1300		1100	2300	490	230	230	220	170	5000 or less MPN/100 ml
14	Ammonia mg/l	0.23	0.04	0.16	0.11	BDL	0.08	0.04	BDL	0.07	0.06	0.08	0.08	
15	Total Dissolved Solids(mg/l)	64	78	37	47	30	41	126	49	144	67	50	187	
16	Total Fixed Solids (mg/l)	33	88	55	19	16	19	78	21	144	48	37	153	
17	Total Suspended Solid (mg/l)	23	13	48	34	21	8	5	14	24	8	8	10	
18	Hardness(mg/l)	48	40	20	24	16	24	24	32	28	54	36	42	
19	Fluoride(mg/l)	BDL	1.14	0.1	BDL	BDL	BDL	0.28	0.25	0	0.04	BDL	0	
20	Boron(mg/l)	0.56	0.06	2.94				2.34	0.07	1.03	0.14		3.69	
21	Sulphate (mg/l)	BDL	BDL	18.76	BDL	BDL	3.9	BDL	BDL	2	62.15	4.23	2.09	
22	Total Alkalinity(mg/l)	50	44	26	40	26	24	26	30	46	66	48	16	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	11.9	18.1	8.1	6.9	3.6	5.2	3.9	2.2	6	26.3	19.1	13.2	
25	Potassium(mg/l)	7	2.4	2.4	1.9	1.6	1.9	1.3	1.3	2.2	2.7	2	4.2	
26	Calcium as CaCO3(mg/l)	11.2	7.21	2.4	5.61	4.81	5.6	5.61	7	9.62	14.43	9.6	8.02	
27	Magnesium(mg/l)	4.86	5.35	3.4	2.43	BDL	2.43	2.43	3.4	1.9	4.37	2.92	5.35	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.05						0.11						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						1.96						
35	Manganese (mg/l)													
36	Arsenic(mg/l)													
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						

43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER KHANDEPAR AT CODLI 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	6.83	7.38	8.37	7.22	6.5	7.13	6.7	7.44	7	7.1	6.3	7.4	6-9
2	Temperature °C	31.2	32	28	26	27.3	26	30	27	27	29	28	30	
3	Conductivity µs/cm	104.5	101.25	116.5	59.91	45.71	69.9	152	81.53	228	77	74	243	
4	Dissolved Oxygen mg/l	6.8	5.2	8	7.4	7.9	7.4	7	7.7	7.3	8.1	7.9	8.6	4 mg/l or more
5	Turbidity (NTU)	3.13	3.17	15.04	6.61	30.8	3.38	3.56	2.27	1.26	1.62	2.44	3.35	
6	Nitrite Nitrogen mg/l	0.04	BDL	BDL	BDL	BDL	BDL	0.01	BDL	BDL	BDL	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	0.27	0.53	0.19	0.31	BDL	0.07	0.12	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	BDL	BDL		BDL	0.018	0.04	BDL	BDL	0.09	0.14	BDL	
9	BOD mg/l	1.1	0.9	2.8	1.1	1.3	0.6	0.6	BDL	0.5	2.8	BDL	2.6	3 mg/l or less
10	COD mg/l	6	6	12	4	4	4	2	4	6	10	6	8	
11	Chloride mg/l	6.85	25.0	16.5	10.27	3.42	5.87	6	15	10	35.44	12.72	13	
12	Fecal Coliform MPN/100 ml	450	450	4900	2200		3300	790	1300	130	230	230	78	
13	Total Coliform MPN/100 ml	780	780	7000	2700		4600	1300	2200	220	330	330	220	5000 or less MPN/100 ml
14	Ammonia mg/l	0.14	0.02	0.03	0.07	BDL	BDL	0.03	BDL	0.1	0.07	0.03	0.05	
15	Total Dissolved Solids(mg/l)	65	68	66	36	28	42	84	48	153	45	47	143	
16	Total Fixed Solids (mg/l)	41	75	75	21	11	24	51	23	153	28	30	108	
17	Total Suspended Solid (mg/l)	18	19	21	30	56	5	9	16	71	5	10	9	
18	Hardness(mg/l)	50	40	22	26	16	22	26	30	44	38	32	50	
19	Fluoride(mg/l)	0.4	1.2	0.66	0.21	BDL	BDL		0.61	0	0.06	BDL	0	
20	Boron(mg/l)	1.17	0.49	6.2				2.61	0.11	1.05	0.5		3.66	
21	Sulphate (mg/l)	BDL	2	69.7	BDL	2.26	2.57	2.11	3.3	3.98	16.11	2.78	2.16	
22	Total Alkalinity(mg/l)	48	56	26	34	22	20	26	30	42	46	40	14	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	11.7	25.1	9.7	5.1	3.4	4.1	3.5	3.7	6.4	3.6	13	9.7	
25	Potassium(mg/l)	7	2.6	2.3	1.8	1.5	1.7	1.2	1.3	2.2	2	1.6	2.4	
26	Calcium as CaCO3(mg/l)	10.4	8.8	2.4	4.81	4.81	8	4.81	7.21	9.62	8.02	8.8	10.4	
27	Magnesium(mg/l)	5.8	4.37	3.89	3.4	BDL	0.49	3.4	2.92	4.9	4.37	2.43	5.83	
28	Nickel(mg/l)	BDL						BDL						

29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.03						0.02						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						0.25						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER KUSHAWATI NEAR BUND AT KEVONA, RIVONA, SANGUEM 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	6.95	6.53		6.83	6.57	6.97	7.6	7.62	7.6	7.3	8	7	6-9
2	Temperature °C	31.1	30.5	27.6	28.7	27	28	29	30	30	27	29	28	
3	Conductivity µs/cm	183.1	219.92	77.84	59.12	51.72	8.34	47	109	109	43	47.75	191	
4	Dissolved Oxygen mg/l	6.4	7.1	6.8	7.4	7.8	7.5	7.8	7.8	7.6	8.3	7.8	8.1	4 mg/l or more
5	Turbidity (NTU)	2.13	3.49	5.31	11.08	6.49	1.41	BDL	2.2	2.2	BDL	BDL	2.03	
6	Nitrite Nitrogen mg/l	BDL	0.04	BDL	BDL	BDL	BDL	BDL	0.01	BDL	BDL	BDL	0.007	
7	Nitrogen(Nitrate) mg/l	0.2	BDL	0.73	0.2	0.21	BDL	BDL	0.221	0.18	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	BDL	BDL	0.02	0.03	BDL	BDL	0.09	0.03	BDL	BDL	0.08	
9	BOD mg/l	3.5	1.1	1	BDL	BDL	0.8	1.8	2.6	0.6	2.3	BDL	BDL	3 mg/l or less
10	COD mg/l	6	4	12	BDL	4	6	4	16	4	4	2	6	
11	Chloride mg/l	7.49	8.5	7	5.3	5.49	5	6.85	3	9.78	5.38	7.8	14.5	
12	Fecal Coliform MPN/100 ml	1300	780	1300	4900		1300	780	780	1300	1100	170	1300	
13	Total Coliform MPN/100 ml	2300	1100	1700	7900		3300	1300	1300	2300	2200	330	2300	5000 or less MPN/100 ml
14	Ammonia mg/l	0.24	0.09	0.12	0.03	0.26	0.06	0.12	BDL	0.17	0.17	0.09	0.07	
15	Total Dissolved Solids(mg/l)	103	124	50	40	32	5	32	58	70	26	31	22.9	
16	Total Fixed Solids (mg/l)	130	80	10	11	18	2	13	35	38	13	25	19.8	
17	Total Suspended Solid (mg/l)	6	16	12	17	11	3	14	16	7	28	11	13	
18	Hardness(mg/l)	12	46	28	18	22	38	18	40	60	30	20	20	
19	Fluoride(mg/l)	0.72	BDL	BDL	0.21	BDL	BDL	0.05	0.01	0.13	0.1		0.43	

20	Boron(mg/l)	0.1	2.45					1.99	0.21	0.3			0.94	
21	Sulphate (mg/l)	2	2.77	4	2.09	2.04	10.28	BDL	11.23	2.7	2.19	3.64	5	
22	Total Alkalinity(mg/l)	78	66	28	24	26	34	24	28	62	48	22	10	
23	Phenolphthalein Alkalinity(mg/l)	8	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	29.5	4.6	9.1	4.7	5.9	6.6	5.3	6	7.5	3.5	3.6	3.4	
25	Potassium(mg/l)	7.6	2.5	2.2	1.8	1.7	1.4	1.6	2.1	2.6	1.8	1.1	1.1	
26	Calcium as CaCO3(mg/l)	3.21	13.63	7	4.81	8.02	7.2	4.8	8	12	8.82	4.81	6.81	
27	Magnesium(mg/l)	BDL	2.9	2	1.46	BDL	4.9	BDL	7.78	7.29	BDL	BDL	BDL	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.07						0.06						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						0.53						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	(mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER TALPONA AT CANACONA 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	6.87	6.98	6.71	7.25	7.04	6.57	7.3	7.88	7.5	6.6	6.7	6.8	6-9
2	Temperature °C	29	30	29	28.4	27	29	31	30	28	28	27	31	
3	Conductivity µs/cm	66.52	66.87	67.92	58.93	71.06	62.44	106	212.71	205	197	69	57.89	
4	Dissolved Oxygen mg/l	6.7	8.1	7	7.3	8.1	7.8	7.1	7.7	8	7	7.4	6.6	4 mg/l or more
5	Turbidity (NTU)	2.11	3.56	2.3	5.59	2.6	1.37	2.69	1.87	1.41	1.24	2.12	2.44	
6	Nitrite Nitrogen mg/l	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	0.01	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	BDL	BDL	0.026	0.02	0.356	0.26	0.02	7.7	0.03	0.05	0.02	
9	BOD mg/l	1.2	1.1	1	1.8	2.1	0.5		3.7	2	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l	4	18	2	6	20	6	12	12		10	4	6	
11	Chloride mg/l	11.3	10.5	6	7.34	6.99	5.87	33	8		26.9	2.94	16.5	
12	Fecal Coliform MPN/100 ml	78	130	230	2400		1300	790	790	790	230	140	130	
13	Total Coliform MPN/100 ml	130	230	330	5400		2400	1300	1700	1700	330	170	330	5000 or less MPN/100 ml
14	Ammonia mg/l	0.05	BDL	0.14	0.02	0.24	0.05	0.04	BDL	0.04	0.19	BDL	BDL	
15	Total Dissolved Solids(mg/l)	41	49	48	35	40	40	58	125	3514	95	41	33	
16	Total Fixed Solids (mg/l)	26	39	36	21	28	21	34	87	1729	86	19	23	
17	Total Suspended Solid (mg/l)	3	4	5	4	4	5	6	23	6	5	29	22	
18	Hardness(mg/l)	20	22	10	10	30	22	26	22	70	30	24	28	
19	Fluoride(mg/l)		BDL	1.26	0.05	BDL	BDL	0.03	0.076	0.3	0.56		0	
20	Boron(mg/l)	1.7	4.27	0.18				1.67	6.03	4.79	1.29		0.7	
21	Sulphate (mg/l)	4.6	2.88	4.6	3.5	3.41	2.62	3.01	BDL	1037.25	BDL	3.5	5.23	
22	Total Alkalinity(mg/l)	28	50	38	22	26	28	36	20	40	14	42	36	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	13.8	6.4	6.7	5.7	8	4.2	5.6	7.6	7.4	4.2	6.9	11.8	
25	Potassium(mg/l)	7.2	2.2	2.1	2	2	1.6	1.3	2.5	2.3	2.1	1.6	1.6	
26	Calcium as CaCO3(mg/l)	5.6	6.41	3.2	3.2	8.02	4	8.02	5.61	3.2	8.02	4.81	14	
27	Magnesium(mg/l)	BDL	BDL	BDL	BDL	2.43	2.92	BDL	BDL	16.23	2.4	2.92	3.4	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.17						0.07						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.14						9.47						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						

43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER SAL AT PAZORCONI, CUNCOLIM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	6.94	7.66	7.55	7.31	6.87	6.79	6.9	7.82	6.3	6.3	6.5	7.7	6.5 - 8.5
2	Temperature °C	30	29.5	28	27.9	27	28	30	30	27	28	27	30	
3	Conductivity µs/cm	72.01	89.92	111.2	158.47	80.73	100.19	111.2	233.73	218	276	79	92	
4	Dissolved Oxygen mg/l	6.8	6.5	6.9	2.7	7	6.9	7.7	7.1	4.6	5.2	6.3	5.4	4 mg/l or more
5	Turbidity (NTU)	9.52	18.7	12.66	2.74	14.13	4.58	6.93	15.86	4.8	2.8	14.98	5.97	30 NTU
6	Nitrite Nitrogen mg/l	BDL	BDL	0.03	BDL	BDL	0.3	0.045	0.007	BDL	BDL	BDL	0.07	
7	Nitrogen(Nitrate) mg/l	0.14	0.61	0.38	0.74	0.4	BDL	0.45	BDL	0.13	0.27	1.11	BDL	
8	Phosphate mg/l	BDL	0.06	0.02	0.073	0.05	0.083	0.09	0.04	7.99	0.07	0.07	0.07	
9	BOD mg/l	0.8	0.6	2.8	0.6	1	1	1.6	1.2	2.5	2.0	2.5	3.5	3 mg/l or less
10	COD mg/l	8	16	10.0	4	14	6	6	8	20	24	10	13	
11	Chloride mg/l	9.78	23	19.0	37.67	BDL	10.76	6.5	1.49	11.5	21.49	19.57	17.9	
12	Fecal Coliform MPN/100 ml	13000	4900	4900	17000		3300	2300	2300	1300	1300	2300	1300	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	22000	7900	7900	11000		4900	3300	3300	2300	2300	3300	2300	
14	Ammonia mg/l	0.04	0.23	0.15	0.13	0.07	0.09	0.02	0.04	BDL	0.53	0.06	0.05	
15	Total Dissolved Solids(mg/l)	44	60	70.0	341	46	64	59	138	118	115	48	55	
16	Total Fixed Solids (mg/l)	27	55	62.0	29	27	30	55	96	95	73	19	36	
17	Total Suspended Solid (mg/l)	14	9	27.0	26	21	6	13	13	11	29	52	35	
18	Hardness(mg/l)	18	28	34.0	116	20	24	32	20	50	62	32	44	
19	Fluoride(mg/l)		2.03	0.18	BDL	BDL	BDL	0	BDL	0.04	0.45		0	
20	Boron(mg/l)	1.49	3.2	0.33				1.47	1	1.74	3.57		0.8	
21	Sulphate (mg/l)	10.1	BDL	17.3	25.9	6.67	8.84	BDL	2.68	6.41	2.58	102.9	12.1	
22	Total Alkalinity(mg/l)	24	26	30.0	30	26	28	30	24	24	24	28	36	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	14.5	8.9	14.9	23.5	10.1	7.3	8.5	8.6	9.6	13.4	7.8	20.7	
25	Potassium(mg/l)	7	5.4	3.1	3.3	2.3	2	7.1	3.3	2.8	3.2	2.2	2.1	
26	Calcium as CaCO3(mg/l)	4	7.21	7.21	87	5.61	7.2	6.41	4.8	9.6	17.64	6.41	16	
27	Magnesium(mg/l)	BDL	2.4	3.9	58.3	BDL	BDL	3.9	BDL	9.82	4.4	3.89	6.8	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.07						0.26						
33	Lead(mg/l)	BDL						BDL						

34	Iron(mg/l)	0.14						2.88						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER SAL AT MOBOR 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	7.9	7.61	7.48	7.28	7.4	7.95	8	7.18	7.57	8	7.8	7.5	6.5 - 8.5
2	Temperature °C	32.5	32.5	29	28.2	27	29	28	30	27	28	28	27	
3	Conductivity µs/cm	55740	55620	22420	42540	11990	37060	52670	53840	48420	47740	47600	48420	
4	Dissolved Oxygen mg/l	5.7	6.4	5.9	6.3	5.8	5.5	5	8	6.8	6.4	7.2	6.8	4 mg/l or more
5	Turbidity (NTU)	2.93	3.16	11.04	7.43	3.89	5.57	3.16	2.05	4.45	2.42	1.84	4.45	30 NTU
6	Nitrite Nitrogen mg/l	0.05	0.01	0.28	1.34	0.69	0.72	0.01	BDL	0.29	BDL	BDL	0.29	
7	Nitrogen(Nitrate) mg/l	0.08	0.05	0.61	1.89	BDL	BDL	0.28	0.45	0.80	BDL	BDL	BDL	
8	Phosphate mg/l	0.06	0.04	0.03	0.1	0.7	0.16	0.15	2.12	0.178	1.1	BDL	0.18	
9	BOD mg/l	1.4	0.8	1.9	0.5	1.7	4.8	0.7	3	1.56	BDL	2.5	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l	20106	21280	9733.2	15899.3	4158.3	16721	19912	21402.9	17844.3	23405.9	19716	17844.26	
12	Fecal Coliform MPN/100 ml	200	200	4900	4900		780	1300	1300	1300	330	230	1300	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	450	450	9400	7900		1300	2300	2300	2300	490	330	2300	
14	Ammonia mg/l	0.07	0.04	0.02	0.05	0.1	0.32	0.2	0.08	0.3	0.17	0.12	0.3	
15	Total Dissolved Solids(mg/l)	39650	33900	13227	24875	7000	22250	37561	32370	31688.	29434	28560	31688	
16	Total Fixed Solids (mg/l)	22964	30100	13981	2275	6010	21980	31797	30100	29178.	13569	28003	29178	
17	Total Suspended Solid (mg/l)	12	201	21	496	139	13	73	131	235	100	6	235	
18	Hardness(mg/l)	6600	6600	2600	2400	2000	6800	5400	6600	5400	10000	7500	5400	
19	Fluoride(mg/l)	2.38	5	0.1		BDL	BDL	1.51	0.07	0.38	0.36		0.38	
20	Boron(mg/l)	4.47	6.1	0.12				5.04	0.08	3.5			3.5	
21	Sulphate (mg/l)	2536.7	3661.1	603	672.3	1055.1	2322.38	2212	2880.9	2115	3192.4	1613	2115	
22	Total Alkalinity(mg/l)	120	216	102	80	60	136	118	104	120	120	138	120	
23	Phenolphthalein Alkalinity(mg/l)	16	26	0	4	0	0	10	14	0	12	12	0	
24	Sodium(mg/l)	3539	8171	3263	8665	1946	6208	8367	7841	7819	9942	7198	7819	

25	Potassium(mg/l)	283	290.4	141.7	306.5	92.6	250.1	314.5	587.9	309.1	254.8	281	309.1	
26	Calcium as CaCO ₃ (mg/l)	400.8	481	481	400.8	160.3	1122.24	481	641.3	1202.4	3000	1202.4	1202.4	
27	Magnesium(mg/l)	1360.8	1312.2	340.2	340.2	388.8	972	1021	1215	1020.6	1701	1093.5	1020.6	
28	Nickel(mg/l)	BDL						0.29						
29	Copper(mg/l)	BDL						0.07						
30	Chromium(mg/l)	BDL						0.64						
31	Cadmium(mg/l)	0.05						BDL						
32	Zinc(mg/l)	0.07						0.06						
33	Lead(mg/l)	BDL						0.6						
34	Iron(mg/l)	0.39						0.34						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

HARWALE WATERFALL 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	6.85	6.74	7.74	7.03	6.93	7.26	8.16	7.22	6.26	7.39	6.25	6.24	
2	Temperature °C	32	30	29	27	27	26	27	30	29	28	28	29	
3	Conductivity µs/cm	118.7	115.6	111.2	58.55	52.81	98.26	95.25	108	267.8	130.7	147	144.8	
4	Dissolved Oxygen mg/l	8.7	4.6	7.4	7.8	7.8	7.9	8	7.5	6.8	79	7.6	7.1	
5	Turbidity (NTU)	1.99	1.62	5.66	25.7	8.55	3.6	5.26	5.05	1.07	2.85	3.34	4.06	
6	Nitrite Nitrogen mg/l	BDL	0.01	0.017	BDL	BDL	BDL	BDL	BDL	0.012	0.01	0.02	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	0.05	BDL	0.41	0.47	0.38	0.33	0.39	0.24	BDL	0.12	BDL	
8	Phosphate mg/l	BDL	BDL	0.02	0.04	0.078	0.04	0.032	0.04	0.03	0.07	0.03	0.05	
9	BOD mg/l	1.3	0.5	1.1	BDL	0.5	2.3	2.7	2.5	BDL	BDL	2.8	BDL	
10	COD mg/l	8	10	6	6	6	8	6	6	6	BDL	12	9	
11	Chloride mg/l	11	8.81	10.27	5	6.85	14.5	18.59	8.99	9.78	8.3	9.29	14.08	
12	Fecal Coliform MPN/100 ml	4900	3300	4900	7900		2300	1300	2300	2300	1300	3300	3300	
13	Total Coliform MPN/100 ml	11000	7900	7900	13000		3300	2300	3300	3300	2300	4900	1700	
14	Ammonia mg/l	0.14	0.12	0.1	0.05	BDL	0.09	0.1	BDL	BDL	BDL	BDL	BDL	
15	Total Dissolved Solids(mg/l)	79	75	68	41	75	58	60	108	160	79	89	84	
16	Total Fixed Solids (mg/l)	60	41	43	32	41	30	37	72	65	14	26	46	
17	Total Suspended Solid (mg/l)	5	32	11	28	15	11	17	7	78	7	46	14	

18	Hardness(mg/l)	46	52	44	16	16	30	24	30	30	72	76	28	
19	Fluoride(mg/l)	0.21	1.25	0.97	0.07	BDL	BDL	0.06	BDL	0.08	BDL		BDL	
20	Boron(mg/l)	3.27	0.99	1.03				0.88	0.46	0.1	0.68		0.77	
21	Sulphate (mg/l)	3.83	3.48	10.27	4.11	5.52	3.06	3.96	7.39	6.45	3.41	BDL	4.53	
22	Total Alkalinity(mg/l)	64	58	48	14	18	32	30	34	56	70	112	86	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	11	5.3	9.2	4.9	4.3	5	13.3	6.4	7.6	7.2	5.7	11.1	
25	Potassium(mg/l)	7.2	2.4	3.2	2	1.6	5.9	8.3	3.1	2.5	2.5	1.7	2.2	
26	Calcium as Ca (mg/l)	7.21	16	15.2	4.01	4	8	8	8.81	8.02	18.4	21.6	10	
27	Magnesium(mg/l)	6.8	2.92	BDL	BDL	BDL	2.4	BDL	BDL	2.43	6.32	5.35	4.4	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.09						0.02						
33	Lead(mg/l)	BDL						0.16						
34	Iron(mg/l)	0.15	BDL			BDL		0.65					0.06	
35	Manganese (mg/l)		BDL			BDL							0.02	
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER BICHOLIM, BARAZAN NAGAR, BICHOLIM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	7.05	8.79	7.93	6.72	6.08	7.46	7.1	6.7	7.8	7.4	7.4	7.1	6-9
2	Temperature °C	29.9	31.4	29.6	28	26	28	32	28	30	29	27	31	
3	Conductivity µs/cm	411.08	79.39	131.4	47.99	55.42	88.13	70.64	121.05	283	194	176	2851	
4	Dissolved Oxygen mg/l	8.6	7.8	7.2	6.9	6.8	7.3	8.5	7.1	8.5	9.3	8.3	6	4 mg/l or more
5	Turbidity (NTU)	4.08	4.92	12.2	37.3	16.51	5.53	8.29	3.95	3.49	6.56	6.98	4.22	
6	Nitrite Nitrogen mg/l	0.02	BDL	BDL	BDL	BDL	0.006	BDL	0.01	0.03	0.017	0.04	0.009	
7	Nitrogen(Nitrate) mg/l	0.44	0.63	0.15	0.71	0.41	0.3	0.21	0.28	0.38	0.22	0.27	0.25	
8	Phosphate mg/l	0.06	BDL	0.083	0.072	0.03	0.09	0.14	0.04	BDL	0.1	0.4	0.2	
9	BOD mg/l	1.9	2.5	2.4	1.2	1.2	1.7	4.9	2.1	2.9	2.9	2.7	2.6	3 mg/l or less
10	COD mg/l	6	8	8	8	6	6	14	6	14	8	6	6	
11	Chloride mg/l	49.1	21.96	17.1	21.5	3.9	9	6.99	12	13.98	41	27	1589.9	
12	Fecal Coliform MPN/100 ml	24000	7900	7900	17000		13000	13000	7900	3300	7900	7900	7000	
13	Total Coliform MPN/100 ml	35000	17000	17000	28000		22000	22000	13000	7900	13000	14000	11000	5000 or less MPN/100 ml
14	Ammonia mg/l	0.04	0.14	0.17	0.143	BDL	0.11	0.06	0.04	0.12	0.15	0	0.16	
15	Total Dissolved Solids(mg/l)	270	50	80	45	36	48	41	78	190	126	118	1842	
16	Total Fixed Solids (mg/l)	305	156	40	30	24	36	30	29	109	95	75	950	
17	Total Suspended Solid (mg/l)	11	6	31	10	66	7	16	4	8	3	7	17	
18	Hardness(mg/l)	68	66	48	20	18	30	26	34	46	118	62	290	
19	Fluoride(mg/l)	0.97	1.11	0.26		BDL	BDL	1.26	0.24	0.23	0.25	0.09	0	
20	Boron(mg/l)	2.04	0.24	0.6				1.52	0.01	2.57	2.7		2.12	
21	Sulphate (mg/l)	10.1	4.13	6.3	7.3	2.18	BDL	2.26	BDL	3.71	19.6	2.72	324.9	
22	Total Alkalinity(mg/l)	84	76	56	34	22	24	40	46	48	64	64	16	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	4	
24	Sodium(mg/l)	70.7	25	12.7	5.4	4.9	5.9	4.8	22	16.9	21	23.1	338.5	
25	Potassium(mg/l)	8.7	3.2	3.3	2.2	1.8	2	1.8	4.6	3.2	3.4	2.9	20.7	
26	Calcium as CaCO ₃ (mg/l)	13.6	16	12.8	8.02	4.8	22	6.41	11	14.43	14.43	13.6	27.3	
27	Magnesium(mg/l)	8.26	6.32	3.89	BDL	BDL	BDL	2.43	2	2.43	19.9	6.8	54	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.02						0.06						
33	Lead(mg/l)	0.13						BDL						
34	Iron(mg/l)	0.27						0.47						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						

43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropyfos (mg/l)	BDL						BDL						

MAYEM LAKE AT MAYEM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	7.32	7.99	8.17	6.68	6.1	6.1	6.63	7.5	7.9	7.9	7.5	7.3	6-9
2	Temperature °C	29.5	31	29.6	28	27	29	32	29	29	29	27	31	
3	Conductivity µs/cm	53.64	224.14	55.48	74.17	43.1	78.98	47.13	53.17	262	46	52	245.78	
4	Dissolved Oxygen mg/l	7.5	9.8	6.7	6.6	7.2	7.2	7.1	6.5	7.3	7.9	8.2	7.6	4 mg/l or more
5	Turbidity (NTU)	6.97	5.5	9.72	37.3	4.63	3.26	3.68	4.64	7.94	16.62	4.02	3.73	
6	Nitrite Nitrogen mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.027	0.03	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	BDL	0.71	BDL	0.13	BDL	BDL	0.34	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	BDL	0.02		BDL	0.08	0.04	BDL	BDL	0.07	0.19	0.04	
9	BOD mg/l	BDL	4.8	0.6	1.2	1.5	1.6	4	0.6	2.6	2.6	BDL	2.1	3 mg/l or less
10	COD mg/l	4	8	6	8	2	8	6	6	6	4	2	4	
11	Chloride mg/l	7.99		12.2	21.5	3.9	14	6.99	8	28.45	10	14	22.01	
12	Fecal Coliform MPN/100 ml	3300	450	4900	17000		2300	450	3300	1300	1300	790	3300	
13	Total Coliform MPN/100 ml	7900	780	7000	28000		3300	780	4900	2300	2300	1300	7000	5000 or less MPN/100 ml
14	Ammonia mg/l	0.54	0.07	BDL	0.143	BDL	0.06	0.08	0.15	0.24	0.19	BDL	0.05	
15	Total Dissolved Solids(mg/l)	30	152	33	45	30	43	28	36	178	32	32	146	
16	Total Fixed Solids (mg/l)	41	68	22	30	21	30	12	16	115	25	17	92	
17	Total Suspended Solid (mg/l)	8	9	33	10	28	7	9	10	16	16	3	15	
18	Hardness(mg/l)	10	20	18	20	10	18	12	12	20	30	20	20	
19	Fluoride(mg/l)	1.01	1.07	0.34	BDL	BDL	BDL	1.11	0.33	0.08	0.29	0.06	0	
20	Boron(mg/l)	0.11	0.04	0.56				7.43	0.13	0.32	1.55		0.36	
21	Sulphate (mg/l)	BDL	BDL	4.32	7.3	BDL	2.57	BDL	BDL	2.88	12.33	2.05	4.85	
22	Total Alkalinity(mg/l)	30	36	24	34	18	20	30	20	24	28	22	8	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	20.7	12.4	8.9	5.4	5.9	7.1	4.3	8	19.3	4.2	11.3	17.2	
25	Potassium(mg/l)	7	2.2	2.1	2.2	1.7	2.7	1.3	1.9	2.7	2	1.6	1.7	
26	Calcium as CaCO ₃ (mg/l)	2.4	7.21	5.6	8.02	5.6	4.01	2.4	4.8	4.81	8.02	5.61	7.2	
27	Magnesium(mg/l)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.4	BDL	BDL	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.02						0.07						
33	Lead(mg/l)	BDL						BDL						

34	Iron(mg/l)	0.06						1.29						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carboryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

CUMBHARJUA CANAL, CORLIM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	7.2	7.31	7.35	7.24	6.9	6.9	6.5	6.05	7.1	7.15	7.4	7.2	6.5 - 8.5
2	Temperature °C	31.1	33	29	27.4	27	29	29	29	29	28	28	31	
3	Conductivity µs/cm	47700	48360	39250	665.8	371.4	488.7	8086	16570	35780	33910	38410	40560	
4	Dissolved Oxygen mg/l	4.5	5.7	6.8	8.9	6	7.2	5.3	4.4	5.4	4.5	5.7	4.9	4 mg/l or more
5	Turbidity (NTU)	8.11	24.2	22.3	20.8	1.74	11.55	11.85	7.4	7	10.07	11.18	19.48	30 NTU
6	Nitrite Nitrogen mg/l	0.009	0.29	0.421	0.05	BDL	BDL	BDL	0.01	BDL	0.048	0.24	0.01	
7	Nitrogen(Nitrate) mg/l	BDL	0.08	0.08	0.26	0.85	0.2	BDL	BDL	0.59	0.288	BDL	BDL	
8	Phosphate mg/l		0.05	0.1		0.02	0.06	0.051	0.08	0.29	0.386	0.13	0.09	
9	BOD mg/l	BDL	1.3	2.6	3.7	0.9	0.5	1.5	BDL	2	0.8	1.5	0.8	3 mg/l or less
10	COD mg/l				6	8	14	8						
11	Chloride mg/l		17611.6	13209	449.2	150	107	6.5	6360	12719.5	14370.5	11346	17970	
12	Fecal Coliform MPN/100 ml	200	2300	450	2300		1300	780	3300	2300	450	780	780	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	450	3300	780	4900		2200	1300	7000	4900	780	1300	1300	
14	Ammonia mg/l	0.15	0.18	0.21	0.04	BDL	0.03	0.24	0.06	0.05	BDL	BDL	0.17	
15	Total Dissolved Solids(mg/l)	28042	27312	23456	400	220	321	4562	13278	24189	25796	26282	24723	
16	Total Fixed Solids (mg/l)	21030	10645	14689	492	128	106	820	7526	15922	10939	23307	22886	
17	Total Suspended Solid (mg/l)	146	220	110	24	4	7	40	52	135	66	141	87	
18	Hardness(mg/l)	5600	9000	8000	50	42	64	680	2000	7500	4500	4620	5520	
19	Fluoride(mg/l)		BDL	BDL	0.09	BDL	BDL	0.06	2.76	0	0.10		0	
20	Boron(mg/l)	7.88	2.36	2.35				0.54	4.2	2.45			1.51	
21	Sulphate (mg/l)	1704.3	2491.9	2515	14.82	35.97	14.5	2.61	886.3	1238.9	4166.6	1681.3	2576	
22	Total Alkalinity(mg/l)	98	112	110	38	8	26	44	56	88	70.	98	86	
23	Phenolphthalein Alkalinity(mg/l)	6	10	10	0	0	0	0	0	8	0	0	4	
24	Sodium(mg/l)	2426	8477	5274	129.2	67.2	59.3	822.8	2391	5238	6793	5937	9472	

25	Potassium(mg/l)	235.1	284.3	201.2	5.5	3.4	4.5	55.2	241.7	226.6	189.3	273.2	226.7	
26	Calcium as CaCO ₃ (mg/l)	481	801.6	802	8.02	6.41	18	440.9	160.3	801.6	801.6	328.7	361	
27	Magnesium(mg/l)	1069.2	1701	1458	7.29	6.3	4	137.05	388.8	1336.5	898.71	923.4	1123	
28	Nickel(mg/l)	0.21						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.03						BDL						
32	Zinc(mg/l)	0.02						BDL						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.21						0.17						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER ZUARI AT PANCHAWADI 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	7.2	7.4	8.08	7.11	7.08	6.42	6.6	6.62	6.4	6.8	6.6	6.7	6.5 - 8.5
2	Temperature °C	31.2	33	26	26	27.6	27	30	28	28	28	28	31	
3	Conductivity µs/cm	9737	15010	395.5	180.4	87.04	95.18	467	17760	23360	17100	17440	23600	
4	Dissolved Oxygen mg/l	6.2	6.7	7.4	6.4	7.5	7.6	6.6	5.1	4.9	6	6.7	5	4 mg/l or more
5	Turbidity (NTU)	7.92	6.12	40	30.7	11.79	16.78	4.92	3.41	3.3	5.63	6.91	6.19	30 NTU
6	Nitrite Nitrogen mg/l	0.1	BDL	BDL	BDL	0.02	BDL	0.01	0.016	0.014	0.02	0.074	0.02	
7	Nitrogen(Nitrate) mg/l	0.12	BDL	0.55	0.26	0.33	BDL	BDL	0.06	0.24	BDL	0.28	BDL	
8	Phosphate mg/l	0.011	BDL	BDL	BDL	0.07	0.042	0.03	0.04	BDL	0.09	0.11	0.2	
9	BOD mg/l	1.6	4.6	3.2	1.8	1.7	1.5	2.2	BDL	1.9	3.8	2.5	BDL	3 mg/l or less
10	COD mg/l				8	8	8	14						
11	Chloride mg/l	2984	5740.1	45.9	733.82	14.19	15.17	299.9	7461	11122	6364	8561.2	7487.1	
12	Fecal Coliform MPN/100 ml	2300	780	2300	2300		2300	2300	2300	780	780	1100	1300	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	1300	1300	4900	4600		3300	3300	3300	1100	1100	1700	2200	
14	Ammonia mg/l	0.12	0.05	0.1	0.21	BDL	0.1	BDL	BDL	0.08	0.09	BDL	BDL	
15	Total Dissolved Solids(mg/l)	5996	8705	253	108	55	59	808	10300	15182	9576	9963	14868	

16	Total Fixed Solids (mg/l)	3993	8989	290	48	22	38	566	7896	15182	9510	8006	14017	
17	Total Suspended Solid (mg/l)	15	15	80	87	16	30	14	30	97	14	52	14	
18	Hardness(mg/l)	1200	2000	1000	38	14	24	50	3000	3800	2800	2600	2800	
19	Fluoride(mg/l)	0.94	0.43	0.11	1.29	BDL	BDL	0.28	2.18	0	0.32	0.28	0	
20	Boron(mg/l)	1.33	0.9					3.92	1.86	8.68	0.46		0.6	
21	Sulphate (mg/l)	421	491.6	83.1	77.72	2.35	5.75	13.07	960.9	3.8	511.04	3114.7	697.4	
22	Total Alkalinity(mg/l)	54	74	36	34	32	22	28	48	66	60	66	24	
23	Phenolphthalein Alkalinity(mg/l)	0	106	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	760	1870	65.4	21.3	8.4	7.8	74.3	2236	3579	2907	2579	2938	
25	Potassium(mg/l)	69.4	87.2	5.2	2.5	2.3	1.9	4.4	318.3	153.9	104.8	123	134.8	
26	Calcium as CaCO3(mg/l)	80.2	400.8	240.5	4.81	4.81	6.4	5.61	124.3	3.21	481	2405	481	
27	Magnesium(mg/l)	243	243	97.2	6.32	BDL	BDL	8.75	653.7	921.5	388.8	486	388.8	
28	Nickel(mg/l)	0.17						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.04						BDL						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.2						0.37						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER ZUARI AT CORTALIM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	7.35	7.27	7	6.98	6.7	6.62	7.6	7.3	7.3	7.7	7	7.8	6.5 - 8.5
2	Temperature °C	31	31.2	26.8	28.1	27	28	31	29	29	28	29	27	
3	Conductivity µs/cm	48110	53780	36720	1067	--	29800	33970	42620	42620	44370	42660	48600	
4	Dissolved Oxygen mg/l	7.3	5.6	5.3	6.1	6.9	5.8	8	6.3	5.5	6.2	5.5	5.8	4 mg/l or more
5	Turbidity (NTU)	35.8	40	47.6	55.6	7.84	9.39	5.02	4.93	4.93	31	19.74	7.02	30 NTU
6	Nitrite Nitrogen mg/l	0.02	BDL	0.051	0.03	0.02	0.04	0.014	0.138	0.08	BDL	BDL	0.12	
7	Nitrogen(Nitrate) mg/l	BDL	0.2	0.67	0.39	0.28	0.33	0.13	83.8	0.28	BDL	0.2	1.12	
8	Phosphate mg/l	0.046	0.05	0.21	0.08	0.21	0.06	0.08	16.65	0.11	0.05	0.07	0.11	
9	BOD mg/l	4.7	1.5	1.5	2.1	1.9	0.9	3.2	0.9	2.7	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l				BDL									
11	Chloride mg/l		22618	11777	278	1976.6	8784.9	15532	13120.9	20791	22014.5	16389	19244	
12	Fecal Coliform MPN/100 ml	1300	780	7900	14000		1300	3300	3300	2300	1300	1300	3300	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	1700	1300	14000	17000		1700	4900	7000	3300	2300	1700	7000	
14	Ammonia mg/l	0.4	0.1	0.05	0.14	0.23	BDL	0.08	0.02	BDL	BDL	BDL	0.09	
15	Total Dissolved Solids(mg/l)	27904	29862	31056	795	3000	20860	21850	17775	24089	25489	26802	32998	
16	Total Fixed Solids (mg/l)	27963	27916	20536	440	2755	17555	18998	12764	14522	12589	16812	31102	
17	Total Suspended Solid (mg/l)	58	73	392	92	12	14	109	180	43	78	52	101	
18	Hardness(mg/l)	5600	5900	7400	100	760	2600	5200	3100	8000	3800	6300	6500	
19	Fluoride(mg/l)	0.55	0.64	BDL	BDL	BDL	BDL	0.06	0.05	0.68	0.51		1.46	
20	Boron(mg/l)	2.02	4.59					4.49	1.54	1.29			2.39	
21	Sulphate (mg/l)	2292.3	1561.7	3156	36.48	398.1	968.5	2414.9	1067.2	2800.6	1916.4	2787	452.7	
22	Total Alkalinity(mg/l)	116	120	92	38	34	94	100	100	120	120	118	56	
23	Phenolphthalein Alkalinity(mg/l)	4	0	0	0	0	0	2	2	8	6	0	4	
24	Sodium(mg/l)	3253	6498	4928	170.1	106.8	3574	7028	6654	7182	8933	7325	8423	
25	Potassium(mg/l)	263.5	244	197.5	7.6	45.4	139.6	233.2	263.1	277	235.5	295.4	233	
26	Calcium as CaCO3(mg/l)	961.9	577.15	561	10.42	120.24	641.3	481	1202.4	1002	1042	441	1202.4	
27	Magnesium(mg/l)	777.6	1084	1458	17.98	111.78	243	972	461.1	1336.5	291.6	1264	850.5	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.02						BDL						
32	Zinc(mg/l)	BDL						0.06						
33	Lead(mg/l)	BDL						0.48						
34	Iron(mg/l)	0.74						0.72						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						

43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

CREEK AT DANDO MOLLO, VELSAO, MORMUGAO 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C river as per CPCB classification based on designated best use of rivers
1	pH	7.18	8	7.4	6.74	6.46	6.65	7.9	6.92	6.9	7.7	7.1	7.61	6-9
2	Temperature °C	31.9	31.2	26.7	28.1	28	28	28	30	29	28	29	27	
3	Conductivity µs/cm	18690	17740	936.6	875.6	200.2	861.71	47260	3518	3518	6110	9576	19710	
4	Dissolved Oxygen mg/l	11.1	9.6	4.2	6.2	5.3	5.2	6.5	5.5	9.3	8.1	5	6.5	4 mg/l or more
5	Turbidity (NTU)	3.17	6.93	26.5	5.2	10.38	4.44	4.37	2.61	2.61	1.68	1.05	2.59	
6	Nitrite Nitrogen mg/l	5.3	11.11	0.51	0.01	BDL	0.03	0.07	0.155	0.11	0.376	BDL	18.81	
7	Nitrogen(Nitrate) mg/l	7.3	29.6	0.75	0.81	0.79	0.31	4.68	56.63	3.56	10	2.76	1.84	
8	Phosphate mg/l	15.5	8.49	0.11	0.15	0.06	29.24	0.32	16.2	5.52	45	1.31	6.04	
9	BOD mg/l	3.8	3.6	1.4	2.1	1.1	1.9	1.7	BDL	2.1	2.7	BDL	BDL	3 mg/l or less
10	COD mg/l			20	4	10	6							
11	Chloride mg/l	6017.3	6115.1	291	211	79.36	199.66	16513	9372.1	1712	2201.45	3180	6123.	
12	Fecal Coliform MPN/100 ml	2300	3300	7000	7900		13000	4900	4900	7900	780	780	780	
13	Total Coliform MPN/100 ml	4900	7900	11000	14000		24000	7000	7000	11000	1700	2300	1300	5000 or less MPN/100 ml
14	Ammonia mg/l	0.05	0.87	BDL	0.19	0.1	BDL	0.59	0.03	6.27	6.27	0.07	5.88	
15	Total Dissolved Solids(mg/l)	13143	10770	648	635	129	484	24433	11078	2385	3666	5350	12544	
16	Total Fixed Solids (mg/l)	82	6230	258	345	101	398	7824	11078	1475	981	3950	11734	
17	Total Suspended Solid (mg/l)	10	56	30	10	14	8	161	101	6	50	30	26	
18	Hardness(mg/l)	2200	2200	114	116	96	110	4560	2800	2000	3000	1100	5000	
19	Fluoride(mg/l)	3.9	5.63	BDL	0.2	BDL	BDL	1.37	0.06	1.18	1.21		1.49	
20	Boron(mg/l)	1.8	6.02					5.06	5.95	10.9			1.26	
21	Sulphate (mg/l)	597.5	841.9	295	27	11.73	38.54	1672	3169.4	190	282	228	198.2	
22	Total Alkalinity(mg/l)	24	104	44	60	54	80	110	104	12	62	94	36	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	2	
24	Sodium(mg/l)	1297	2470	147	106.4	63.9	85.1	7728	32.2	594.7	961.3	1569	120.1	
25	Potassium(mg/l)	141.5	127	7.4	6.1	3.9	4.5	273	1.61	32.2	56.5	77.8	3040.	
26	Calcium as CaCO3(mg/l)	200.4	240.5	50	23.25	28.86	28.86	353	1202.4	400.8	721.44	200.4	801.6	
27	Magnesium(mg/l)	413.1	388.8	16	14.09	5.83	9.2	894	388.2	243	291.6	145.8	729.	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	BDL						0.05						
33	Lead(mg/l)	BDL						BDL						

34	Iron(mg/l)	0.17						0.69						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER MANDOVI NEAR MANDOVI BRIDGE, PANAJI 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	7.7	7.5	7.8	6.98	7.12	7.88	7.6	7.44	6.9	7.2	8	7.7	6.5 - 8.5
2	Temperature °C	31	34	29	28	29	29	30	29	29	29	30	28	
3	Conductivity µs/cm	47660	46900	28860	5358	6030	4808	23930	36000	52720	45930	44140	42890	
4	Dissolved Oxygen mg/l	5.9	5.7	4.8	6.4	5.8	8.9	5.9	7.7	5.4	5.5	5.5	7.2	4 mg/l or more
5	Turbidity (NTU)	4.33	18.17	23.9	9.41	22.6	7.12	7.74	2.72	4.76	3.54	6.08	BDL	30 NTU
6	Nitrite Nitrogen mg/l	0.052	BDL	0.25	0.01	BDL	0.023	0.005	BDL	0.011	0.009	0.134	0.006	
7	Nitrogen(Nitrate) mg/l	0.094	BDL	1.1	0.29	0.35	0.196	0.29	BDL	BDL	BDL	1.28	BDL	
8	Phosphate mg/l	0.03	0.16	0.13		0.365	0.022	0.05	0.033	0.05	0.09	0.1	0.05	
9	BOD mg/l	0.7	1.9	1.8	1.9	1.4	3.1	1.9	2.3	2	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l					18								
11	Chloride mg/l	14382.8	17970	9470	2690.7	1800	2099.4	7847.6	14000	19184	20791.4	18619.2	18468	
12	Fecal Coliform MPN/100 ml	450	780	13000	2300			2300	1300	780	1300	1300	23	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	780	1300	24000	3300			4900	2300	1300	2200	1700	33	
14	Ammonia mg/l	0.27	0.17	0.07	BDL	0.034	0.03	0.02	BDL	BDL	0.08	0.05	0.09	
15	Total Dissolved Solids(mg/l)	28596	33322	23422	3250	4113	3252	14119	20050	36118	25809	27610	26163	
16	Total Fixed Solids (mg/l)	12593	19322	16702	1100	3828	1000	7459	19940	29768	23010	23524	15236	
17	Total Suspended Solid (mg/l)	33	188	306	46	26	57	18	69	149	22	171	45	
18	Hardness(mg/l)	7200	5600	4000	518	260	900	2560	3640	6000	7400	6500	7500	
19	Fluoride(mg/l)	2.06	1.61	BDL	0.2	BDL	BDL	0	1.57	2.57	0.14		1.19	
20	Boron(mg/l)	4.03	5.4					2.7	1.15	4.05			2.26	
21	Sulphate (mg/l)	2303.2	4565	1655	638.9	124	204.24	1230.55	1001.3	2452	1538.6	2633.5	1557	
22	Total Alkalinity(mg/l)	114	116	88	44	38	36	70	86	94	108	150	108	
23	Phenolphthalein Alkalinity(mg/l)	8	0	0	0	0	0	0	0	16	6	4	10	
24	Sodium(mg/l)	3232	7818	4011	945.4	833	568.2	3444	4630	8559	7617	7038	9180	

25	Potassium(mg/l)	259.4	283.4	160.7	37.3	43.3	32.6	140.3	393.6	773.8	323.8	298.3	440	
26	Calcium as CaCO ₃ (mg/l)	481	353	601	34.5	40.1	160.3	176.35	232.2	441	561.1	1602	762	
27	Magnesium(mg/l)	1458	1166	607	104.9	38.9	179.75	515.16	743.6	1191	1458	607.5	1361	
28	Nickel(mg/l)	0.38						0.38						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.05						0.07						
32	Zinc(mg/l)	0.04						0.1						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.28						0.88						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER MANDOWI AT TONCA MARCELA 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	7.19	6.97	7.35	7.17	6.5	6.91	7.2	6.9	7.4	7.2	7.1	7.2	6.5 - 8.5
2	Temperature °C	29.4	31.2	28.8	28.5	26	28	31	28	28	29	27	28	
3	Conductivity µs/cm	40100	40130	36370	191.93	92.64	245.8	2568	19290	26650	46370	31710	30200	
4	Dissolved Oxygen mg/l	5.2	5.6	4.7	7.7	7.4	7	6.8	5.5	5.4	6.6	5.9	6.4	4 mg/l or more
5	Turbidity (NTU)	11.61	6.37	3.96	29.3	12.76	9.98	5.63	3.19	4.44	5.26	5.47	1.04	30 NTU
6	Nitrite Nitrogen mg/l	0.052	0.01	0.413	0.036	BDL	BDL	BDL	0.09	0.06	0.01	0.03	0.043	
7	Nitrogen(Nitrate) mg/l	BDL	0.44	BDL	0.25	0.2	0.11	BDL	BDL	0.04	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	0.065	0.02		BDL	0.14	0.05	0.03	0.01	0.04	0.04	0	
9	BOD mg/l	BDL	4.5	2	1.4	0.6	0.5	3.5	0.5	2.7	2.8	2.3	1.2	3 mg/l or less
10	COD mg/l				4	2	12	18						
11	Chloride mg/l	12229	16471.6	17122.4	49	14.6	150	698.8	5925	10232.37	23618	13209	13208.7	
12	Fecal Coliform MPN/100 ml	2300	1300	4900	2300		1300	2300	2300	1300	450	1300	5	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	3300	3300	7900	4900		2300	3300	4900	2300	780	2300	8	
14	Ammonia mg/l	0.29.	0.03	0.09	0.102	BDL	0.08	0.11	BDL	0.05	0.07	0.33	0.05	
15	Total Dissolved Solids(mg/l)	22163	24078	21003	110	78	138	1617	11098	14659	29983	21853	16999	

16	Total Fixed Solids (mg/l)	22191	24584	15800	85	52	89	1214	8000	14116	27928	19278	15020	
17	Total Suspended Solid (mg/l)	25	21	102	25	24	15	13	62	10	88	45	44	
18	Hardness(mg/l)	4200	4400	4600	38	16	40	204	2000	3000	7580	5500	4000	
19	Fluoride(mg/l)	0.5	0.65	0.62	BDL	BDL	BDL	1.45	0.79	0.38	0.32	2.76	0.04	
20	Boron(mg/l)	2.84	0.41	6.78				2.89	5.42	3.5	3.69		3.61	
21	Sulphate (mg/l)	1616.3	16.3	842	2.41	4	6.53	741.63	596	893.18	2288	1198	1842.4	
22	Total Alkalinity(mg/l)	94	112	92	36	28	32	46	58	70	122	98	90	
23	Phenolphthalein Alkalinity(mg/l)	10	6	0	0	0	0	0	0	0	8	0	0	
24	Sodium(mg/l)	2524	5725	4452	26.1	9.2	25	299.9	2165	3526	9213	4578	9670	
25	Potassium(mg/l)	214.9	208.5	187.7	2.7	2	2.7	14.8	259.6	147.2	239.7	197	360	
26	Calcium as CaCO3(mg/l)	721.4	801	400.8	7.21	2.4	5.61	36.07	120	641.28	408.82	601	400.8	
27	Magnesium(mg/l)	583.2	583.2	874	4.9	2.43	6.3	27.7	413	340.2	1594.1	972	729	
28	Nickel(mg/l)	0.22						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.02						0.04						
33	Lead(mg/l)	0.13						BDL						
34	Iron(mg/l)	0.36						0.06						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	γ-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER SELAULIM LAKE AT SELAULIM, SANGUEM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for class C as per CPCB classification based on designated best use
1	pH	7.55	6.77	7.1	7.19	7.16	7.41	7.1	7.79	7.7	7.1	7.99	6.66	6-9
2	Temperature °C	31	30.8	27	28.9	27	27	29	30	29	27	29	28	
3	Conductivity µs/cm	47.85	59.21	60.72	60.17	44.56	53.98	42	45.94	45	50	42.5	191.52	
4	Dissolved Oxygen mg/l	8	8.6	6	7.3	7.8	8.6	7.8	8.1	6.9	7	8.1	7.9	4 mg/l or more
5	Turbidity (NTU)	1.26	1.19	2.99	3.12	1.54	BDL	BDL	1.05	1.05	2.16	BDL	1.42	
6	Nitrite Nitrogen mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.006	BDL	BDL	0.53	0.01	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	BDL	BDL	0.23	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	0.02	0.04	BDL	0.02	0.05	BDL	BDL	0.067	0.17	0.1	BDL	0.057	
9	BOD mg/l	0.9	0.6	0.8	1	1.4	1.5	1.8	1.6	1.3	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l	2	4	12	BDL	2	4	4	12	BDL	4	6	5	
11	Chloride mg/l	4.5	8	3	5.3	5.49	3.49	5.87	2	4.89	5.87	5.4	6.5	
12	Fecal Coliform MPN/100 ml	NIL	NIL	4.5	7.8		NIL	1.8	NIL	0	1.8	NIL	NIL	
13	Total Coliform MPN/100 ml	<1.8	1.1	23	49		<1.8	1.8	4.5	7	7	20	4.5	5000 or less MPN/100 ml
14	Ammonia mg/l	0.53	0.02	0.07	0.06	0.3	0.53	0.2	BDL	0.27	0.27	BDL	0.082	
15	Total Dissolved Solids(mg/l)	29	34	48	39	30	34	27	21	33	29	28	39	
16	Total Fixed Solids (mg/l)	38	19	18	20	19	18	16	12	13	11	11	19	
17	Total Suspended Solid (mg/l)	3	9	8	6	3	2	7	14	26	27	26	18	
18	Hardness(mg/l)	20	40	56	20	20	16	20	34	24	16	16	18	
19	Fluoride(mg/l)	1.08	BDL	BDL	0.07	BDL	BDL	0.04	0.01	0.07	BDL		0.5	
20	Boron(mg/l)	0.09	2.58					0.88	0.21	0.3			0.89	
21	Sulphate (mg/l)	BDL	BDL	2	2.57	7	15.41	2.0	8.3	3.07	2.92	4	3.43	
22	Total Alkalinity(mg/l)	30	40	30	26	24	36	14	34	30	54	24	12	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	14.1	3.3	7.9	4.7	5.2	9.2	7.2	6.8	6.7	3.8	2.7	2.7	
25	Potassium(mg/l)	6.9	2	2	1.8	1.7	1.5	1.5	2.2	2.2	2.3	1	1.1	
26	Calcium as CaCO3(mg/l)	4.01	11.2	6	3.21	6.41	3.2	4.8	9.6	4.01	4.01	4.81	4.81	
27	Magnesium(mg/l)	2.4	2.9	10	2.92	BDL	2	BDL	5.93	3.4	BDL	BDL	BDL	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.06						0.09						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						0.15			0.1	BDL	BDL	
35	Manganese (mg/l)										BDL	0.59	BDL	
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						

43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

AGRICULTURAL CANAL UPSTREAM OF CUNCOLIM INDUSTRIAL ESTATE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for Class E as per CPCB classification based on designated best use
1	pH	7.07	Canal was dry	6.39	7.44	5.62	Canal was dry				7	6.8	7	6-8.5
2	Temperature °C	30		30	28.8	28					28	28	30	
3	Conductivity µs/cm	50.53		1364	101.22	760.8					276	50	89	Max 2250 µs/cm
4	Dissolved Oxygen mg/l	7.8		7.6	8.9	6.5					8.1	8.1	7.6	
5	Turbidity (NTU)	1.39		2	13.02	3.38					BDL	1.29	1.68	
6	Nitrite Nitrogen mg/l	BDL		0.011	BDL	BDL					0.005	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	BDL		3.37	0.37	4.38					0.21	0.21	BDL	
8	Phosphate mg/l	BDL		BDL	BDL	0.02					0.02	0.11	0.07	
9	BOD mg/l	0.5		2.4	BDL	0.6					BDL	BDL	2.1	
10	COD mg/l	4		8	6	6					10	8	9	
11	Chloride mg/l	8.81		45	77.3	42.43					18.49	6.85	16	
12	Fecal Coliform MPN/100 ml	3300		1400	2300						1100	790	780	
13	Total Coliform MPN/100 ml	7900		1700	3300						1700	1700	2300	
14	Ammonia mg/l	BDL		3.25	0.3	0.67					0.32	BDL	0.05	
15	Total Dissolved Solids(mg/l)	31		876	64	460					36	30	53	
16	Total Fixed Solids (mg/l)	19		837	43	324					27	13	36	
17	Total Suspended Solid (mg/l)	15		21	5	5					6	19	34	
18	Hardness(mg/l)	16		260	12	340					82	24	26	
19	Fluoride(mg/l)			BDL	1.8	BDL					0.64		0	
20	Boron(mg/l)	1.58		0.58							3.18		0.75	Max 2mg/l
21	Sulphate (mg/l)	3.2		646.4	4.33	67.14					1.22	2.2	4.85	
22	Total Alkalinity(mg/l)	22		18	18	20					18	30	22	
23	Phenolphthalein Alkalinity(mg/l)	0		0	0	0					0	0	0	
24	Sodium(mg/l)	8		164.3	8	145.8					3.9	3.7	18.5	
25	Potassium(mg/l)	6.8		12.2	1.9	9.3					2	1.1	1.8	
26	Calcium as CaCO3(mg/l)	4		96.2	4	56.1					23.3	4.01	12	
27	Magnesium(mg/l)	1.46		4.9	BDL	48.6					4.9	3.4	3.4	
28	Nickel(mg/l)	BDL												
29	Copper(mg/l)	BDL												

30	Chromium(mg/l)	BDL												
31	Cadmium(mg/l)	BDL												
32	Zinc(mg/l)	BDL												
33	Lead(mg/l)	BDL												
34	Iron(mg/l)	BDL												
35	Manganese (mg/l)													
36	Arsenic(mg/l)													
37	Alpha BHC (mg/l)	BDL												
38	Beta BHC (mg/l)	BDL												
39	Gamma BHC (mg/l)	BDL												
40	Aldrin (mg/l)	BDL												
41	Dieldrin (mg/l)	BDL												
42	O,P-DDT (mg/l)	BDL												
43	P,P-DDT (mg/l)	BDL												
44	Alpha endosulphane (mg/l)	BDL												
45	β-endosulphane (mg/l)	BDL												
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL												
48	Parathion methyl (mg/l)	BDL												
49	Malathion (mg/l)	BDL												
50	Chloropylos (mg/l)	BDL												

AGRICULTURAL CANAL DOWNSTREAM OF CUNCOLIM INDUSTRIAL ESTATE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for Class E as per CPCB classification based on designated best use
1	pH	7.15	7.49	6.61	7.42	5.64	5.88	Canal was dry			7	6.8	7.8	6-8.5
2	Temperature °C	30	29.5	30	28.5	28	30				28	28	30	
3	Conductivity µs/cm	66.53	151.2	266.8	60.61	764.1	640.47				190	57	52	Max 2250 µs/cm
4	Dissolved Oxygen mg/l	7.9	4.5	9.5	5.3	6.3	7.7				8.1	8.8	8.5	
5	Turbidity (NTU)	2.06	9.15	9.34	2.04	3.7	BDL				BDL	1.57	1.76	
6	Nitrite Nitrogen mg/l	BDL	0.4	0.05	BDL	BDL	BDL				0.005	0.06	0.06	
7	Nitrogen(Nitrate) mg/l	BDL	1.05	1.23	3.39	4.3	1.27				0.2	0.09	0.06	
8	Phosphate mg/l	BDL	BDL	BDL	BDL	0.03	0.84				0.04	0.02	0.03	
9	BOD mg/l	1	4.5	3	0.7	1.2	0.6				BDL	2.7	2.1	
10	COD mg/l	6	14	8	8	12	10				6	10	12	
11	Chloride mg/l	7.83	21	45	45.04	43.4	58.71				16.49	9.29	22.3	
12	Fecal Coliform MPN/100 ml	4900	4900	3300	2300		2300				130	1300	1300	
13	Total Coliform MPN/100 ml	11000	7000	4900	4900		3300				2200	2200	3300	
14	Ammonia mg/l	BDL	0.5	BDL	0.15	0.72	0.06				0.36	BDL	BDL	
15	Total Dissolved Solids(mg/l)	39	104	188	38	465	370				37	32	30	
16	Total Fixed Solids (mg/l)	25	88	138	21	311	313				29	22	21	

17	Total Suspended Solid (mg/l)	20	10	11	2	9	7	Canal was dry	8	21	18	
18	Hardness(mg/l)	14	36	84	600	120	78		78	32	24	
19	Fluoride(mg/l)		0.52	BDL	1.19	BDL	BDL		0.52		0	
20	Boron(mg/l)	1.66	3.31	0.48					3.5		0.56	Max 2mg/l
21	Sulphate (mg/l)	4.16	9.32	23.4	750.1	213.4	231.2		BDL	BDL	3.58	
22	Total Alkalinity(mg/l)	24	24	52	24	14	36		22	36	30	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0		0	0	0	
24	Sodium(mg/l)	8.3	9.3	24.1	182.3	136.3	53.9		7.7	5	15.8	
25	Potassium(mg/l)	6.9	3.6	4.1	8.9	9.1	6		2.3	1.2	3.8	
26	Calcium as CaCO3(mg/l)	4.8	12.02	10.4	160	24.1	21.6		26.45	6.41	12	
27	Magnesium(mg/l)	BDL	BDL	14.1	48.6	14.6	5.83		3.9	3.89	2.9	
28	Nickel(mg/l)	BDL										
29	Copper(mg/l)	0.03										
30	Chromium(mg/l)	BDL										
31	Cadmium(mg/l)	BDL										
32	Zinc(mg/l)	BDL										
33	Lead(mg/l)	BDL										
34	Iron(mg/l)	BDL										
35	Manganese (mg/l)											
36	Arsenic(mg/l)											
37	Alpha BHC (mg/l)	BDL										
38	Beta BHC (mg/l)	BDL										
39	Gamma BHC (mg/l)	BDL										
40	Aldrin (mg/l)	BDL										
41	Dieldrin (mg/l)	BDL										
42	O,P-DDT (mg/l)	BDL										
43	P,P-DDT (mg/l)	BDL										
44	Alpha endosulphane (mg/l)	BDL										
45	β-endosulphane (mg/l)	BDL										
46	carbaryl (mg/l)											
47	Anilofos (mg/l)	BDL										
48	Parathion methyl (mg/l)	BDL										
49	Malathion (mg/l)	BDL										
50	Chloropylos (mg/l)	BDL										

RUMDER LAKE, NUVEM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	6.78	8.07	8.45	7.93	6.62	6.67	6.8	7.52	7.4	6.5	6.6	6.4	
2	Temperature °C	31.7	31.4	30	28.7	28	28	28	30	28	27	26	30	
3	Conductivity µs/cm	184.7	132.4	171.4	114.96	83.74	190.01	105	331.17	284	287	570	238.6	
4	Dissolved Oxygen mg/l	9.9	8.7	4.7	4.4	6.5	5.9	5.6	10.5	3.3	3.3	4.2	2.2	
5	Turbidity (NTU)	42.8	11.02	10.89	29.1	15.45	4.99	15.38	6.42	11.98	2	20.1	6.04	
6	Nitrite Nitrogen mg/l	BDL	0.01	BDL	BDL	BDL	0.017	BDL	BDL	0.203	0.043	0.007	BDL	
7	Nitrogen(Nitrate) mg/l	0.05	BDL	0.36	0.62	0.4	0.37	0.38	0.298	15.72	0.23	0.35	BDL	
8	Phosphate mg/l	0.29	0.06	0.02	0.046	0.07	0.017	0.06	0.13	7.33	0.08	0.05	0.06	
9	BOD mg/l	9.7	5	2.4	1.1	BDL	1.4	1	3.2	2.3	2.1	3.4	3.1	
10	COD mg/l	10	10	8	8	6	8	6	24	28	16	12	8	
11	Chloride mg/l	146.8		34.5	12.72	9.48	75.34	14.08	21	20.99	39	244.6	47.6	
12	Fecal Coliform MPN/100 ml	2300	2300	490	2300		13000	4900	4900	2300	2300	1700	2300	
13	Total Coliform MPN/100 ml	4600	3300	700	4900		24000	11000	7900	4900	3300	3300	4900	
14	Ammonia mg/l	0.02	0.02	0.16	0.03	0.55	0.07	0.1	0.07	0.59	0.43	BDL	0.16	
15	Total Dissolved Solids(mg/l)	139	80	108	70	45	117	74	195	360	147	337	138	
16	Total Fixed Solids (mg/l)	81	40	71	53	30	61	53	136	101	139.8	164	86	
17	Total Suspended Solid (mg/l)	38	40	71	21	19	22	28	16	12	15	69	43	
18	Hardness(mg/l)	56	34	22	20	22	38	22	18	800	118	96	54	
19	Fluoride(mg/l)	BDL	3	0.2	0.07	BDL	BDL	0.15	0.054	0.03	0.46		0	
20	Boron(mg/l)	0.58	1.11	0.35				0.59	8.89	3.04	1.89		0.81	
21	Sulphate (mg/l)	3.48	13.2	9.4	6.96	7.65	9.22	4.17	6.96	4.54	BDL	BDL	11.9	
22	Total Alkalinity(mg/l)	140	58	36	28	22	28	26	40	80	20	70	58	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	34.8	33.9	23.4	16	9.9	22.2	10.2	20.2	12.2	10.8	99.1	48.8	
25	Potassium(mg/l)	8.4	4	3	3	2.3	2.9	2.7	9.3	3.5	3.2	5.6	4.7	
26	Calcium as CaCO3(mg/l)	16	6.4	6.41	6.4	4.81	8.8	8	4.8	360.7	14.4	17.6	32	
27	Magnesium(mg/l)	3.88	4.37	BDL	BDL	2.43	3.89	2.0	BDL	106.75	19.9	12.6	5.3	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.06						0.07						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	2.05						0.27						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						

42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER SAL AT ORLIM BRIDGE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.4	7.58	7.08	6.96	6.71	7.54	7.6	7.04	7.58	7.1	7.5	7.4	
2	Temperature °C	32.1	32	29	28	28	29	28	29	27	28	28	31	
3	Conductivity µs/cm	24910	25570	455	551.1	497.5	978.91	15270	30000	28810	25090	27100	26170	
4	Dissolved Oxygen mg/l	5.2	6.7	5	3.8	4.7	6	4.5	4.1	4.71	4.9	5.9	6.8	
5	Turbidity (NTU)	9.12	8.62	35.9	3.75	2.17	5.98	2.92	1.72	3.93	3.71	7.23	5.63	
6	Nitrite Nitrogen mg/l	BDL	1211.3	0.01	0.008	0.044	BDL	0.03	0.017	0.02	0.011	0.01	0.011	
7	Nitrogen(Nitrate) mg/l	1.1	BDL	1.33	0.32	0.85	0.71	2.99	0.28	0.20	0.16	BDL	BDL	
8	Phosphate mg/l	0.06	0.11	0.13	0.09	0.084	0.1	0.07	1.18	0.118	0.58	0.17	0.11	
9	BOD mg/l	1.1	2.3	3.8	2	2.2	5	1.7	1.1	2.4	BDL	3.2	BDL	
10	COD mg/l			16	5	6	8							
11	Chloride mg/l	8071	9417.3		244.6	116.4	274.5	4857	11496.4	11729	12072.5	12977.6	8747	
12	Fecal Coliform MPN/100 ml	450	1100	13000	13000		450	4900	2300	2300	780	330	1700	
13	Total Coliform MPN/100 ml	780	1400	17000	22000		780	7900	4900	3300	1300	490	3300	
14	Ammonia mg/l	0.67	0.16	0.05	0.21	0.03	0.02	0.19	0.31	0.02	0.25	0.14	0.19	
15	Total Dissolved Solids(mg/l)	16898	14800	455	806	294	570	8418	18416	18859	14889	17073	14330	
16	Total Fixed Solids (mg/l)	10062	10010	512	606	111	472	7261	14900	16311	4593	16980	13333	
17	Total Suspended Solid (mg/l)	13	123	66	22	25	14	199	96	122	66	16	113	
18	Hardness(mg/l)	2800	3400	92	600	82	146	960	3200	4000	6500	5500	4200	
19	Fluoride(mg/l)	1.82	4.88	0.36		BDL	BDL	0.72	0.02	0.30	0.21		0	
20	Boron(mg/l)	1.84	5.92	0.86				3.44	0.03	2.89			2.62	
21	Sulphate (mg/l)	1048	1211.3	134	48.1	947.2	71.93	464	1226.2	766.57	1498.3	807	1427	
22	Total Alkalinity(mg/l)	168	176	46	40	40	56	74	94	106	98	120	104	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	8	0	0	
24	Sodium(mg/l)	1653	3536	114.6	99.1	72.8	139.3	1765	3994	4201	5395	4031	5953	
25	Potassium(mg/l)	157.3	153.2	8.6	5.7	5.3	14.1	84.6	374.2	179.5	153	176	168	
26	Calcium as CaCO3(mg/l)	240.5	320.6	19.24	481	15.2	24.05	128	320.6	1402.8	3000	1002	641.3	
27	Magnesium(mg/l)	534.6	631.8	10.69	48.6	10.7	20.9	155	583.2	968.6	850.5	729	631.8	
28	Nickel(mg/l)	0.16						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.09						0.05						

33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.31						0.24						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)	BDL												
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	<0.05						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER SAL AT KHAREBAND, MARGAO 2018-2019								
Sr. No	Parameters	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Feb-19
1	pH	7.31	6.77	6.95	6.6	6.86	7.48	7.9
2	Temperature °C	27.9	28	28.2	28	30	27	30
3	Conductivity µs/cm	158.47	132.9	150.02	171	462.62	234.6	301
4	Dissolved Oxygen mg/l	2.7	3.6	2.2	1.8	1.9	BDL	BDL
5	Turbidity (NTU)	2.74	4.18	12.06	10.16	4.2	5.80	25.2
6	Nitrite Nitrogen mg/l	BDL	0.086	BDL	0.03	0.312	BDL	3
7	Nitrogen(Nitrate) mg/l	0.74	2.48	1.31	1.26	20.3	1.5	42
8	Phosphate mg/l	0.073	0.113	0.13	0.24	0.98	0.144	0.81
9	BOD mg/l	0.6	2.7	1.4	2	1.7	5	6
10	COD mg/l	4	4	14	16	20	14	15
11	Chloride mg/l	37.67	18.1	34.94	20.9	43.05	41.43	45.4
12	Fecal Coliform MPN/100 ml	17000		35000	35000	35000	17000	350000
13	Total Coliform MPN/100 ml	11000		92000	54000	54000	22000	540000
14	Ammonia mg/l	0.13	0.03	0.03	0.9	35.64	0.03	BDL
15	Total Dissolved Solids(mg/l)	341	80	94	116	267	189	175
16	Total Fixed Solids (mg/l)	29	66	83	72	203	104	119
17	Total Suspended Solid (mg/l)	26	14	22	8	31	35	51
18	Hardness(mg/l)	116	50	52	38	60	56	60
19	Fluoride(mg/l)	BDL	BDL	BDL	0.02	0.1	0.24	
20	Boron(mg/l)				2.18	0.06	1.54	
21	Sulphate (mg/l)	25.9	12	30.83	5.53	34.21	39.13	7.9
22	Total Alkalinity(mg/l)	30	36	46	78	48	46	106

23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0
24	Sodium(mg/l)	23.5	12.8	148	16.9	40.2	28.3	43.7
25	Potassium(mg/l)	3.3	2.8	14.3	3.7	13.3	6.1	6.2
26	Calcium as CaCO ₃ (mg/l)	87	12	13.63	10	23	17.64	14.4
27	Magnesium(mg/l)	58.3	4.86	4.37	3	0.49	2.92	5.8
28	Nickel(mg/l)				BDL			
29	Copper(mg/l)				BDL			
30	Chromium(mg/l)				BDL			
31	Cadmium(mg/l)				BDL			
32	Zinc(mg/l)				0.18			
33	Lead(mg/l)				BDL			
34	Iron(mg/l)				0.45			
35	Manganese (mg/l)							
36	Arsenic(mg/l)				BDL			
37	Alpha BHC (mg/l)				BDL			
38	Beta BHC (mg/l)				BDL			
39	Gamma BHC (mg/l)				BDL			
40	Aldrin (mg/l)				BDL			
41	Dieldrin (mg/l)				BDL			
42	O,P-DDT (mg/l)				BDL			
43	P,P-DDT (mg/l)				BDL			
44	Alpha endosulphane (mg/l)				BDL			
45	β-endosulphane (mg/l)				BDL			
46	carbaryl (mg/l)							
47	Anilofos (mg/l)				BDL			
48	Parathion methyl (mg/l)				BDL			
49	Malathion (mg/l)				BDL			
50	Chloropylos (mg/l)				BDL			

RIVER TIRACOL AT KERI, PERNEM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	8.2	7.7	7.44	6.7	7.65	7.65	8.01	7.46	6.2	6.4	8.1	7.8	
2	Temperature °C	31.1	29	30	28	28	28	28	28	27	28	27	28	
3	Conductivity µs/cm	56000	37480	52280	46560	44410	12370	44980	48810	45410	47030	47600	54050	
4	Dissolved Oxygen mg/l	5.5	6.1	6.3	6.1	6.7	7.2	5.1	6.3	7.9	6.5	6.2	5.8	
5	Turbidity (NTU)	3.29	3.7	35	4.89	34.1	6.75	2.55	1.98	2.48	2.01	1.99	3.36	
6	Nitrite Nitrogen mg/l	0.02	0.07	0.01	0.04	0.061	BDL	0.09	BDL	BDL	0.02	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	BDL	BDL	0.106	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	0.02	BDL	0.02		0.364	0.095	0.22	BDL	0.21	0.03	0.22	0.07	
9	BOD mg/l	1.4	1.4	1.2	0.7	2.7	1.1	2.2	BDL	3.3	2.1	BDL	BDL	
10	COD mg/l													
11	Chloride mg/l	19184	20243.7	18664	16415	19666.2	3900	19981	16222.1	19568.4	22259	19423.6	19202	
12	Fecal Coliform MPN/100 ml	78	790	490	790			220	78	78	170	230	130	
13	Total Coliform MPN/100 ml	230	1300	1300	1300			490	130	130	220	490	330	
14	Ammonia mg/l	BDL	0.21	0.14	BDL	0.14	0.13	0.16	0.05	0.03	0.13	0.13	0.07	
15	Total Dissolved Solids(mg/l)	40148	23441	39088	31174	20953	8773	25487	31726	30280	30128	28296	30391	
16	Total Fixed Solids (mg/l)	11790	14500	32113	22444	10509	8375	15292	31221	21718	25954	20296	24923	
17	Total Suspended Solid (mg/l)	51	164	328	896	89	246	205	6	79	14	88	38	
18	Hardness(mg/l)	8000	4500	6400	8400	7200	1200	6400	3000	5600	6800	8000	8500	
19	Fluoride(mg/l)	1.45		BDL	1.22	BDL	BDL	1.31	1.61	0.25	2.17	BDL	0	
20	Boron(mg/l)	1.09	0.22					BDL	3.82	0.18			4.29	
21	Sulphate (mg/l)	2689	2108	2950	2240	985.3	556.8	2520	1679.8	2900.5	2817	4088.1	1807	
22	Total Alkalinity(mg/l)	118	104	134	106	104	150	130	104	106	114	124	132	
23	Phenolphthalein Alkalinity(mg/l)	12	6	10	32	8	4	10	8	10	18	12	18	
24	Sodium(mg/l)	2829	6927	7499	7772	7521	1434	9298	6951	6623	9216	300.8	8830	
25	Potassium(mg/l)	235	235.7	264	244.9	248.9	75.3	311.1	550.8	269.2	244	7670	8830	
26	Calcium as CaCO3(mg/l)	601	400.8	481	802	561.1	441	481	481	561.1	481	2000	801.6	
27	Magnesium(mg/l)	1580	850.5	1236.6	1555	1613.25	24.3	1263.6	437.4	1020.6	1361	1458	1580	
28	Nickel(mg/l)	0.32						BDL						
29	Copper(mg/l)	0.03						0.1						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.04						BDL						
32	Zinc(mg/l)	0.08						0.12						
33	Lead(mg/l)	0.27						BDL						
34	Iron(mg/l)	0.27						1.15						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						

42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER CHAPORA NEAR SIOLIM BRIDGE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limits
1	pH	8.3	7.49	7.52	7.9	6.94	8.37	7.55	6.4	7.4	6.9	7.3	7.8	
2	Temperature °C	31.5	29.1	28.1	28	28	28	28	28	28	28	29	27	
3	Conductivity µs/cm	55240	32720	22340	5036	9456	1790	27380	32780	37440	33710	32700	45750	
4	Dissolved Oxygen mg/l	5.3	6.3	6.6	6.1	7.4	6	6.2	5.3	4.2	6.4	6.2	6.5	
5	Turbidity (NTU)	2.74	13.04	13.39	8.57	9.2	8.69	1.52	3.91	7.01	4.11	2.53	3.31	
6	Nitrite Nitrogen mg/l	0.11	0.38	0.03	BDL	0.01	BDL	0.18	0.02	0.009	0.005	0.013	BDL	
7	Nitrogen(Nitrate) mg/l	0.1	0.14	0.36	BDL	1.12	0.07	BDL	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	0.03	0.03		0.087	0.043	0.11	0.18	0.22	0.03	0.53	0.03	
9	BOD mg/l	1.8	4.5	2.8	0.5	1.2	BDL	1.9	BDL	2.9	BDL	2.2	BDL	
10	COD mg/l				4		6							
11	Chloride mg/l	20398	11437.9	8375	1457	3277.7	430	11127	9982.8	14920.9	20791	11898.8	16878	
12	Fecal Coliform MPN/100 ml	130	780	13000	7900			4900	4900	2300	2300	330	460	
13	Total Coliform MPN/100 ml	330	1100	17000	17000			7000	7900	4900	3300	700	700	
14	Ammonia mg/l	0.1	0.13	0.16	BDL	0.12	0.14	0.22	0.16	0.18	BDL	0.26	BDL	
15	Total Dissolved Solids(mg/l)	40148	22545	13105	3240	12281	1010	20514	19340	21026	26634	18301	31732	
16	Total Fixed Solids (mg/l)	12250	13219	11012	996	11506	830	14359	18994	14900	13620	10701	27732	
17	Total Suspended Solid (mg/l)	125	225	117	492	168	183	116	10	96	6	81	91	
18	Hardness(mg/l)	9500	4000	32000	516	3200	198	3800	1000	4600	5760	4500	6000	
19	Fluoride(mg/l)	1.66		BDL	2.12	BDL	BDL	1.27	1.07	0.27	1.92	0	0	
20	Boron(mg/l)	0.48	0.1					BDL	1.25	0.21			2.16	
21	Sulphate (mg/l)	3862	1892.4	2825	72	366.7	60.84	1259	1226.2	1542.3	2973	2308.2	1751	
22	Total Alkalinity(mg/l)	104	94	64	40	44	118	110	98	126	114	110	122	
23	Phenolphthalein Alkalinity(mg/l)	14	0	0	0	0	6	6	0	6	14	4	14	
24	Sodium(mg/l)	2900	5631	2842	795	1422	199.1	5380	4504	5500	9019	227.5	7993	
25	Potassium(mg/l)	241	208.8	128.7	32.9	70.4	12	224.2	399.1	221.9	239	5249	231.7	
26	Calcium as CaCO3(mg/l)	401	400.8	240.5	37	320.6	76.15	320.6	240.5	481	417	1000	400.8	
27	Magnesium(mg/l)	2066	729	631.8	103	699.7	1.9	729	97.2	826.2	1147	850.5	1215	
28	Nickel(mg/l)	0.39						0.59						
29	Copper(mg/l)	0.03						0.05						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.05						0.18						

32	Zinc(mg/l)	0.06						0.09						
33	Lead(mg/l)	0.31						0.69						
34	Iron(mg/l)	0.32						0.84						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER SINQUERIM, CANDOLIM SIDE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limits
1	pH	8	7.43	7.45	7.5	7.82	7.84	7.9	7.52	6.7	6.4	8	7.7	
2	Temperature °C	31	29.4	29.1	28	28	29	28	27	29	28	28	29	
3	Conductivity µs/cm	55000	53040	27720	31910	16210	25650	42180	47680	47670	46630	47550	53160	
4	Dissolved Oxygen mg/l	5.6	5.5	6.5	6	6.4	6	5.2	5.2	4.7	5.8	6.4	6.1	
5	Turbidity (NTU)	3.19	7.39	10.12	2.6	20.2	7.83	1.98	8.76	5.14	4.86	8.06	7.08	
6	Nitrite Nitrogen mg/l	0.11	0.12	0.08	0.01	0.009	BDL	0.04	BDL	0.005	0.16	0.042	BDL	
7	Nitrogen(Nitrate) mg/l	0.1	0.09	0.48	0.21	2.28	1.46	0.2	BDL	BDL	1.06	BDL	BDL	
8	Phosphate mg/l	0.03	0.03	0.02		0.173	0.061	0.25	0.07	0.08	0.04	0.17	0.06	
9	BOD mg/l	1.1	4.2	1.3	1.6	2.9	1.8	1.8	BDL	2.9	BDL	2.7	BDL	
10	COD mg/l													
11	Chloride mg/l	19062	19573.7	11007	11753	5772.7	9147	18306	16222.1	21280	20180	17969.6	19446	
12	Fecal Coliform MPN/100 ml	2300	450	780	4900			2300	450	780	780	490	490	
13	Total Coliform MPN/100 ml	4900	780	1100	7900			4900	780	1300	1300	700	940	
14	Ammonia mg/l	0.02	0.11	0.17	0.17	0.16	0.15	0.17	0.07	0.04	BDL	0.13	0.08	
15	Total Dissolved Solids(mg/l)	39187	34364	17738	21898	8168	16702	21369	26700	29067	30362	27131	33593	
16	Total Fixed Solids (mg/l)	16924	19000	16086	13822	7723	15302	12821	26013	25000	24890	19131	24993	
17	Total Suspended Solid (mg/l)	104	82	145	774	84	93	183	16	71	6	71	57	
18	Hardness(mg/l)	8400	6500	3800	4800	2800	3020	5800	3000	7200	6880	7500	8000	
19	Fluoride(mg/l)	1.85		BDL	1.13	BDL	BDL	1.28	1.43	0.42	2.27	0	0	
20	Boron(mg/l)	1.77	1.27					BDL	4	0.21			3.93	
21	Sulphate (mg/l)	2814	2991.7	2936	1302	555.6	1339	2253	2130.7	2705.9	1630	2899.2	1585	
22	Total Alkalinity(mg/l)	108	124	82	84	58	150	120	110	110	118	136	126	

23	Phenolphthalein Alkalinity(mg/l)	12	0	0	0	0	6	0	0	8	8	8	14	
24	Sodium(mg/l)	2917	8740	3702	4558	2486	3161	7830	6795	6945	3444	329.2	8974	
25	Potassium(mg/l)	242	300.2	155.9	169.9	111.5	142.2	287	511	284.4	252	7941	249.7	
26	Calcium as CaCO ₃ (mg/l)	641	601.2	240.5	481	320	1138.27	480.96	561.1	561.1	385	2000	601.2	
27	Magnesium(mg/l)	1652	1215	777.6	1166	602.5	43.7	1117.8	388.8	1409.4	1341	1336.5	1580	
28	Nickel(mg/l)	0.39						0.29						
29	Copper(mg/l)	0.02						0.08						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.05						BDL						
32	Zinc(mg/l)	0.05						0.08						
33	Lead(mg/l)	0.28						0.43						
34	Iron(mg/l)	0.38						0.65						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carboryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER SINGERIM, NEAR GANPATI TEMPLE 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limits
1	pH	7.8	7.16	7.41	6.8	7.88	7.86	7.85	7.49	6.7	6.3	7.9	7.9	
2	Temperature °C	31.4	29.8	28	28	28	28	28	28	28	28	28	29	
3	Conductivity µs/cm	54680	53200	27320	31820	20170	25050	42040	48420	48800	46130	47430	53220	
4	Dissolved Oxygen mg/l	5.7	5.1	6.5	5.9	6.3	6	5.3	5.2	6	5.9	5.4	6.3	
5	Turbidity (NTU)	4.69	20.2	9.19	5.02	23.8	6.07	2	6.49	13.16	4.65	7.27	7.4	
6	Nitrite Nitrogen mg/l	0.11	0.14	0.08	0.01	13	BDL	0.12	BDL	0.006	BDL	0.033	BDL	
7	Nitrogen(Nitrate) mg/l	0.14	0.2	0.51	0.24	0.125	0.94	BDL	BDL	BDL	0.11	BDL	BDL	
8	Phosphate mg/l	0.03	0.03	0.02		0.596	0.043	0.16	0.06	0.88	0.04	0.17	0.07	
9	BOD mg/l	1.3	3.5	1.6	0.8	1.3	2.6	2.5	BDL	2.9	BDL	BDL	BDL	
10	COD mg/l													
11	Chloride mg/l	19062	21344.5	10289	10199	8512.3	9297	18545	19716	22014.5	22381	18819.5	19324	
12	Fecal Coliform MPN/100 ml	2300	4900	2300	4600			3300	400	450	1300	490	330	
13	Total Coliform MPN/100 ml	3300	7000	7900	7000			7900	680	780	1700	790	490	

14	Ammonia mg/l	0.02	0.09	0.19	0.08	0.2	0.12	0.13	0.08	0.04	0.14	0.15	0.06	
15	Total Dissolved Solids(mg/l)	27513	37381	17249	21538	9364	16066	24628	26707	29292	35142	26427	36564	
16	Total Fixed Solids (mg/l)	16020	21235	14174	16692	5118	15817	14776	26001	21960	30698	21343	26664	
17	Total Suspended Solid (mg/l)	118	237	115	848	114	100	205	14	74	36	67	109	
18	Hardness(mg/l)	7200	6500	3400	5600	3800	3000	6000	4000	6800	6800	10000	7000	
19	Fluoride(mg/l)	0.71		BDL	1.32	BDL	BDL	1.4	1.32	0.68	2.12	BDL	0	
20	Boron(mg/l)	0.96	0.89					BDL	3.11	0.18			4.18	
21	Sulphate (mg/l)	5073	2289	1795	1270	618.6	1344	2325	2141.2	2958.1	1630	3490.2	1498	
22	Total Alkalinity(mg/l)	110	128	80	80	62	150	124	106	110	112	126	136	
23	Phenolphthalein Alkalinity(mg/l)	10	0	0	2	2	6	0	0	8	18	10	12	
24	Sodium(mg/l)	2932	9346	3455	4689	2373	3133	8310	6788	7660	9793	326.5	9185	
25	Potassium(mg/l)	246	301.6	151.5	173.6	130.4	142.1	312.8	508.3	280.7	242	7700	246.9	
26	Calcium as CaCO3(mg/l)	641	801.2	240.5	321	320.6	1130	561.12	641.3	641.3	481	1500	1202	
27	Magnesium(mg/l)	1361	1093.5	680.4	1263	845.6	43.7	1117.8	583.2	1263.6	1361	2065.5	972	
28	Nickel(mg/l)	0.35						0.41						
29	Copper(mg/l)	0.01						0.09						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.05						BDL						
32	Zinc(mg/l)	0.05						0.1						
33	Lead(mg/l)	0.26						0.52						
34	Iron(mg/l)	0.75						1.32						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER MANDОВI AT IFFI JETTY 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limits
1	pH	7.92	7.64	8.01	7.14	7.69	8.1	7.7	8.01	7.5	8	8	7.5	
2	Temperature °C	32	34	31	27.5	27	29	30	30	29	28	28	28	
3	Conductivity µs/cm	54910	51800	51650	7776	4320	32190	33780	59680	54520	47620	46600	46740	
4	Dissolved Oxygen mg/l	6.4	6	6.2	7.6	7.6	6	6.6	5.4	6.5	6.9	6.9	6.4	
5	Turbidity (NTU)	2.19	4.28	28.8	19.49	13.23	5.82	4.61	2.29	2.9	6.28	5.35	1.57	
6	Nitrite Nitrogen mg/l	BDL	0.02	0.234	0.01	0.01	BDL	0.016	BDL	BDL	BDL	0.06	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	0.08	0.26	0.27	BDL	34.49	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	0.02	0.04	0.03	0.03	0.11	0.059	0.08	0.07	0.02	0.12	0.11	
9	BOD mg/l	0.8	1.9	2.7	1.4	1.1	0.7	1.6	1.4	2	BDL	BDL	BDL	
10	COD mg/l					14								
11	Chloride mg/l		21133.9	17122	2645.44	1249.6	10685	9996.9	16633	25316.6	17244.7	16994	19305	
12	Fecal Coliform MPN/100 ml	200	450	780	7900		13000	2300	450	780	1300	130	110	
13	Total Coliform MPN/100 ml	450	780	1300	17000		22000	4900	780	1300	2200	170	220	
14	Ammonia mg/l	0.14	0.12	0.06	0.11	0.06	0.05	0.09	BDL	0.02	BDL	0.09	0.06	
15	Total Dissolved Solids(mg/l)	31065	28695	30473	5360	2238	21617	18161	36175	33378	35742	32773	32777	
16	Total Fixed Solids (mg/l)	24230	13728	21489	5510	1618	20982	16648	21775	24901	11001	29407	30745	
17	Total Suspended Solid (mg/l)	175	196	109	31	11	60	210	127	207	47	214	57	
18	Hardness(mg/l)	6400	10000	13000	2400	512	4640	7000	6500	8000	9000	5920	6200	
19	Fluoride(mg/l)		1.43	BDL	0.14	BDL	BDL	0.13	4.18	5.27	0.99		0.31	
20	Boron(mg/l)	1.11	4.38	2.35				3.92	8.27	2.19			3.27	
21	Sulphate (mg/l)	3062.3	1941.9	31117	150.01	244.6	1477	2250	1872.1	1740.3	4415.1	1376.1	1497	
22	Total Alkalinity(mg/l)	106	118	118	40	36	86	84	104	116	120	118	114	
23	Phenolphthalein Alkalinity(mg/l)	16	14	14	0	0	4	4	16	18	20	6	10	
24	Sodium(mg/l)	3264	7198	7084	1250	696.9	4175	3528	7333	8070	8930	7992	7321	
25	Potassium(mg/l)	266	267.4	257.9	52.2	30.7	173.2	174.9	610.8	298.8	237.8	334	270.4	
26	Calcium as CaCO3(mg/l)	481	1202	1002	400.8	47.29	321	160.3	440.8	801.6	801.6	408.82	561	
27	Magnesium(mg/l)	1263.6	1701	2552	340.2	95.7	972	1409.4	1312.2	1458	1992.1	1190.7	1166	
28	Nickel(mg/l)	0.21						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.03						BDL						
32	Zinc(mg/l)	0.07						BDL						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.29						1.18						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						

42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carboryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER MANDОВI NEAR HOTEL MARIOTT 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	8	7.41	8.04	7.04	7.49	7.9	7.5	7.2	7.3	7.9	8.08	7.6	
2	Temperature °C	32	32	31	27.6	26	29	29	30	30	28	28	28	
3	Conductivity µs/cm	55630	51930	51650	7262	4160	32860	36910	48010	55160	48500	48440	46110	
4	Dissolved Oxygen mg/l	6.5	6.1	6	7.2	7.7	6.8	6.1	6.4	6.4	7.3	6	6.4	
5	Turbidity (NTU)	2.68	5.47	23	19.59	12.25	6.23	9.36	2.01	5.01	7.57	5.24	1.51	
6	Nitrite Nitrogen mg/l	BDL	0.12	0.137	0.01	0.28	BDL	0.57	BDL	0.04	0.007	0.06	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	0.05	0.29	0.008	BDL	22.25	BDL	BDL	BDL	0.181	BDL	
8	Phosphate mg/l	BDL	0.02	0.02		0.02	0.47	0.085	0.06	0.09	0.08	0.129	0.14	
9	BOD mg/l	0.7	0.9	1.7	0.7	0.7	1.2	1.1	1.7	2	BDL	BDL	BDL	
10	COD mg/l													
11	Chloride mg/l		20057.6	17122	2645.44	1099.7	10587	12121.24	16144	22259	18744.2	17245	18698	
12	Fecal Coliform MPN/100 ml	2300	2300	1300	13000		4900	3300	780	1300	1300	78	130	
13	Total Coliform MPN/100 ml	3300	3300	2300	22000		7900	7900	1300	2300	2300	130	170	
14	Ammonia mg/l	0.09	0.11	0.07	0.07	0.04	0.06	0.13	BDL	BDL	0.07	0.12	0.08	
15	Total Dissolved Solids(mg/l)	33012	29869	30456	4211	2294	21487	18664	35999	39225	40414	34204	30230	
16	Total Fixed Solids (mg/l)	27008	12370	22356	4240	1564	21352	11728	21892	24550	12364	31310	32446	
17	Total Suspended Solid (mg/l)	158	214	98	26	8	58	193.5	113	197	15	210	89	
18	Hardness(mg/l)	6200	7500	11000	1800	490	4800	3000	5800	8000	10800	6420	6000	
19	Fluoride(mg/l)		1.53	BDL	0.15	BDL	BDL	0.14	4.7	5.48	0.01		0.76	
20	Boron(mg/l)	9.87	5.29	2.78				1.32	6.93	2.2			3.68	
21	Sulphate (mg/l)	2356.1	2003.1	3266	179.64	136.69	1403	2457.44	1804	1838.2	1686.2	1351.1	1911	
22	Total Alkalinity(mg/l)	104	128	118	52	32	94	84	100	120	120	112	100	
23	Phenolphthalein Alkalinity(mg/l)	14	14	0	0	0	4	6	10	14	0.5	12	24	
24	Sodium(mg/l)	3117	7005	7106	1193	695.8	4184	4037	7709	8514	9575	8322	7133	
25	Potassium(mg/l)	263.5	253.4	262.8	50.4	30.2	178.5	180.6	617.6	324.2	254.6	346	263.1	
26	Calcium as CaCO3(mg/l)	641.3	1002	802	400.8	34.47	321	1.9	441	1002	1202.4	424.9	561	
27	Magnesium(mg/l)	1117.8	1215	2187	194.4	98.2	972	467.4	1142.1	1336.5	2332.2	1302.5	1118	
28	Nickel(mg/l)	0.25						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.02						BDL						
32	Zinc(mg/l)	0.06						0.02						
33	Lead(mg/l)	BDL						BDL						

34	Iron(mg/l)	0.25						0.72						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER MANDOVI AT AMONA 2018-2019

Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.2	7.61	7.7	6.97	6.6	6.71	7.3	6.9	7.1	7.4	7.1	7.3	
2	Temperature °C	29.6	31.8	28.7	28.7	27	29	30	28	29	28	27	28	
3	Conductivity µs/cm	36500	39220	30660	195.37	300.9	188.32	693	14790	21670	27150	30240	28840	
4	Dissolved Oxygen mg/l	5.1	6.1	5.1	7	7.3	7	7.1	6.1	6.2	6.7	5.8	6.2	
5	Turbidity (NTU)	10.38	10.18	6.28	24.4	18.46	9.5	8.77	5.43	3.53	4.49	3.94	1.45	
6	Nitrite Nitrogen mg/l	0.27	BDL	0.16	0.032	0.06	BDL		0.107	0.06	0.229	0.12	0.043	
7	Nitrogen(Nitrate) mg/l	0.2	0.64	BDL	0.28	0.56	0.11	BDL	0.2	BDL	0.13	0.12	BDL	
8	Phosphate mg/l	0.02	BDL	0.02		0.207	0.72	0.25	0.035	BDL	0.02	BDL	BDL	
9	BOD mg/l	1.6	4.3	1.2	1.1	3	0.4	3.8	0.9	3	3.7	BDL	BDL	
10	COD mg/l				4	6	14	16						
11	Chloride mg/l	11730	13975.9	14187.1	50	67	150	99.83	4080	6888.13	13371	12597	11863.3	
12	Fecal Coliform MPN/100 ml	24000	780	780	3300		3300	1300	3300	1300	780	450	45	
13	Total Coliform MPN/100 ml	54000	1300	1300	7000		4900	2300	7000	2200	1300	780	78	
14	Ammonia mg/l	0.03	0.19	0.13	0.084	BDL	0.06	0.12	0.1	0.06	BDL	BDL	BDL	
15	Total Dissolved Solids(mg/l)	20463	21773	18000	120	206	105	450	8914	13220	17610	20814	16300	
16	Total Fixed Solids (mg/l)	21007	21994	14000	92	144	77	396	6458	13002	16604	19329	14890	
17	Total Suspended Solid (mg/l)	30	27	96	19	51	6	16	12	9	54	34	71	
18	Hardness(mg/l)	4000	3800	4200	30	34	38	44	1800	2000	4500	5000	3600	
19	Fluoride(mg/l)	0.97	1.05	0.78	BDL	BDL	BDL	1.12	0.91	0.3	0.44	2.57	0.03	
20	Boron(mg/l)	14.5	0.31	7.14				3.33	2.71	4.11	4.14		3.86	
21	Sulphate (mg/l)	1673.1	1588.9	760.5	2.78	8.98	5.01	3.77	377	630.75	3907	1278	1613	
22	Total Alkalinity(mg/l)	78	186	86	30	28	24	40	56	52	92	92	84	

23	Phenolphthalein Alkalinity(mg/l)	10	2	0	0	0	0	0	0	0	0	0	2	
24	Sodium(mg/l)	2219	5710	4060	28.2	40.9	20.2	60.5	1590	2966	5221	4428	8980	
25	Potassium(mg/l)	200.1	203	171.5	2.7	3.8	2.5	8.1	198.1	124.1	164.2	187	380	
26	Calcium as CaCO ₃ (mg/l)	641.3	721.4	400.8	4.81	5.6	5.61	8.02	96	400.8	240.48	601	240.5	
27	Magnesium(mg/l)	583.2	486	777.6	4.4	4.86	5.8	5.83	379	243	947.7	850	729	
28	Nickel(mg/l)	0.26						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.04						BDL						
32	Zinc(mg/l)	0.02						0.07						
33	Lead(mg/l)	0.22						BDL						
34	Iron(mg/l)	0.99						0.53						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RAIA LAKE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	8.73	7.34	7.6	6.85	7.07	6.99	6.7	7.73	7.7	7.8	7.6	7.1	
2	Temperature °C	31.2	30.9	27.6	28.1	28	28	30	29	30	28	29	28	
3	Conductivity µs/cm	209.2	181.69	79.75	87.74	109.7	134.12	89	128.3	128.3	125	122	329	
4	Dissolved Oxygen mg/l	11.2	9	8.5	8.8	6.4	4.8	5.3	5.1	8	8.6	7.8	7.8	
5	Turbidity (NTU)	29.9	27.7	27.2	7.49	3.22	3.21	2.34	6.49	6.49	9.18	8.86	43.4	
6	Nitrite Nitrogen mg/l	0.01	0.05	0.04	0.01	BDL	BDL	BDL	BDL	BDL	0.006	0.6	1.21	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	1.31	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.59	
8	Phosphate mg/l	BDL	0.14	0.05	0.04	0.02	BDL	BDL	0.144	0.11	0.04	0.09	0.24	
9	BOD mg/l	4.7	3.8	3.3	1.3	0.8	1.7	1.8	3	1.3	BDL	2.9	12	
10	COD mg/l	50	20	32	2	12	6	10	13	28	6	4	12	
11	Chloride mg/l	45.9	16.5	8	2.9	12.98	15.47	13.7	12.5	23	23.48	22.5	38.9	
12	Fecal Coliform MPN/100 ml	200	2300	4900	3300		450	780	780	7900	3300	20	3300	
13	Total Coliform MPN/100 ml	450	4600	7900	4900		780	1100	1700	13000	7000	40	7900	

14	Ammonia mg/l	5.78	2.14	0.62	0.08	0.37	0.05	0.11	0.02	0.42	0.42	0.23	BDL	
15	Total Dissolved Solids(mg/l)	140	107	56	56	70	87	60	72	79	75	80	85	
16	Total Fixed Solids (mg/l)	156	69	12	27	59	41	31	32	49	38	42	44	
17	Total Suspended Solid (mg/l)	45	23	32	6	7	6	9	33	43	35	32	40	
18	Hardness(mg/l)	30	26	50	32	26	44	26	52	40	26	36	30	
19	Fluoride(mg/l)	1.04	5.58	BDL	0.06	BDL	BDL	0.02	0.01	0.11	0.06		0.09	
20	Boron(mg/l)	0.03	2.61					3.91	0.36	0.45			1.65	
21	Sulphate (mg/l)	9.1	44	13	5.6	5.71	5.14	6.65	8.3	6.32	7.74	8.4	8.32	
22	Total Alkalinity(mg/l)	40	36	20	30	26	44	30	36	38	40	36	22	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	60.2	10.5	8.1	6.3	12.5	15.7	10.4	12.2	14.8	9.5	14.2	25.8	
25	Potassium(mg/l)	10.4	5.1	3.3	2.6	2.5	2.4	2.2	3	3.4	3.9	3.8	5.1	
26	Calcium as CaCO3(mg/l)	5.6	8.82	8	5.61	8.82	9.6	7.2	9.6	6.41	4.81	8	4.81	
27	Magnesium(mg/l)	3.9	BDL	7.2	4.37	BDL	4.9	1.94	10.3	5.83	3.4	3.9	4.4	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.04						0.06						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.14						0.46						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)							BDL						
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

SAIPEM LAKE, NAVELIM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	Lake Dry	7.78	7.93	6.43	6.82	6.88	6.7	6.53	7.90	Lake Dry	6	Lake Dry	
2	Temperature °C		31.4	30	27.8	29	29	28	30	27		30		
3	Conductivity µs/cm		839.2	284.6	343.06	235.2	339.91	301	480	223.2		389		
4	Dissolved Oxygen mg/l		8	3.8	2.6	3.6	3.6	2.3	BDL	BDL		5		
5	Turbidity (NTU)		10.69	27.7	1.81	10.06	15.14	8.74	5.44	2.07		47.7		
6	Nitrite Nitrogen mg/l		9.98	BDL	0.84	0.148	BDL	0.9	0.039	BDL		0.43		
7	Nitrogen(Nitrate) mg/l		48.8	5.56	5.53	1.45	1.35	5.43	26.3	1.538		0.69		
8	Phosphate mg/l		0.2	0.07	0.095	0.196	0.06	0.4	8.38	0.077		0.09		
9	BOD mg/l		6	5	1.1	3.2	3.4	4	5.3	3.8		3.9		
10	COD mg/l		18	14		4	24	18	12	10		12		
11	Chloride mg/l		122.3	499.1	19.08	26.9	64.39	27	46.47	37.93		80.4		
12	Fecal Coliform MPN/100 ml		24000	54000	54000		54000	35000	35000	24000		22000		
13	Total Coliform MPN/100 ml		54000	92000	92000		92000	92000	92000	54000		54000		
14	Ammonia mg/l		0.76	0.02	0.77	0.18	BDL	3.65	39.96	BDL		BDL		
15	Total Dissolved Solids(mg/l)		500	193	225	139	200	188	292	126		268		
16	Total Fixed Solids (mg/l)		300	234	141	81	156	114	200	80		198		
17	Total Suspended Solid (mg/l)		25	61	28	29	25	10	14	30		89		
18	Hardness(mg/l)		114	92	103	84	100	68	64	62		90		
19	Fluoride(mg/l)		1.38	0.1	BDL	BDL	BDL	0.15	0.09	0.34				
20	Boron(mg/l)		0.78	1.94				0.57	0.05	1.07				
21	Sulphate (mg/l)		20.4	107.2	31.5	923.2	35.97	7.69	BDL	43.74		26.3		
22	Total Alkalinity(mg/l)		134	60	70	64	64	44	56	62		64		
23	Phenolphthalein Alkalinity(mg/l)		0	0	0	0	0	0	0	0		0		
24	Sodium(mg/l)		101.7	35.6	41.4	12.3	44	27.9	40.4	29.3		60.2		
25	Potassium(mg/l)		10.9	6.3	6	4.2	5.4	6.2	15.6	6.2		4.7		
26	Calcium as CaCO3(mg/l)		23.2	20.8	88.1	25.7	29.66	21	14.4	15.23		22.4		
27	Magnesium(mg/l)		13.6	9.7	55.2	4.86	6.32	4	6.8	5.83		8.3		
28	Nickel(mg/l)							BDL						
29	Copper(mg/l)							BDL						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							BDL						
32	Zinc(mg/l)							0.09						
33	Lead(mg/l)							BDL						
34	Iron(mg/l)							0.14						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						

42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

CURTORIM LAKE, CURTORIM 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.22	7.1	7.5	6.72	6.96	6.71	6.9	7.55	7.5	7.3	7.5	6.5	
2	Temperature °C	31.4	30.7	27.5	27.9	27	28	30	30	30	28	29	28	
3	Conductivity µs/cm	167.1	217.63	80.14	99.74		144.73	166	168.3	168.3	183	196	448	
4	Dissolved Oxygen mg/l	6.8	6	5.8	5.3	4.2	5.2	4.3	4.2	5.6	7.4	5.8	6.3	
5	Turbidity (NTU)	6.18	46	29.5	24.2	20.6	13.57	16.21	7.3	7.3	8.4	5.45	25.3	
6	Nitrite Nitrogen mg/l	BDL	0.33	0.03	0.02	BDL	0.01	BDL	BDL	BDL	BDL	0.111	1.5	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	0.34	BDL	BDL	BDL	0.24	12	BDL	BDL	BDL	3.39	
8	Phosphate mg/l	BDL	0.03	BDL	0.08	0.02	BDL	0.15	0.145	0.07	0.03	0.04	0.32	
9	BOD mg/l	3.4	4.9	4.3	1.1	0.8	1.9	1.6	3	3	2.2	BDL	2.4	
10	COD mg/l	16	18	20	BDL	10	4	10		22	6	6	10	
11	Chloride mg/l	22.4	33	11	10	10.98	13.98	21.04		23.5	30.82	32.3	9.0	
12	Fecal Coliform MPN/100 ml	780	450	4900	7900		4900	2300	3300	3300	2300	200	4900	
13	Total Coliform MPN/100 ml	1300	780	7000	11000		9400	4600	4900	7900	4900	450	13000	
14	Ammonia mg/l	1.48	0.94	0.17	1.04	0.12	0.52	BDL	BDL	0.26	0.26	BDL	0.1	
15	Total Dissolved Solids(mg/l)	98	117	58	68	241	99	110	150	102	111	117	63	
16	Total Fixed Solids (mg/l)	115	84	22	38	201	80	66	43	62	44	57	38	
17	Total Suspended Solid (mg/l)	10	24	92	35	25	21	18	40.6	10	42	20	23	
18	Hardness(mg/l)	40	28	28	28	44	42	50	5.23	56	54	56	162	
19	Fluoride(mg/l)	1.1	4.09	BDL	0.07	BDL	BDL	0.03	0.03	0.14	0.07		0.59	
20	Boron(mg/l)	0.02	2.59					2.92	0.32	0.32			1.35	
21	Sulphate (mg/l)	3.5	46	12	7.33	2.21	12.85	4.08	17.5	3.66	5.23	4.87	15.91	
22	Total Alkalinity(mg/l)	56	90	18	30	30	52	52	56	64	76	64	20	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	41.5	18.8	9.8	9	11.2	12.2	15.1	22.2	17.6	14.3	22.7	36.9	
25	Potassium(mg/l)	10.1	5.2	2.4	2.1	2	1.6	5.1	7.3	6.5	6.9	8.2	9.9	
26	Calcium as CaCO3(mg/l)	6.4	8.02	5.6	2.4	8.82	8.8	9.6	180	10.42	14.43	9.62	25.7	
27	Magnesium(mg/l)	5.8	BDL	3	5.35	5.35	4.9	6.32	12.8	7.29	4.37	7.78	23.8	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						

32	Zinc(mg/l)	0.07						0.04						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	BDL						0.26						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER ZUARI AT MADKAI JETTY 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.22	7.31	7.36	7.72	7.1	7.38	7.3	7	6.5	7.7	7.4	7.2	
2	Temperature °C	30.1	33	29	26	27.4	27	29	30	29	29	28	31	
3	Conductivity µs/cm	46110	30980	32140	31940	114.6	7770	34490	53770	46810	44100	43680	51740	
4	Dissolved Oxygen mg/l	5	7.8	7.7	5.7	4	7.7	5.8	4.8	5.8	6	6.9	4.8	
5	Turbidity (NTU)	8.99	25.9	14.82	50.6	11.79	18.97	4.45	11.56	8.5	13.68	7.21	14.14	
6	Nitrite Nitrogen mg/l	0.01	BDL	0.31	0.041	0.01	BDL	BDL	0.011	0.04	0.06	0.007	0.06	
7	Nitrogen(Nitrate) mg/l	0.3	BDL	0.5	0.28	1.41	0.15	BDL	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l	0.03	BDL	0.05		0.33	0.049	0.13	0.06	0.08	0.21	0.18	0.09	
9	BOD mg/l	1.6	5.8	3.4	1.9	3.8	2.4	2.3	BDL	1.2	5	3	2.8	
10	COD mg/l					12								
11	Chloride mg/l	16486.4	10232.4	5490.5	13208.7	20.55	2592.8	11596.4	26295	20744	20090.4	20546.8	17470	
12	Fecal Coliform MPN/100 ml	130	450	3300	4900		2200	2200	1300	780	450	490	230	
13	Total Coliform MPN/100 ml	330	780	4900	7000		2700	2700	2300	1100	780	790	490	
14	Ammonia mg/l	0.08	0.1	BDL	BDL	BDL	0.26	BDL	0.02	0.02	0.02	0.18	BDL	
15	Total Dissolved Solids(mg/l)	30470	17658	20890	18525	69	4755	49389	31186	30430	29988	24999	29492	
16	Total Fixed Solids (mg/l)	17518	17979	21010	7485	33	3918	42487	22223	27330	29012	23202	28987	
17	Total Suspended Solid (mg/l)	33	58	25	93	18	44	93	52	85	28	78	30	
18	Hardness(mg/l)	5900	3200	5000	3820	20	1200	3320	10000	7000	6000	5600	10000	
19	Fluoride(mg/l)	3.19	0.62	0.05	BDL	BDL	BDL	1.24	2.59	0	0.57	0.24	0	
20	Boron(mg/l)	1.5	1.14	1.41				5.32	3.65	1.25	1.29		4.53	
21	Sulphate (mg/l)	2213.5	1113.6	1980.5	1055.92	5.06	452.1	1460.63	2509.71	9.86	2000.4	2614.1	2507.5	
22	Total Alkalinity(mg/l)	108	82	96	98	32	42	80	104	110	124	114	38	

23	Phenolphthalein Alkalinity(mg/l)	8	12	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	3214	4012	5027	4925	13.9	877.6	5027	6791	7341	8444	7020	6657	
25	Potassium(mg/l)	257.9	160.3	200.1	185	2.7	50.2	211.8	80	306.2	231.1	303.3	233.3	
26	Calcium as CaCO ₃ (mg/l)	360.7	561.1	961.9	216	5.61	160.3	224.45	1202.4	6.41	961.9	561.1	1603.2	
27	Magnesium(mg/l)	1215	437.5	631.8	797.04	BDL	194.4	670.68	1701	16971	874.8	1020.6	1458	
28	Nickel(mg/l)	BDL						0.23						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.02						0.05						
32	Zinc(mg/l)	0.03						0.03						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.26						0.69						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

RIVER ZUARI AT BORIM BRIDGE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.32	7.2	7.87	7	6.66	6.76	6.6	6.64	6.9	7.5	6.4	7.7	
2	Temperature °C	32	34	26	27	27.2	27	29	29	27	29	28	30	
3	Conductivity µs/cm	46920	31420	1674	4056	115.8	250.4	9980	37060	33400	34320	31010	38490	
4	Dissolved Oxygen mg/l	4.5	5.4	7.9	6.2	4.4	7.8	5.6	4.7	5.4	7.7	7	5.1	
5	Turbidity (NTU)	37.5	29.6	64.3	18.12	24.7	7.55	15.31	9.24	3.82	4.6	7.9	7.79	
6	Nitrite Nitrogen mg/l	0.01	BDL	0.07	0.011	0.006	BDL	0.006	0.014	0.018	0.02	0.099	0.04	
7	Nitrogen(Nitrate) mg/l	0.37	BDL	0.65	0.22	1.37	BDL	BDL	0.08	0.22	BDL	BDL	BDL	
8	Phosphate mg/l	0.04	BDL	0.05		0.31	0.026	0.17	0.09	0.06	0.06	0.13	0.09	
9	BOD mg/l	BDL	3.1	2.4	1.1	3.8	1.5	1.7	BDL	1.3	6.4	BDL	2.5	
10	COD mg/l					12	10							
11	Chloride mg/l	17024.5	9982.8	599	2079.14	20.06	52.35	3349	14554	14995	16097.3	13942.5	13227.2	
12	Fecal Coliform MPN/100 ml	780	450	4900	4900		2300	1300	1300	780	780	330	170	
13	Total Coliform MPN/100 ml	1300	780	7900	7900		3300	2300	2300	1300	1300	490	330	
14	Ammonia mg/l	BDL	0.06	0.03	0.09	BDL	0.05	0.13	0.08	0.02	0.06	0.06	BDL	

15	Total Dissolved Solids(mg/l)	26425	19166	1170	2436	70	170	15482	22136	21741	21278	18540	23094	
16	Total Fixed Solids (mg/l)	15858	19420	1308	901	30	121	10718	15647	20141	20980	15000	22990	
17	Total Suspended Solid (mg/l)	16	48	83	58	46	8	41	45	133	12	64	17	
18	Hardness(mg/l)	5800	3400	1400	640	20	38	878	6000	5400	4400	4200	4800	
19	Fluoride(mg/l)	2.68	0.45	0.06	0.19	BDL	BDL	0.87	2.4	BDL	0.45	BDL	BDL	
20	Boron(mg/l)	9.2	0.06	0.18				4.28	1.86	7.82	0.86		2.21	
21	Sulphate (mg/l)	2058.7	1146.2	356.4	97.82	4.63	10.71	226	1673	6.43	1424.9	3017.4	1502.6	
22	Total Alkalinity(mg/l)	108	74	36	48	28	24	40	82	86	100	78	36	
23	Phenolphthalein Alkalinity(mg/l)	4	86	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	3219	4015	270.9	638.6	13	29.2	1324	4588	5481	124	4784	4769	
25	Potassium(mg/l)	259.4	161.4	13.4	24.4	2.5	3	61.8	657.3	229	24.3	217.3	18.4	
26	Calcium as CaCO3(mg/l)	400.8	561.1	240.5	56.11	5.61	8	62.52	1202.4	3.21	1122.2	400.8	961.9	
27	Magnesium(mg/l)	1166.4	486	194.4	121.5	BDL	4.37	175.45	729	1310.3	388.8	777.6	583.2	
28	Nickel(mg/l)	0.18						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.02						0.02						
32	Zinc(mg/l)	0.03						0.02						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.16						0.13						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

CARAMBOLIM LAKE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.63	8.51	6.84	7.65	7.54	7.4	6.7	7.01	7.7	6.3	8.4	7.8	
2	Temperature °C	30	34	30	27.7	26	28	30	30	29	27	28	30	
3	Conductivity µs/cm	193.4	221.6	362	144.1	150.4	155.31	252	339.83	179	183	224	248	
4	Dissolved Oxygen mg/l	6.6	7.2	3.2	6.3	7.3	5	3.9	5	5.5	5.7	6.9	6.6	
5	Turbidity (NTU)	6.47	41.6	27.9	6.44	10.66	17.87	7.2	6.81	6.62	2.04	3.53	4.11	
6	Nitrite Nitrogen mg/l	BDL	0.28	1.06	0.03	0.009	0.03	BDL	0.04	BDL	0.006	0.2	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	0.34	BDL	0.6	0.38	0.26	BDL	BDL	BDL	0.18	BDL	BDL	
8	Phosphate mg/l	BDL	0.05	0.02		0.04	0.08	0.049	0.07	0.02		0.7	0.17	
9	BOD mg/l	1.3	2.2	BDL	3.9	3.6	3.2	1.8	0.9	2	2.1	BDL	BDL	
10	COD mg/l	8	2.2	8	18	14	30	26	16	16	14	8	12	
11	Chloride mg/l	36.2	48.9	73	99.83	14.5	23	26.49	4.4	25	26	39	36	
12	Fecal Coliform MPN/100 ml	200	2300	2300			450	450	450	780	1300	78	130	
13	Total Coliform MPN/100 ml	450	4900	3300			780	780	780	1300	2300	130	230	
14	Ammonia mg/l	0.29	0.14	0.61	0.03	0.14	0.07	0.13	BDL	0.17	0.11	BDL	0.13	
15	Total Dissolved Solids(mg/l)	120	132	217	90	78	109	131.0	197	109	489	161	168	
16	Total Fixed Solids (mg/l)	71	82	132	105	46	65	982	116	68	341	142	93	
17	Total Suspended Solid (mg/l)	12	66	125	15	27	24	25.2	21	10	31	12	15	
18	Hardness(mg/l)	52	50	68	50	48	60	70	26	72	42	70	70	
19	Fluoride(mg/l)		1.42	BDL	0.05	BDL	BDL	0.1	0.27	0.45	0.13		0	
20	Boron(mg/l)	2.58	0.89	BDL				1.55	0.87	0			0.24	
21	Sulphate (mg/l)	6.38	10.05	2.51	5.56	11.3	6.91	2.01	4.18	BDL	2.3	4.43	6	
22	Total Alkalinity(mg/l)	32	56	52	46	40	48	66	64	74	70	76	22	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	6	0	0	0	
24	Sodium(mg/l)	44.3	38.8	47.1	26.1	10.7	14.6	23.3	24.5	19.2	15.8	27.4	41.9	
25	Potassium(mg/l)	9.5	5.6	5.1	2.7	2.9	2.8	14.6	7.2	3.9	3.8	4.2	4.8	
26	Calcium as CaCO3(mg/l)	16	14.43	22	13.63	16.03	19	BDL	6.41	20.04	24	15.23	21	
27	Magnesium(mg/l)	2.92	3.4	3	3.89	BDL	3	3.4	2.43	5.34	4.37	7.8	4	
28	Nickel(mg/l)	BDL						0.39						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	0.05						0.64						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.21						3.66						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						

42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

ANJUNEM LAKE 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.11	7.25	8.06	7.05	7.11	7.35	7.4	7.32	7.2	7.6	6.6	6.7	
2	Temperature °C	32	30.1	30	26	28	25	30	29	29	29	28	30	
3	Conductivity µs/cm	48.67	48.81	46.56	54.08	56.42	55.5	46.42	136.3	187	60	53	98	
4	Dissolved Oxygen mg/l	8.2	7.4	7.5	7.4	7.7	7	7.8	8	7.8	6.3	7.8	8	
5	Turbidity (NTU)	1.69	BDL	7.42	3.36	2.15	1.16	1.55	1.16	1	1.98	1.3	2.92	
6	Nitrite Nitrogen mg/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.01	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	BDL	BDL	0.14	BDL	BDL	BDL	0.05	BDL	BDL	BDL	
8	Phosphate mg/l	BDL	BDL	BDL	0.08	0.03	BDL	0.049	0.04	BDL	0.05	0.15	0.04	
9	BOD mg/l	0.5	0.5	1	BDL	0.5	BDL	0.7	0.8	BDL	BDL	2.1	BDL	
10	COD mg/l	6	6	8	2	4	2	4	6	2	4	10	11	
11	Chloride mg/l	7	7.34	6.4	4.5	6.36	6	7.83	6.99	7.34	9.8	7.83	8.74	
12	Fecal Coliform MPN/100 ml	23	23	540	79		130	20	13	7	8	5	8	
13	Total Coliform MPN/100 ml	49	79	920	220		220	78	23	13	13	13	23	
14	Ammonia mg/l	0.03	0.02	0.03	0.02	0.03	BDL	0.02	BDL	BDL	0.08	0.16	BDL	
15	Total Dissolved Solids(mg/l)	35	33	29	38	33	32	28	81	110	34	33	59	
16	Total Fixed Solids (mg/l)	25	25	15	17	23	11	12	54	44	24	11	32	
17	Total Suspended Solid (mg/l)	5	5	8	52	6	3	17	3	25	11	19	13	
18	Hardness(mg/l)	12	16	16	18	12	24	12	20	24	18	32	66	
19	Fluoride(mg/l)	0.27	2	0.86	0.05	BDL	0.12	0.03	BDL	0.11	0.02		0	
20	Boron(mg/l)	3.4	1.09	1.1				0.74	4.75	0.02	1.4		0.63	
21	Sulphate (mg/l)	3.8	2.12	2.77	BDL	5.4	2.41	BDL	7.51	BDL	7.68	BDL	BDL	
22	Total Alkalinity(mg/l)	28	26	58	24	20	26	26	22	46	24	38	26	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0	0	0	0	
24	Sodium(mg/l)	9.3	3.5	5.1	4.6	5.7	4.3	7.1	5.8	6.4	8	4.4	14.2	
25	Potassium(mg/l)	6.8	1.8	1.9	1.8	1.7	1.3	1.6	1.9	2.1	2.3	1.2	8.7	
26	Calcium as CaCO3(mg/l)	3.2	4	4.8	4.01	4	4.8	4	3.2	2.41	4.01	5.61	52	
27	Magnesium(mg/l)	BDL	1.46	BDL	1.9	0.49	2.9	0.49	2.92	4.37	1.94	4.37	3.4	
28	Nickel(mg/l)	BDL						BDL						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	BDL						BDL						
32	Zinc(mg/l)	BDL						0.02						
33	Lead(mg/l)	BDL						BDL						

34	Iron(mg/l)	BDL					0.21						
35	Manganese (mg/l)												
36	Arsenic(mg/l)						BDL						
37	Alpha BHC (mg/l)	BDL					BDL						
38	Beta BHC (mg/l)	BDL					BDL						
39	Gamma BHC (mg/l)	BDL					BDL						
40	Aldrin (mg/l)	BDL					BDL						
41	Dieldrin (mg/l)	BDL					BDL						
42	O,P-DDT (mg/l)	BDL					BDL						
43	P,P-DDT (mg/l)	BDL					BDL						
44	Alpha endosulphane (mg/l)	BDL					BDL						
45	β-endosulphane (mg/l)	BDL					BDL						
46	carbaryl (mg/l)												
47	Anilofos (mg/l)	BDL					BDL						
48	Parathion methyl (mg/l)	BDL					BDL						
49	Malathion (mg/l)	BDL					BDL						
50	Chloropylos (mg/l)	BDL					BDL						

BOREWELL/TUBE WELL/ OPEN WELL IN ZUARI INDUSTRIES LTD, ZUARINAGAR 2018-2019				
Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	Sample not collected as well was dismantled	Sample not collected as well was dismantled	6.5-8.5
2	Temperature °C			
3	Conductivity µs/cm			
4	Dissolved Oxygen mg/l			6 mg/l or more
5	Turbidity (NTU)			
6	Nitrite Nitrogen mg/l			
7	Nitrogen(Nitrate) mg/l			
8	Phosphate mg/l			
9	BOD mg/l			2 mg/l or less
10	COD mg/l			
11	Chloride mg/l			
12	Fecal Coliform MPN/100 ml			
13	Total Coliform MPN/100 ml			50 or less MPN/100 ml
14	Ammonia mg/l			
15	Total Dissolved Solids(mg/l)			
16	Total Fixed Solids (mg/l)			
17	Total Suspended Solid (mg/l)			
18	Hardness(mg/l)			
19	Fluoride(mg/l)			
20	Boron(mg/l)			
21	Sulphate (mg/l)			
22	Total Alkalinity(mg/l)			
23	Phenolphthalein Alkalinity(mg/l)			
24	Sodium(mg/l)			
25	Potassium(mg/l)			

26	Calcium as CaCO ₃ (mg/l)			
27	Magnesium(mg/l)			
28	Nickel(mg/l)			
29	Copper(mg/l)			
30	Chromium(mg/l)			
31	Cadmium(mg/l)			
32	Zinc(mg/l)			
33	Lead(mg/l)			
34	Iron(mg/l)			
35	Manganese (mg/l)			
36	Arsenic (mg/l)			
37	Alpha BHC (mg/l)			
38	Beta BHC (mg/l)			
39	Gamma BHC (mg/l)			
40	Aldrin (mg/l)			
41	Dieldrin (mg/l)			
42	O,P-DDT (mg/l)			
43	P,P-DDT (mg/l)			
44	Alpha endosulphane (mg/l)			
45	β-endosulphane (mg/l)			
46	carbaryl (mg/l)			
47	Anilofos (mg/l)			
48	Parathion methyl (mg/l)			
49	Malathion (mg/l)			
50	Chloropylos (mg/l)			

BOREWELL/TUBE WELL/OPEN WELL AT SANCOALE INDUSTRIAL ESTATE 2018-2019				
Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	6.49	7.1	6.5-8.5
2	Temperature °C	28.8	29	
3	Conductivity µs/cm	83.73	106	
4	Dissolved Oxygen mg/l	6.3	7.4	6 mg/l or more
5	Turbidity (NTU)	17	3.47	
6	Nitrite Nitrogen mg/l	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	1.3	1.4	
8	Phosphate mg/l	0.02	BDL	
9	BOD mg/l	1.4	2	2 mg/l or less
10	COD mg/l			
11	Chloride mg/l	16.6	18	
12	Fecal Coliform MPN/100 ml	NIL	1.8	
13	Total Coliform MPN/100 ml	<1.8	1.8	50 or less MPN/100 ml
14	Ammonia mg/l	0.05	0.04	
15	Total Dissolved Solids(mg/l)	58	79	
16	Total Fixed Solids (mg/l)	30	35	
17	Total Suspended Solid (mg/l)	6	BDL	

18	Hardness(mg/l)	20	10	
19	Fluoride(mg/l)	0.44	0.14	
20	Boron(mg/l)	0.21	0.97	
21	Sulphate (mg/l)	BDL	BDL	
22	Total Alkalinity(mg/l)	16	24	
23	Phenolphthalein Alkalinity(mg/l)	0	0	
24	Sodium(mg/l)	28.1	18.9	
25	Potassium(mg/l)	7.2	2.2	
26	Calcium as CaCO ₃ (mg/l)	4.01	3	
27	Magnesium(mg/l)	2.4	BDL	
28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	0.1	1.87	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	0.17	7.32	
35	Manganese (mg/l)			
36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	
44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β-endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)			
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

BOREWELL/TUBE WELL/ OPEN WELL AT VERNA INDUSTRIAL ESTATE 2018-2019				
Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	6.79	6.7	6.5-8.5
2	Temperature °C	28.8	30	
3	Conductivity µs/cm	292.2	522	
4	Dissolved Oxygen mg/l	6.9	6.1	6 mg/l or more
5	Turbidity (NTU)	BDL	BDL	
6	Nitrite Nitrogen mg/l	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	1.74	0.54	
8	Phosphate mg/l	BDL	BDL	
9	BOD mg/l	0.5	2.6	2 mg/l or less
10	COD mg/l	2	12	
11	Chloride mg/l	32.4	69.96	
12	Fecal Coliform MPN/100 ml	NIL	1.8	
13	Total Coliform MPN/100 ml	<1.8	1.8	50 or less MPN/100 ml
14	Ammonia mg/l	0.06	0.08	
15	Total Dissolved Solids(mg/l)	175	301	
16	Total Fixed Solids (mg/l)	181	107	
17	Total Suspended Solid (mg/l)	2	7	
18	Hardness(mg/l)	84	156	
19	Fluoride(mg/l)	0.75	0.05	
20	Boron(mg/l)	0.13	2.83	
21	Sulphate (mg/l)	19	12.85	
22	Total Alkalinity(mg/l)	58	108	
23	Phenolphthalein Alkalinity(mg/l)	4	0	
24	Sodium(mg/l)	36.3	58.9	
25	Potassium(mg/l)	8.1	4.1	
26	Calcium as CaCO ₃ (mg/l)	17.6	27.3	
27	Magnesium(mg/l)	9.7	21.38	
28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	0.11	0.17	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	BDL	0.86	
35	Manganese (mg/l)			
36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	

44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β-endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)			
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

BOREWELL/ TUBE WELL/ OPEN WELL KUNDAIM INDUSTRIAL ESTATE 2018-2019				
Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	6.65	6.7	6.5-8.5
2	Temperature °C	31.1	29	
3	Conductivity µs/cm	278.5	290	
4	Dissolved Oxygen mg/l	2.6	1.5	6 mg/l or more
5	Turbidity (NTU)	29.7	14.5	
6	Nitrite Nitrogen mg/l	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	0.26	0.05	
8	Phosphate mg/l	BDL	0.36	
9	BOD mg/l	0.6	BDL	2 mg/l or less
10	COD mg/l	6	20	
11	Chloride mg/l	27.88	6	
12	Fecal Coliform MPN/100 ml	NIL		
13	Total Coliform MPN/100 ml	<1.8		50 or less MPN/100 ml
14	Ammonia mg/l	0.06	0.03	
15	Total Dissolved Solids(mg/l)	170	144	
16	Total Fixed Solids (mg/l)	99	104	
17	Total Suspended Solid (mg/l)	15	22	
18	Hardness(mg/l)	102	100	
19	Fluoride(mg/l)		0.05	
20	Boron(mg/l)	1.91	9.4	
21	Sulphate (mg/l)	43.8	2775.46	
22	Total Alkalinity(mg/l)	0.06	86	
23	Phenolphthalein Alkalinity(mg/l)	0	0	
24	Sodium(mg/l)	21.1	1.76	
25	Potassium(mg/l)	10.8	6.1	
26	Calcium as CaCO3(mg/l)	30.5	76	
27	Magnesium(mg/l)	6.32	5.83	
28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	0.09	0.03	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	BDL	0.16	
35	Manganese (mg/l)			

36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	
44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β -endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)		BDL	
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

BORE WELL/ TUBE WELL / OPENWELL IN CORLIM INDUSTRIAL ESTATE 2018-2019

Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	5.98	5.5	6.5-8.5
2	Temperature °C	30.1	30	
3	Conductivity μ s/cm	118.6	69	
4	Dissolved Oxygen mg/l	7	5.8	6 mg/l or more
5	Turbidity (NTU)	1.78	3.18	
6	Nitrite Nitrogen mg/l	BDL	0.033	
7	Nitrogen(Nitrate) mg/l	1.2	0.07	
8	Phosphate mg/l	BDL	0.02	
9	BOD mg/l	0.8	BDL	2 mg/l or less
10	COD mg/l	6	4	
11	Chloride mg/l	20.06	10	
12	Fecal Coliform MPN/100 ml	790	13	
13	Total Coliform MPN/100 ml	2400	23	50 or less MPN/100 ml
14	Ammonia mg/l	0.24	0.02	
15	Total Dissolved Solids(mg/l)	76	42	
16	Total Fixed Solids (mg/l)	47	20	
17	Total Suspended Solid (mg/l)	8	2	
18	Hardness(mg/l)	18	40	
19	Fluoride(mg/l)		0.07	
20	Boron(mg/l)	2.63	0.19	
21	Sulphate (mg/l)	5.27	2.04	
22	Total Alkalinity(mg/l)	14	12	
23	Phenolphthalein Alkalinity(mg/l)	0	0	
24	Sodium(mg/l)	23.6	9	
25	Potassium(mg/l)	7.1	1.7	

26	Calcium as CaCO ₃ (mg/l)	6.4	5.6	
27	Magnesium(mg/l)	BDL	5.35	
28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	BDL	0.04	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	0.14	0.24	
35	Manganese (mg/l)			
36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	
44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β-endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)			
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

BOREWELL/TUBE WELL/OPEN WELL IN PILERNE INDUSTRIAL ESTATE 2018-2019

Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	6.6	8.3	6.5-8.5
2	Temperature °C	31.9	28	
3	Conductivity µs/cm	247.3	363	
4	Dissolved Oxygen mg/l	5.1	5	6 mg/l or more
5	Turbidity (NTU)	1.34	BDL	
6	Nitrite Nitrogen mg/l	0.1	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	
8	Phosphate mg/l	BDL	0.08	
9	BOD mg/l	2	1.1	2 mg/l or less
10	COD mg/l	10	2	
11	Chloride mg/l	9	6.7	
12	Fecal Coliform MPN/100 ml	NIL	4.5	
13	Total Coliform MPN/100 ml	<1.8	13	50 or less MPN/100 ml
14	Ammonia mg/l	0.02	BDL	
15	Total Dissolved Solids(mg/l)	193	215	
16	Total Fixed Solids (mg/l)	120	129	
17	Total Suspended Solid (mg/l)	10	54	

18	Hardness(mg/l)	84	86	
19	Fluoride(mg/l)	0.07	0.04	
20	Boron(mg/l)	0.16	BDL	
21	Sulphate (mg/l)	6.98	11.74	
22	Total Alkalinity(mg/l)	114	110	
23	Phenolphthalein Alkalinity(mg/l)	0	10	
24	Sodium(mg/l)	41.4	24.7	
25	Potassium(mg/l)	9.6	4.9	
26	Calcium as CaCO3(mg/l)	23	21.6	
27	Magnesium(mg/l)	6	7.78	
28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	0.01	0.11	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	0.01	0.26	
35	Manganese (mg/l)			
36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	
44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β-endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)			
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

BORE WELL/TUBE WELL/ OPEN WELL IN CUNCOLIM INDUSTRIAL ESTATE 2018-2019				
Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	6.99	6.79	6.5-8.5
2	Temperature °C	28	32	
3	Conductivity µs/cm	435.7	418.55	
4	Dissolved Oxygen mg/l	4.8	6.8	6 mg/l or more
5	Turbidity (NTU)	BDL	10.27	
6	Nitrite Nitrogen mg/l	BDL	0.031	
7	Nitrogen(Nitrate) mg/l	BDL	0.52	
8	Phosphate mg/l	0.066	0.322	
9	BOD mg/l	0.6	5.4	2 mg/l or less
10	COD mg/l	4	8	
11	Chloride mg/l	34.7	7.5	
12	Fecal Coliform MPN/100 ml	NIL	Nil	
13	Total Coliform MPN/100 ml	<1.8	<1.8	50 or less MPN/100 ml
14	Ammonia mg/l	0.02	0.075	
15	Total Dissolved Solids(mg/l)	252	230	
16	Total Fixed Solids (mg/l)	158	180	
17	Total Suspended Solid (mg/l)	144	19	
18	Hardness(mg/l)	160	156	
19	Fluoride(mg/l)		0.06	
20	Boron(mg/l)	1.3	1.53	
21	Sulphate (mg/l)	8.5	BDL	
22	Total Alkalinity(mg/l)	156	148	
23	Phenolphthalein Alkalinity(mg/l)	0	0	
24	Sodium(mg/l)	27.1	17.2	
25	Potassium(mg/l)	8.5	3.5	
26	Calcium as CaCO3(mg/l)	35.3	39.3	
27	Magnesium(mg/l)	17.5	14.1	
28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	BDL	0.54	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	0.12	2.21	
35	Manganese (mg/l)			
36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	

44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β-endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)			
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

BOREWELL/TUBE WELL/OPEN WELL IN BETHORA INDUSTRIAL ESTATE 2018-2019				
Sr. No	Parameters	Apr-18	Oct-18	Limit for class A as per CPCB classification based on designated best use
1	pH	6.6	5.9	6.5-8.5
2	Temperature °C	31.2	30	
3	Conductivity µs/cm	97.11	179	
4	Dissolved Oxygen mg/l	8.3	4.7	6 mg/l or more
5	Turbidity (NTU)	1.86	BDL	
6	Nitrite Nitrogen mg/l	0.01	BDL	
7	Nitrogen(Nitrate) mg/l	2.09	1.83	
8	Phosphate mg/l	BDL	0.03	
9	BOD mg/l	2.7	0.7	2 mg/l or less
10	COD mg/l	4	2	
11	Chloride mg/l	17.1	12	
12	Fecal Coliform MPN/100 ml	130	1.8	
13	Total Coliform MPN/100 ml	220	4	50 or less MPN/100 ml
14	Ammonia mg/l	0.07	BDL	
15	Total Dissolved Solids(mg/l)	67	322	
16	Total Fixed Solids (mg/l)	34	199	
17	Total Suspended Solid (mg/l)	8	16	
18	Hardness(mg/l)	32	26	
19	Fluoride(mg/l)	BDL	0.21	
20	Boron(mg/l)	0.97	1.76	
21	Sulphate (mg/l)	BDL	BDL	
22	Total Alkalinity(mg/l)	24	20	
23	Phenolphthalein Alkalinity(mg/l)	0	0	
24	Sodium(mg/l)	21.5	13.6	
25	Potassium(mg/l)	7.8	1.6	
26	Calcium as CaCO3(mg/l)	5.6	4.81	
27	Magnesium(mg/l)	4.4	3.4	
28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	0.05	0.03	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	BDL	0.77	
35	Manganese (mg/l)			

36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	
44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β -endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)		BDL	
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

BOREWELL/ TUBEWELL/OPENWELL IN MADKAI INDUSTRIAL ESTATE 2018-2019

Sr. No	Parameters	Apr-18	Oct-18	Limit for Class A as per CPCB classification based on designated best use
1	pH	6.15	6.4	6.5-8.5
2	Temperature °C	30.1	29	
3	Conductivity μ s/cm	69.69	95	
4	Dissolved Oxygen mg/l	6.8	6.3	6 mg/l or more
5	Turbidity (NTU)	BDL	BDL	
6	Nitrite Nitrogen mg/l	BDL	BDL	
7	Nitrogen(Nitrate) mg/l	0.93	0.72	
8	Phosphate mg/l	BDL	0.08	
9	BOD mg/l	1.7	0.9	2 mg/l or less
10	COD mg/l	2	2	
11	Chloride mg/l	11.7	14.5	
12	Fecal Coliform MPN/100 ml	NIL	1.8	
13	Total Coliform MPN/100 ml	<1.8	2	50 or less MPN/100 ml
14	Ammonia mg/l	0.16	BDL	
15	Total Dissolved Solids(mg/l)	41	173	
16	Total Fixed Solids (mg/l)	18	117	
17	Total Suspended Solid (mg/l)	13	4	
18	Hardness(mg/l)	22	18	
19	Fluoride(mg/l)	0.45	1.94	
20	Boron(mg/l)	1.6	1.94	
21	Sulphate (mg/l)	BDL	BDL	
22	Total Alkalinity(mg/l)	22	16	
23	Phenolphthalein Alkalinity(mg/l)	0	0	
24	Sodium(mg/l)	16.6	9.6	
25	Potassium(mg/l)	7.1	1.6	
26	Calcium as Ca(mg/l)	4	4.81	
27	Magnesium(mg/l)	2.9	BDL	

28	Nickel(mg/l)	BDL	BDL	
29	Copper(mg/l)	BDL	BDL	
30	Chromium(mg/l)	BDL	BDL	
31	Cadmium(mg/l)	BDL	BDL	
32	Zinc(mg/l)	0.04	0.02	
33	Lead(mg/l)	BDL	BDL	
34	Iron(mg/l)	BDL	0.18	
35	Manganese (mg/l)			
36	Arsenic (mg/l)		BDL	
37	Alpha BHC (mg/l)	BDL	BDL	
38	Beta BHC (mg/l)	BDL	BDL	
39	Gamma BHC (mg/l)	BDL	BDL	
40	Aldrin (mg/l)	BDL	BDL	
41	Dieldrin (mg/l)	BDL	BDL	
42	O,P-DDT (mg/l)	BDL	BDL	
43	P,P-DDT (mg/l)	BDL	BDL	
44	Alpha endosulphane (mg/l)	BDL	BDL	
45	β-endosulphane (mg/l)	BDL	BDL	
46	carbaryl (mg/l)			
47	Anilofos (mg/l)	BDL	BDL	
48	Parathion methyl (mg/l)	BDL	BDL	
49	Malathion (mg/l)	BDL	BDL	
50	Chloropylos (mg/l)	BDL	BDL	

TIRACOL BEACH														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			7.19	7	7.69	7.78	8.09	7.45	6.8	6.6	8	7.92	6.5 - 8.5
2	Temperature °C			29	27	29	28	29	29	28	28	28	28	
3	Conductivity µs/cm			52600	45720	43310	12210	44890	51070	44010	43510	48010	53720	
4	Dissolved Oxygen mg/l			6.5	5.8	6.8	7.5	5.2	6.3	7.6	6.8	6.2	5.9	4 mg/l or more
5	Turbidity (NTU)			66.8	2.57	27.4	7.36	1.99	2.63	2.82	2.39	3.39	3.58	30 NTU
6	Nitrite Nitrogen mg/l			0.02	0.025	0.032	BDL	0.06	BDL	BDL	0.02	0.006	BDL	
7	Nitrogen(Nitrate) mg/l			BDL	0.22	0.222	0.25	BDL	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l			0.05		0.393	0.02	0.18	0.04	0.07	0.04	0.21	0.05	
9	BOD mg/l			2.4	1.3	1.6	2.3	2.4	BDL	2.9	2.3	BDL	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			21057	17605	19201	4300	20339	19965.6	21280.6	21281	17483.9	19324	
12	Fecal Coliform MPN/100 ml			23	350			33	33	23	23	33	13	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			33	920			70	79	49	33	79	49	
14	Ammonia mg/l			0.15	0.09	0.18	0.13	0.12	0.04	0.06	0.13	0.14	0.18	
15	Total Dissolved Solids(mg/l)			34856	30862	29306	8089	28865	33195	24692	34242	26818	37211	
16	Total Fixed Solids (mg/l)			28782	14990	18863	7420	17319	33000	18800	28610	18818	31521	

17	Total Suspended Solid (mg/l)			217	916	363	228	212	7	142	8	88	61	
18	Hardness(mg/l)			8000	6800	9400	1280	6200	3000	6200	6560	8000	7500	
19	Fluoride(mg/l)			BDL	1.32	BDL	BDL	1.47	1.21	0.14	1.99	0	0	
20	Boron(mg/l)							BDL	5.5	0.18			1.85	
21	Sulphate (mg/l)			8321	2809	1092.7	241.72	2767	2426	3165.3	2554	4338.4	1553	
22	Total Alkalinity(mg/l)			118	96	106	128	128	118	108	116	128	128	
23	Phenolphthalein Alkalinity(mg/l)			10	4.8	8	4	6	10	10	8	0	18	
24	Sodium(mg/l)			7312	7784	7205	1392	9007	7209	5.3	10692	333.9	8914	
25	Potassium(mg/l)			261	259.7	245	74.8	306.8	549.3	2.1	252	8040	250.8	
26	Calcium as CaCO3(mg/l)			601.2	641	2084.2	473	400.8	400.8	641.3	449	5000	601.2	
27	Magnesium(mg/l)			1579.5	1264	1777.74	24.3	1263.6	486	1117.8	1322	729	1458	
28	Nickel(mg/l)							0.51						
29	Copper(mg/l)							0.09						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							BDL						
32	Zinc(mg/l)							0.08						
33	Lead(mg/l)							0.73						
34	Iron(mg/l)							0.61						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						
42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

MIRAMAR BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			7.29	7.02	7.87	8	7.9	8.2	7.4	8	7.9	7.9	6.5 - 8.5
2	Temperature °C			27	27.2	26	28	29	30	29	28	28	32	
3	Conductivity µs/cm			41890	23620	15250	477710	54600	66050	55190	47750	48850	48260	
4	Dissolved Oxygen mg/l			7.6	7.6	7.7	6.6	6	5.8	6.8	7.7	5.9	5.9	4 mg/l or more
5	Turbidity (NTU)			32.7	17.5	16.83	8.67	6.53	2.67	5.71	8.79	11.04	7.94	30 NTU
6	Nitrite Nitrogen mg/l			0.29	0.02	0.01	BDL	0.031	BDL	0.11	BDL	0.04	BDL	
7	Nitrogen(Nitrate) mg/l			0.62	0.22	0.25	BDL	20.43	BDL	BDL	BDL	BDL	BDL	
8	Phosphate mg/l			0.05	0.03	0.04	0.13	0.051	0.08	0.15	0.04	0.19	0.15	
9	BOD mg/l			3	1.5	1.7	1.4	2	0.5	2.3	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			15473.3	7986.24	5248.4	15930	18244.34	16144	20913.7	16869.8	17869	18455	
12	Fecal Coliform MPN/100 ml			540	790		49	13	130	23	33	23	13	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			920	2200		79	23	150	79	49	33	33	
14	Ammonia mg/l			0.03	0.17	0.05	0.05	0.06	BDL	0.05	BDL	0.28	0.16	
15	Total Dissolved Solids(mg/l)			27674	13936	10353	31132	30414	43651	37647	37259	34508	33759	
16	Total Fixed Solids (mg/l)			30123	14009	7391	31000	16650.6	26385	26185	11095	30487	30264	
17	Total Suspended Solid (mg/l)			43	34	21	85	309.3	125	6	47	203	87	
18	Hardness(mg/l)			5000	5000	2800	6800	6400	6100	8000	11000	6180	7000	
19	Fluoride(mg/l)			0.06	0.32	BDL	BDL	0.11	3.42	5.12	0.11		0	
20	Boron(mg/l)			1.29				1.6	1.20	1.88			2.73	
21	Sulphate (mg/l)			2093.1	509.3	573.12	2333	4028.69	1316	2143.7	1807.1	1513.7	2568	
22	Total Alkalinity(mg/l)			108	80	44	104	130	98	128	120	108	110	
23	Phenolphthalein Alkalinity(mg/l)			0	4	0	8	30	14	22	0.2	6	8	
24	Sodium(mg/l)			6433	4024	2592	6415	6118	7792	8296	9430	8044	11973	
25	Potassium(mg/l)			243.7	148.6	106.8	233.1	221.1	608	318.9	245.8	346.1	280	
26	Calcium as CaCO3(mg/l)			961.9	961.92	16.03	521	641	521	801.6	1603.2	424.9	641	
27	Magnesium(mg/l)			631.8	631.8	583.2	1652	1166.4	1166.4	1458	2283.4	1244.2	1312	
28	Nickel(mg/l)							0.7						
29	Copper(mg/l)							BDL						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							0.11						
32	Zinc(mg/l)							0.07						
33	Lead(mg/l)							0.61						
34	Iron(mg/l)							0.62						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						

42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

CALANGUTE BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			7.7	7.3	8.07	8.1	8.08	7.58	7.2	7.1	7.9	7.69	6.5 - 8.5
2	Temperature °C			28	28	28	29	29	29	28	29	29	29	
3	Conductivity µs/cm			50610	47290	36060	11230	45640	35190	49340	55860	48360	48490	
4	Dissolved Oxygen mg/l			6.7	6.5	6.8	8	6.2	6.2	6.7	6.4	5.9	6.7	4 mg/l or more
5	Turbidity (NTU)			57.9	2.24	21.6	4.62	1.09	1.76	2.69	2.77	2.97	6.45	30 NTU
6	Nitrite Nitrogen mg/l			0.02	0.015	0.006	BDL	0.04	BDL	0.03	BDL	0.012	0.005	
7	Nitrogen(Nitrate) mg/l			0.46	BDL	0.502	BDL	BDL	BDL	0.06	0.2	BDL	BDL	
8	Phosphate mg/l			0.24		0.22	0.02	0.16	0.03	0.24	0.3	0.14	0.06	
9	BOD mg/l			1.5	0.7	0.5	2.6	2.7	BDL	2.9	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			19427	17241	10762.6	4049	21057	13476.8	21769.9	23849	21612.1	19324	
12	Fecal Coliform MPN/100 ml			350	240			33	130	130	79	130	33	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			540	540			79	240	170	130	350	130	
14	Ammonia mg/l			0.5	0.04	0.09	0.13	0.21	BDL	0.03	0.34	0.13	0.04	
15	Total Dissolved Solids(mg/l)			36540	33384	24688	7266	23711	19355	28304	44580	28296	32210	
16	Total Fixed Solids (mg/l)			29422	21988	20610	7066	14225	19141	23000	35816	18272	25148	
17	Total Suspended Solid (mg/l)			588	870	177	201	183	6	154	10	111	119	
18	Hardness(mg/l)			6800	6500	7600	1340	12000	1600	7600	6480	14500	8000	
19	Fluoride(mg/l)			BDL	1.83	BDL	BDL	1.42	1.32	0.16	2.3	BDL	BDL	
20	Boron(mg/l)							BDL	2.36	0.14			1.91	
21	Sulphate (mg/l)			3310	2010	731.5	138.5	2528	1273.7	3602.6	3098	4748.6	1633	
22	Total Alkalinity(mg/l)			132	96	86	52	136	94	112	114	122	112	
23	Phenolphthalein Alkalinity(mg/l)			0	8	6	6	6	4	16	14	14	18	
24	Sodium(mg/l)			6931	7900	5902	1259	9709	4715	7.9	9735	329.4	9323	
25	Potassium(mg/l)			248	257	212.5	68.4	358.7	411.1	2.1	245	7531	249.4	
26	Calcium as CaCO3(mg/l)			561	802	400.8	521	480.96	320.6	641.3	545	3000	801.6	
27	Magnesium(mg/l)			1312	1094	1749.4	9.7	2624.4	194.4	1458	1244	2794.5	1458	
28	Nickel(mg/l)							0.71						
29	Copper(mg/l)							0.09						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							0.04						
32	Zinc(mg/l)							0.09						

33	Lead(mg/l)							0.94						
34	Iron(mg/l)							0.55						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						
42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

MORJIM BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			7.36	7.2	7.86	8.19	7.96	6.58	7.5	7.2	8	7.98	6.5 - 8.5
2	Temperature °C			29	27	29	29	29	28	28	29	30	28	
3	Conductivity µs/cm			52870	45850	40160	11180	45310	35220	35360	41180	48400	53010	
4	Dissolved Oxygen mg/l			6.5	6.5	6.8	7.5	5.6	6.8	6.3	6.6	5.8	6.2	4 mg/l or more
5	Turbidity (NTU)			44	22	37.5	5.54	1.88	1.53	2.34	1.91	3.06	1.83	30 NTU
6	Nitrite Nitrogen mg/l			0.02	0.01	0.062	BDL	0.05	BDL	0.019	BDL	0.008	BDL	
7	Nitrogen(Nitrate) mg/l			BDL	0.2	0.923	BDL	BDL	BDL	0.05	BDL	BDL	BDL	
8	Phosphate mg/l			0.02		0.489	0.026	0.15	0.03	0.16	0.04	0.18	0.04	
9	BOD mg/l			1.9	0.6	2	1.7	1.3	BDL	2.9	2.7	BDL	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			19382	19062	15532.4	4149	20100	11230.7	13942.5	24338	21126.4	19201	
12	Fecal Coliform MPN/100 ml			130	130			79	170	130	49	110	110	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			240	220			130	350	220	79	170	33	
14	Ammonia mg/l			0.17	0.05	0.16	0.13	0.16	0.06	0.04	0.15	0.14	BDL	
15	Total Dissolved Solids(mg/l)			38798	31588	24546	7303	25451	20075	19839	32096	28162	34515	
16	Total Fixed Solids (mg/l)			31315	25336	21014	7103	17815	19846	14200	27840	17162	29515	
17	Total Suspended Solid (mg/l)			267	828	192	180	177	6	150	12	135	106	
18	Hardness(mg/l)			6500	7500	7400	1400	7000	1000	5000	6480	7500	7500	
19	Fluoride(mg/l)			BDL	1.53	BDL	BDL	1.28	0.93	0.14	2.47	BDL	BDL	
20	Boron(mg/l)							BDL	1.46	0.14			2.32	
21	Sulphate (mg/l)			1058	2085	950.1	383	2556	1387.1	2382.6	2251	2947.9	2092	
22	Total Alkalinity(mg/l)			126	92	100	50	130	80	86	112	134	122	
23	Phenolphthalein Alkalinity(mg/l)			10	12	4	4	6	2	10	6	10	14	

24	Sodium(mg/l)			7451	8082	6691	1271	10552	4654	4.7	10776	334.2	9292	
25	Potassium(mg/l)			268.7	255.2	231.1	68.8	319.8	401.8	2.1	246	7886	240.2	
26	Calcium as CaCO3(mg/l)			601.2	802	561.1	545	480.96	320.6	561.1	417	3000	801.6	
27	Magnesium(mg/l)			1215	1337	1661.9	9.7	1409.4	48.6	874.8	1041	1093.5	1337	
28	Nickel(mg/l)							0.28						
29	Copper(mg/l)							0.06						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							0.07						
32	Zinc(mg/l)							0.05						
33	Lead(mg/l)							0.56						
34	Iron(mg/l)							0.38						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						
42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	oryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

MOBOR BEACH 2018-2019														Limit for SW II river as per CPCB classification based on designated best use of rivers
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	
1	pH			8.14	7.69	8.15	8.3	8.2	7.07	7.24	8.1	7.9	7.36	6.5 - 8.5
2	Temperature °C			29	27.9	28	29	29	30	27	28	28	32	
3	Conductivity µs/cm			55080	49680	42750	43570	58270	54400	48420	49340	47510	48870	
4	Dissolved Oxygen mg/l			6.4	5.9	7.1	6.4	6	6.6	6.2	6.4	6.7	6	4 mg/l or more
5	Turbidity (NTU)			28.4	18.4	2.65	6.68	7.68	2.21	1.87	5.16	2.39	2.91	30 NTU
6	Nitrite Nitrogen mg/l			0.11	0.058	0.013	0.03	0.01	BDL	0.03	0.005	BDL	BDL	
7	Nitrogen(Nitrate) mg/l			0.31	3	0.47	BDL	0.14	0.05	0.051	BDL	BDL	BDL	
8	Phosphate mg/l			0.06	0.018	0.6	0.12	0.14	2.83	0.142	0.13	0.02	0.071	
9	BOD mg/l			1.3	1.3	2.3	4.7	1.4	2.1	BDL	2	2.5	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			25206.6	19323.8	16266.2	19965.6	20884	22014.5	18093.8	20326.1	19716	18494	
12	Fecal Coliform MPN/100 ml			130	220		49	350	79	130	79	490	79	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			240	920		94	540	170	350	130	940	170	
14	Ammonia mg/l			0.03	0.02	0.34	0.04	0.11	0.1	0.04	0.07	0.11	0.042	

15	Total Dissolved Solids(mg/l)			35251	26004	26812	26142	37365	30183	40449	28375	28232	26896	
16	Total Fixed Solids (mg/l)			37011	24182	23001	23254	30722	25997	34359	8351	27843	24905	
17	Total Suspended Solid (mg/l)			60	63.4	164	15	202	160	166	114	7	145	
18	Hardness(mg/l)			6200	10800	7200	10000	5400	7000	3800	10500	8500	7600	
19	Fluoride(mg/l)			0.09	BDL	BDL	BDL	1.31	0.42	0.23	0.35		0.25	
20	Boron(mg/l)			1.06				4.4	0.32	2.75			2.87	
21	Sulphate (mg/l)			2479	614.9	2865.6	2217.1	2175	3467.7	2037	3250.1	1787	3526.7	
22	Total Alkalinity(mg/l)			118	106	94	124	116	106	124	118	116	108	
23	Phenolphthalein Alkalinity(mg/l)			10	0	10	14	12	10	14	14	20	16	
24	Sodium(mg/l)			8477	9398	7432	7806	9060	7723	8105	11336	6212	7202	
25	Potassium(mg/l)			296.5	353.5	2504.2	271.2	305	606.1	310.4	266.2	254	237.9	
26	Calcium as CaCO3(mg/l)			1282.6	561	641.3	1603.2	321	481	601.28	2000	1603.2	962	
27	Magnesium(mg/l)			729	486	1360.8	1458	1118	1409.4	558.9	2065.5	1093.5	1263	
28	Nickel(mg/l)							0.25						
29	Copper(mg/l)							0.08						
30	Chromium(mg/l)							0.6						
31	Cadmium(mg/l)							BDL						
32	Zinc(mg/l)							0.06						
33	Lead(mg/l)							0.5						
34	Iron(mg/l)							0.29						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						
42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	oryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

BAINA BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			8	7.97	8.01	7.75	8.1	8.03	7.10	8.2	7.3	7.8	6.5 - 8.5
2	Temperature °C			26.9	27.8	28	29	28	30	28	29	29	32	
3	Conductivity µs/cm			53420	47250	41780	45280	58720	54200	47810	47980	47160	49170	
4	Dissolved Oxygen mg/l			6.2	6.5	7	8	5.3	6.5	7.1	6.7	6.7	6.3	4 mg/l or more
5	Turbidity (NTU)			44.6	2.76	3.09	9.84	7.55	3.03	1.57	5.15	2.95	1.58	30 NTU
6	Nitrite Nitrogen mg/l			0.25	0.018	0.042	0.29	0.012	0.005	0.26	BDL	BDL	BDL	
7	Nitrogen(Nitrate) mg/l			1.18	22.1	0.54	BDL	0.2	0.02	0.15	BDL	BDL	BDL	
8	Phosphate mg/l			0.31	0.11	0.146	0.26	0.11	0.13	0.3	0.1	0.03	0.07	
9	BOD mg/l			2.1	BDL	1.8	7.2	1.3	2	1.2	BDL	2.4	2.2	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			19791	16633.1	15043.2	20215.2	20398	22870.6	18468.2	24021.8	19716	17745	
12	Fecal Coliform MPN/100 ml			540	1700		7.8	240	130	110	130	79	170	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			920	5400		23	540	350	170	220	130	350	
14	Ammonia mg/l			0.37	BDL	0.21	0.02	0.18	0.13	0.02	0.12	BDL	0.02	
15	Total Dissolved Solids(mg/l)			44288	29069	25009	26260	41797	31158.3	38029	26178	28515	27246	
16	Total Fixed Solids (mg/l)			27488	26354	21028	22290	32320	30020	34159	11658	28025	26035	
17	Total Suspended Solid (mg/l)			47	181	185	18	228	166	199	96	8	129	
18	Hardness(mg/l)			4800	400	7200	18000	8600	7200	4200	30500	7000	8000	
19	Fluoride(mg/l)			BDL		BDL	BDL	1.46	0.53	0.12	0.48		BDL	
20	Boron(mg/l)							5.6	0.39	1.82			2.93	
21	Sulphate (mg/l)			3672	705.6	3872.8	2389.2	2860	3738	2152	3215.5	1870.2	4367	
22	Total Alkalinity(mg/l)			20	90	90	144	120	98	128	122	116	102	
23	Phenolphthalein Alkalinity(mg/l)			0	10	10	6	10	16	20	20	18	4	
24	Sodium(mg/l)			7259	9403	7325	7726	8125	8187	7674	10483	6874	6687	
25	Potassium(mg/l)			270.3	333.1	248.8	297.9	306	594.2	293.6	257.4	274.5	238.6	
26	Calcium as CaCO3(mg/l)			561	320	561	2805.6	481	561.1	1002	5500	1403	561.1	
27	Magnesium(mg/l)			826	97.2	1409.4	2673	1798	1409.4	412	6075	850.5	1603.8	
28	Nickel(mg/l)							0.72						
29	Copper(mg/l)							0.08						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							0.1						
32	Zinc(mg/l)							1.14						
33	Lead(mg/l)							0.64						
34	Iron(mg/l)							6.54						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						

42	O,P-DDT (mg/l)								BDL					
43	P,P-DDT (mg/l)								BDL					
44	Alpha endosulphane (mg/l)								BDL					
45	β-endosulphane (mg/l)								BDL					
46	carbaryl (mg/l)													
47	Anilofos (mg/l)								BDL					
48	Parathion methyl (mg/l)								BDL					
49	Malathion (mg/l)								BDL					
50	Chloropylos (mg/l)								BDL					

GALGIBAG BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			7.55	7.29	6.96	7.68	7.9	7.71	6.7	8.1	7.7	7.8	6.5 - 8.5
2	Temperature °C			29	29	28	28	32	30	28	28	29	31	
3	Conductivity µs/cm			55190	41210	--	53560	58360	56130	52320	50900	47530	48310	
4	Dissolved Oxygen mg/l			6.8	6.4	7.9	6.5	6.1	6.1	7.6	6.8	7.3	6.4	4 mg/l or more
5	Turbidity (NTU)			11.03	77.2	4.45	5.47	53.5	4.18	2.76	1.11	1.79	7.24	30 NTU
6	Nitrite Nitrogen mg/l			BDL	0.01	BDL	0.05	BDL	BDL	2.093	0.029	BDL	0.05	
7	Nitrogen(Nitrate) mg/l			BDL	BDL	0.2	BDL	0.33	0.012	0.07	0.1	0.1	BDL	
8	Phosphate mg/l			0.036	0.02	0.02	0.19	0.88	0.11	10.88	0.04	0.06	0.14	
9	BOD mg/l			3.3	0.6	0.7	1.5	2.8	1.1	2.2	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l					6								
11	Chloride mg/l			29866	14480.6	399.3	20546.8	3249	20993.5	4998.45	17244.7	17220	19305.2	
12	Fecal Coliform MPN/100 ml			540	130		79	23	240	17	33	23	23	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			920	350		240	49	920	49	49	33	49	
14	Ammonia mg/l			0.16	0.04	0.04	0.03	0.27	0.03	BDL	0.1	0.16	0.04	
15	Total Dissolved Solids(mg/l)			35868	24298	620	30030	32080	33117	2256	23899	28043	27128	
16	Total Fixed Solids (mg/l)			34568	20012	480	26997	31891	23181	1364	21988	14879	20220	
17	Total Suspended Solid (mg/l)			228	102	8	15	222	163	9	166	38	82	
18	Hardness(mg/l)			6460	5200	22	9000	8000	6200	1300	3120	5680	6600	
19	Fluoride(mg/l)			BDL	0.87	BDL	BDL	0.99	0.098	0.01	0.53		0	
20	Boron(mg/l)			1.44				2.03		3.04	7.75		4.63	
21	Sulphate (mg/l)			4101.2	1842.7	3.33	3216.4	2256.05	27.7	1792	27.89	2113.6	3093.9	
22	Total Alkalinity(mg/l)			126	80	18	100	110	112	120	124	122	114	
23	Phenolphthalein Alkalinity(mg/l)			4	4	0	12	10	10	0.4	8	20	8	
24	Sodium(mg/l)			7708	7708	13.6	6986	6665	7924	7724	9208	7846	6740	
25	Potassium(mg/l)			254.4	278.9	2.2	231.8	258.2	568.4	300	242.1	353.7	237.9	
26	Calcium as CaCO3(mg/l)			408.8	400.8	4.01	641.3	962	481	320.6	448.9	464.9	1600	
27	Magnesium(mg/l)			1322	1020.6	2.92	1798.2	1361	1215	237.99	486	1098.4	1215	
28	Nickel(mg/l)							0.56						
29	Copper(mg/l)							0.08						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							0.03						

32	Zinc(mg/l)							0.19						
33	Lead(mg/l)							0.81						
34	Iron(mg/l)							6.41						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						
42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	carbonyl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

COLVA BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			8.13	7.99	7.7	8.19	8.3	6.53	7.41	8.1	7.9	7.9	6.5 - 8.5
2	Temperature °C			30	28.2	28	29	29	30	28	29	30	32	
3	Conductivity µs/cm			54270	49400	23480	44840	58950	54560	34956	52660	47930	48970	
4	Dissolved Oxygen mg/l			6.5	6.3	7	5	6.2	6.5	7.6	6.4	6.5	6	4 mg/l or more
5	Turbidity (NTU)			15.82	8.03	1.99	5.3	7.4	1.78	3.75	2.26	1.97	2.12	30 NTU
6	Nitrite Nitrogen mg/l			0.07	0.273	0.026	0.03	0.01	BDL	0.29	BDL	BDL	BDL	
7	Nitrogen(Nitrate) mg/l			BDL	1.58	0.42	0.23	0.31	0.06	0.014	BDL	0.11	BDL	
8	Phosphate mg/l			0.02	0.278	0.113	0.13	0.15	0.08	0.144	0.84	BDL	0.06	
9	BOD mg/l			1.5	1.4	2	4.1	1.8	2.4	1.2	BDL	3.3	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			19965.6	21525.2	8071.9	20215.17	19912	21647.5	18593	21976	18468.2	17370	
12	Fecal Coliform MPN/100 ml			79	3500		23	170	79	130	79	49	70	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			130	9200		33	350	130	240	240	79	110	
14	Ammonia mg/l			0.03	0.05	0.3	0.03	0.12	0.3	0.03	0.08	0.12	0.02	
15	Total Dissolved Solids(mg/l)			32562	23076	14200	26904	37320	32692	34956	36246	28562	26953	
16	Total Fixed Solids (mg/l)			33001	11799	10100	22204	30187	28800	33556	7394	27998	24814	
17	Total Suspended Solid (mg/l)			34	462	87	12	294	122	179	88	6	119	
18	Hardness(mg/l)			7600	5800	3800	8200	5800	7000	4400	8800	10000	9800	
19	Fluoride(mg/l)			0.07	BDL	BDL	BDL	1.58	0.45	0.12	0.54		0	
20	Boron(mg/l)			1.02				4.56	0.14	1.75			4.97	
21	Sulphate (mg/l)			2418.7	872.3	2056.3	2314.7	3004	3487.4	2060	3065.7	2086	3511	
22	Total Alkalinity(mg/l)			120	98	90	110	108	104	130	116	98	124	

23	Phenolphthalein Alkalinity(mg/l)			12	6	0	10	16	10	18	16	12	20	
24	Sodium(mg/l)			8348	9846	3900	6679	9748	8054	7684	11036	7407	11195	
25	Potassium(mg/l)			281.7	346.4	160.4	240.3	273	616	285	261.8	291.9	276.3	
26	Calcium as CaCO ₃ (mg/l)			1683.4	5600	320.6	1362.7	561	481	1002	1600	1603.2	641.3	
27	Magnesium(mg/l)			826.2	48.6	729	1166.4	1069	1409.4	461	1749	1458	1992.3	
28	Nickel(mg/l)							0.5						
29	Copper(mg/l)							0.06						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							0.07						
32	Zinc(mg/l)							0.06						
33	Lead(mg/l)							BDL						
34	Iron(mg/l)							1.43						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						
42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

VAGATOR BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			7.99	7.7	7.95	8.09	7.88	7.36	7.4	7.5	7.3	7.87	6.5 - 8.5
2	Temperature °C			28	28	28	28	30	29	28	28	30	29	
3	Conductivity µs/cm			50260	42140	44620	50230	45680	50630	51510	60310	48560	36604	
4	Dissolved Oxygen mg/l			6.6	7.5	7.3	7.6	5.8	6	7.1	7.3	6	6.2	4 mg/l or more
5	Turbidity (NTU)			54.4	53.5	48	12.36	1.84	3.1	4.24	3.86	2.54	5.87	30 NTU
6	Nitrite Nitrogen mg/l			0.028	0.028	0.026	0.065	0.14	BDL	0.03	BDL	0.008	BDL	
7	Nitrogen(Nitrate) mg/l			0.64	0.27	0.2	1.778	BDL	BDL	0.07	BDL	BDL	BDL	
8	Phosphate mg/l			0.044	BDL	0.416	4	0.14	0.05	0.3	0.04	0.15	0.06	
9	BOD mg/l			1.8	3	1.5	4	3.2	BDL	2.9	2.8	BDL	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			18589.9	18590	15045.3	20743.6	20938	20714.3	22748.3	21281	15735.5	19324	

12	Fecal Coliform MPN/100 ml			350	790			33	23	23	33	49	17	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			540	1700			79	49	49	49	130	79	
14	Ammonia mg/l			0.1	0.02	0.14	0.04	0.26	0.04	0.06	0.2	0.1	0.02	
17	Total Suspended Solid (mg/l)			83	182	15	194	217	9	156	18	122	81	
18	Hardness(mg/l)			7500	4000	3640	8100	6400	3200	7400	6400	8800	8000	
19	Fluoride(mg/l)			3.74	0.07	BDL	BDL	1.13	1.05	0.11	2.24	0	0	
20	Boron(mg/l)			7.88				BDL	4.68	0.32			2.07	
21	Sulphate (mg/l)			2953.7	2277.9	1739	3863.8	2546	2141.2	3901.9	3384	3622.3	1401	
22	Total Alkalinity(mg/l)			90	88	94	106	130	122	108	120	100	136	
23	Phenolphthalein Alkalinity(mg/l)			4	3	6	0.5	6	10	16	14	14	20	
24	Sodium(mg/l)			6534	7074	7081	6887	9578	6974	4.4	10962	329.3	9288	
25	Potassium(mg/l)			249.9	272.1	240.9	24.8	318.4	545.9	2.3	243	7870	248.9	
26	Calcium as CaCO ₃ (mg/l)			601.2	481	304.6	160.3	400.8	881.8	561.1	513	1600	801.6	
27	Magnesium(mg/l)			1458	680.4	700	1929.35	1312.2	243	1458	1244	1749	1458	
28	Nickel(mg/l)							0.57						
29	Copper(mg/l)							0.08						
30	Chromium(mg/l)							BDL						
31	Cadmium(mg/l)							BDL						
32	Zinc(mg/l)							0.08						
33	Lead(mg/l)							0.76						
34	Iron(mg/l)							0.41						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						
42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	carbaryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)													

VELSAO BEACH 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH			8.23	7.61	7.99	8.05	8.1	7.71	7.47	8	7.5	8.1	6.5 - 8.5
2	Temperature °C			29	28	28	29	28	29	27	28	30	32	
3	Conductivity µs/cm			54910	49540	43910	44310	58880	54790	48790	48720	48480	48800	
4	Dissolved Oxygen mg/l			6.2	6.4	7	6.9	5.9	6.4	6.3	6.1	6.3	6.4	4 mg/l or more
5	Turbidity (NTU)			30.02	5.83	2.72	15.37	4.84	3.29	0.52	3.36	2.36	1.74	30 NTU
6	Nitrite Nitrogen mg/l			0.03	0.043	0.048	0.03	0.04	BDL	0.28	BDL	BDL	BDL	
7	Nitrogen(Nitrate) mg/l			BDL	4.26	0.46	0.2	0.57	BDL	0.009	BDL	BDL	BDL	
8	Phosphate mg/l			0.05	BDL	0.8	0.17	0.21	1.88	0.191	1.04	BDL	0.1	
9	BOD mg/l			2.2	1.5	0.7	6	1	2.1	0.8	4.6	2.7	2	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l			19965.6	21036.03	16633.1	20215.2	20884	22381.4	18842.5	23775.4	19966	18619	
12	Fecal Coliform MPN/100 ml			13	1100		4.5	79	23	7.8	23	17	13	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml			23	2200		23	110	79	28	33	33	33	
14	Ammonia mg/l			0.14	0.02	0.04	0.03	0.23	0.13	0.03	0.25	0.05	0.03	
15	Total Dissolved Solids(mg/l)			31847	21340	25004	24370	44790	32304	37947	27433	28570	26825	
16	Total Fixed Solids (mg/l)			32699	489	21001	21800	32858	29998	34747	9660	28016	25156	
17	Total Suspended Solid (mg/l)			57	324	174	26	163	164	243	91	8	129	
18	Hardness(mg/l)			6200	5600	7800	7800	4600	5800	4400	9000	8000	7400	
19	Fluoride(mg/l)			0.13		BDL	BDL	1.6	0.49	0.2	0.72		1.96	
20	Boron(mg/l)			2.06				3.88	0.29	1.32			0.83	
21	Sulphate (mg/l)			2137.3	714.9	3680.9	2394.3	2338	3882.9	2156.9	3111.8	1835	3915	
22	Total Alkalinity(mg/l)			118	106	92	124	112	106	122	126	118	114	
23	Phenolphthalein Alkalinity(mg/l)			14	0	10	8	12	14	18	8	18	6	
24	Sodium(mg/l)			8139	7207	7710	6915	9184	7760	8128	10563	7380	6784	
25	Potassium(mg/l)			281.4	259.8	257	245	300	599.3	313.5	260.8	291.4	242.3	
26	Calcium as CaCO3(mg/l)			1042.1	561.1	481	1202.4	561	561.1	1202	1500	1403	561.1	
27	Magnesium(mg/l)			874.8	388.8	1603.8	1166.4	778	1069	340	1822.5	1093.5	1458	
28	Nickel(mg/l)							0.75						
29	Copper(mg/l)							0.08						
30	Chromium(mg/l)							0.63						
31	Cadmium(mg/l)							0.1						
32	Zinc(mg/l)							0.05						
33	Lead(mg/l)							0.68						
34	Iron(mg/l)							4.26						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)							BDL						
38	Beta BHC (mg/l)							BDL						
39	Gamma BHC (mg/l)							BDL						
40	Aldrin (mg/l)							BDL						
41	Dieldrin (mg/l)							BDL						

42	O,P-DDT (mg/l)							BDL						
43	P,P-DDT (mg/l)							BDL						
44	Alpha endosulphane (mg/l)							BDL						
45	β-endosulphane (mg/l)							BDL						
46	oryl (mg/l)													
47	Anilofos (mg/l)							BDL						
48	Parathion methyl (mg/l)							BDL						
49	Malathion (mg/l)							BDL						
50	Chloropylos (mg/l)							BDL						

RIVER MANDOVI AT RIBANDAR-CHODAN FERRY, PANAJI 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit for SW II river as per CPCB classification based on designated best use of rivers
1	pH	7.82	7.1	7.2	6.64	7.23	7.81	7.3	7.29	6.4	7	7.9	7.6	6.5 - 8.5
2	Temperature °C	30	34	28	28	29	29	30	29	28	29	30	28	
3	Conductivity µs/cm	47620	45080	28430	3007	7860	4775	14790	29360	49600	44970	40380	41780	
4	Dissolved Oxygen mg/l	5.9	5.7	5.2	6.5	7.7	8	5.8	8.5	6.8	5.5	5.8	6.9	4 mg/l or more
5	Turbidity (NTU)	4.72	11.57	23.7	10.72	26.8	6.73	5.25	3.72	1.82	3.32	4.51	1.06	30 NTU
6	Nitrite Nitrogen mg/l	0.04	BDL	0.24	0.01	BDL	0.038	BDL	0.124	BDL	0.011	0.104	BDL	
7	Nitrogen(Nitrate) mg/l	BDL	BDL	1.07	0.93	0.21	0.4	0.1	BDL	BDL	BDL	1.32	BDL	
8	Phosphate mg/l	0.04	0.03	0.1		0.123	0.023	0.03	0.051	0.13	0.07	0.11	0.05	
9	BOD mg/l	0.7	1	1	1.9	4.4	1.1	0.9	2.5	2.9	BDL	BDL	BDL	3 mg/l or less
10	COD mg/l													
11	Chloride mg/l	21769.9	16027	11413	2079.1	2550	2049.36	4948.47	12000	19669	18589	17994.2	18957	
12	Fecal Coliform MPN/100 ml	450	4900	24000	7900			3300	4900	2300	780	790	23	100 or less MPN/100 ml
13	Total Coliform MPN/100 ml	780	7000	54000	11000			4900	7000	4900	1300	2400	240	
14	Ammonia mg/l	0.11	0.17	0.01	0.02	0.029	0.06	0.12	BDL	BDL	0.07	0.06	0.06	
15	Total Dissolved Solids(mg/l)	28231	31537	23526	1900	5110	2205	8921	10802	34680	25200	23918	24650	
16	Total Fixed Solids (mg/l)	12489	17736	15882	800	4899	820	3569	9702	28720	22996	19213	14572	
17	Total Suspended Solid (mg/l)	36	218	228	42	29	63	22	58	196	24	122	47	
18	Hardness(mg/l)	6600	6480	4000	282	680	800	1900	3560	5800	7000	6000	6500	
19	Fluoride(mg/l)	1.68	1.47	BDL	0.26	BDL	BDL	0	1.71	2.21	0.11		0.96	
20	Boron(mg/l)	4.01	3.99					1.94	1.13	4.2			2.64	
21	Sulphate (mg/l)	2422.7	3436	1467	560.2	213	228.9	1351.29	823	2204	1480.9	2535.5	1585	
22	Total Alkalinity(mg/l)	116	110	98	48	42	42	62	80	92	108	136	108	
23	Phenolphthalein Alkalinity(mg/l)	10	0	0	0	0	0	0	0	14	14	2	8	
24	Sodium(mg/l)	3194	7057	3778	572.7	1082	544.1	2238	3623	8045	7308	6396	10100	
25	Potassium(mg/l)	257.5	262	160	22	54.9	31	93.8	332.4	723.3	295	256.5	460	
26	Calcium as CaCO3(mg/l)	440.9	449	401	24	240.5	440.9	120.24	192.4	401	561.1	1202.4	561	
27	Magnesium(mg/l)	1336.5	1302	729	53.95	19.4	87.26	388.8	748.4	1166	1360.8	729	1239	
28	Nickel(mg/l)	0.32						0.34						
29	Copper(mg/l)	BDL						BDL						
30	Chromium(mg/l)	BDL						BDL						
31	Cadmium(mg/l)	0.04						0.05						

32	Zinc(mg/l)	0.04						0.09						
33	Lead(mg/l)	BDL						BDL						
34	Iron(mg/l)	0.29						0.82						
35	Manganese (mg/l)													
36	Arsenic(mg/l)							BDL						
37	Alpha BHC (mg/l)	BDL						BDL						
38	Beta BHC (mg/l)	BDL						BDL						
39	Gamma BHC (mg/l)	BDL						BDL						
40	Aldrin (mg/l)	BDL						BDL						
41	Dieldrin (mg/l)	BDL						BDL						
42	O,P-DDT (mg/l)	BDL						BDL						
43	P,P-DDT (mg/l)	BDL						BDL						
44	Alpha endosulphane (mg/l)	BDL						BDL						
45	β-endosulphane (mg/l)	BDL						BDL						
46	carbonyl (mg/l)													
47	Anilofos (mg/l)	BDL						BDL						
48	Parathion methyl (mg/l)	BDL						BDL						
49	Malathion (mg/l)	BDL						BDL						
50	Chloropylos (mg/l)	BDL						BDL						

INLET SAMPLE TO STP AT TONCA, PANAJI 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.4	6.72	7.05	6.85	6.72	6.7	7.5	7.63	7.2	6.95	6.53	6.8	-
2	BOD mg/l	625	286	329	180	240	550	200	108	125	250	444.4	700	-
3	COD mg/l	1240	700	720	1000	1120	2320	580	280	220	590	560	1500	-
4	Total Suspended Solid (mg/l)	806.7	240	248	154	210	1880	188	185	192	29		710	-
5	Phosphate mg/l		14.88	15.97		10.2	65.4	0.636	0.73	42.24	74.59	21.76	6.16	-
6	Ammonical Nitrogen mg/l		36.24	48.3	0.18	35.4	47.5	0.39	1.48	7.94	0.23	56.81	47	-
7	Residual Chlorine mg/l		0	0		BDL	BDL	0	0	BDL	BDL	0.18	0.18	-
8	MLSS mg/l						1410	265	192	370.2	370.2	140	895	
9	Fecal Coliform MPN/100 ml		-	-					13000000					
10	Total Coliform MPN/100 ml		-	-					17000000					
11	Cadmium mg/l		BDL	BDL				BDL		BDL	BDL	BDL	BDL	
12	Copper mg/l		0.01	0.02				BDL		0.01	BDL	BDL	BDL	
13	Nickel mg/l		-	-				BDL			BDL	0.1	BDL	
14	Zinc mg/l		0.01	0.07				0.08		0.14	BDL	0.05	0.06	
15	Chromium mg/l		BDL	BDL				BDL		BDL	BDL	BDL	BDL	
16	Lead mg/l		BDL	BDL				BDL		BDL	BDL	BDL	BDL	
17	Iron mg/l							1.21			BDL	BDL	0.47	
18	Manganese mg/l							0.22			BDL	0.59	0.05	
19	Arsenic mg/l							BDL						

OUTLET SAMPLE TO STP AT TONCA, PANAJI 2018-2019														
Sr. No	Parameters	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Limit
1	pH	7.2	6.68	6.66	6.97	6.6	6.8	7.26	7.38	7.39	6.95	6.76	7.5	5.5-9
2	BOD mg/l	7.2	4	3	4.2	4.3	4	12	6.4	9.6	0.8	20.8	5	30
3	COD mg/l	30	20	10	30	20	20	20	20	20	40	40	30	250
4	Total Suspended Solid (mg/l)	7	10	7	27	2	4	9	9	45	19		11	100
5	Phosphate mg/l	-	0.79	0.45	0.16	0.17	0.25	0.293	0.09	0.3	0.457	0.33	0.32	-
6	Ammonical Nitrogen mg/l	-	1.38	1.15	0.15	BDL	BDL	BDL	0.11	0.14	BDL	1.55	4.8	50
7	Residual Chlorine mg/l	-	1.06	0.9	BDL	2.13	BDL	BDL	0	0	0	0	0	1
8	MLSS mg/l	-						5	9	45	7	59		
9	Fecal Coliform MPN/100 ml	-	-	-	-	-	-		NIL					
10	Total Coliform MPN/100 ml	-	-	-	-	-	-		<1.8					
11	Cadmium mg/l	-	BDL	BDL	BDL			BDL		BDL	BDL	BDL	BDL	
12	Copper mg/l	-	0.01	0.02	BDL			BDL		0.01	BDL	BDL	BDL	
13	Nickel mg/l	-	-	-				BDL			BDL	0.1	BDL	
14	Zinc mg/l	-	0.06	0.11	BDL			0.05		0.71	BDL	0.02	0.03	
15	Chromium mg/l	-	BDL	BDL	BDL			BDL		BDL	BDL	BDL	BDL	
16	Lead mg/l	-	BDL	BDL	BDL			BDL		BDL	BDL	BDL	BDL	
17	Iron mg/l	-	-	-	-			0.77			BDL	BDL	0.06	
18	Manganese mg/l	-	-	-	-			0.13				0.59	0.02	
19	Arsenic mg/l	-	-		-			BDL						

ANNEXURE IV-1

MONITORING OF WATER QUALITY OF SALMONA SPRING DATA 2018-2019

Salmona Spring at Saligao														
Sr. No	Parameters	April-18	May-18	June-18	July-18	Aug-18	Sept-18	Oct18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Permissible limits
1	pH	7.6	7.11	8.43	6.9	6.65	5.58	7.66	7.05	7.50	Sample not collected as due to construction of retaining wall at the source of collection.	7.01	5.68	6.5-8.5
2	Temperature °C	31	31	29	27	28	28	27	27	27		27	27	-
3	Conductivity µs/cm	78.32	43.1	86.1	89.64	82.30	95.2	76.49	64.35	204.96		55.34	38.57	-
4	Dissolved Oxygen mg/l	7.5	28.	7.16	6.5	6.7	7.2	7.6	7	6.2		6.2	6.8	-
5	Turbidity (NTU)	1.73	4.16	6.90	BDL	3.66	BDL	1.32	1.63	6.56		4.57	9.16	5
6	Nitrite (Nitrogen) mg/l	BDL	BDL	0.21	BDL	BDL	BDL	BDL	BDL	BDL		0.006	BDL	-
7	Nitrate (Nitrogen) mg/l	0.28	0.13	1.53	0.82	0.123	0.18	0.94	0.57	0.14		0.22	0.16	45
8	Phosphate mg/l	0.007	0.02	BDL	BDL	0.04	BDL	0.02	BDL	0.245		0.23	0.03	-
9	BOD mg/l	1.7	1.4	2.8	0.9	BDL	BDL	0.8	BDL	<3.0		BDL	BDL	-
10	COD mg/l	8	18	14	4	30	4	2.0	16	6		5	BDL	-
11	Chloride mg/l	10	14.8	20	17	26.42	26	18.2	6.23	16.63		15.1	11	200
12	Fecal Coliform MPN/100 ml	350	130	350	220			23	130	79		23	4.5	-
13	Total Coliform MPN/100 ml	540	240	920	920			49	170	110		13	13	-
14	E.Coli	-	-	-	Present		-							NIL
15	Ammonia mg/l	BDL	0.23	0.08	0.09	BDL	0.02	0.02	BDL	0.02		0.17	BDL	-
16	Total Dissolved Solids(mg/l)	68	28	56	58	84.	60	51.0	40	115.		45	25	500
17	Total Fixed Solids (mg/l)	30	18	14	16	130	43	30	29	80		25	15	-
18	Total Suspended Solid (mg/l)	46	142	8	74	84	27	33	6	44		36	13	-
19	Hardness(mg/l)	8	10	14	3	12	20	16	4	16		36	16	300
20	Boron(mg/l)	0.11	0.05	-			-	BDL	3.46	0.04			0.34	-
21	Sulphate (mg/l)	BDL	BDL	8	2.44	19.6	BDL	BDL	21.1	4.28		3.14	2.1	200
22	Total Alkalinity(mg/l)	14	18	14	10	12	16	12	24	12			22	
23	Phenolphthalein Alkalinity(mg/l)	0	0	0	0	0	0	0	0	0		0	0	
24	Sodium(mg/l)	23.2	12.8	18.6	19.7	13.5	12.8	19.8	19.1	11.5			2	
25	Potassium(mg/l)	7.1	2.2	2.2	2.3	2.1	2.1	2.0	2.7	2.5		26.2	1.2	-
26	Calcium as Ca(mg/l)	2.0	3.21	2.4	3	2.4	6.41	2.4	BDL	3.2		10	2.4	75
27	Calcium as CaCO3(mg/l)				-		-		-	-		-	-	-
28	Magnesium(mg/l)	BDL	0.49	BDL	BDL	2.33	BDL	2.43	BDL	BDL		6.3	2.43	30
29	Fluoride (mg/l)	0.07		BDL	0.40	BDL	BDL	0.19	0.03	0.10		BDL	0.19	
30	Oil & Grease							BDL						
31	Nickel(mg/l)							BDL						
32	Copper(mg/l)							BDL						
33	Chromium(mg/l)							BDL						
34	Cadmium(mg/l)							BDL						
35	Zinc(mg/l)							0.09						
36	Lead(mg/l)							BDL						
37	Iron(mg/l)							BDL						
38	Manganese (mg/l)							BDL						
39	Arsenic (mg/l)							BDL						
40	Alpha BHC (mg/l)							BDL						

41	Beta BHC (mg/l)							BDL						
42	Gamma BHC (mg/l)							BDL						
43	Aldrin (mg/l)							BDL						
44	Dieldrin (mg/l)							BDL						
45	O,P-DDT (mg/l)							BDL						
46	P,P-DDT (mg/l)							BDL						
47	Alpha endosulphane (mg/l)							BDL						
48	β -endosulphane (mg/l)							BDL						
49	carbaryl (mg/l)							BDL						
50	Anilofos (mg/l)							BDL						
51	Parathion methyl (mg/l)							BDL						
52	Malathion (mg/l)							BDL						
53	Chloropylos (mg/l)							BDL						

ANNEXURE IV-2

MONITORING OF WATER QUALITY OF CHAPOLI DAM DATA 2018-2019

Chapoli Dam 2018-2019														
Sr. No.	Parameters	April-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb -19	Mar-19	Limit for Class C river as per CPCB classification based on designated best use of rivers
1	pH	7.83	7.96	6.68	7.46	6.83	7.26	7.57	7.95	6.45	7.43	6.93	6.90	6.0-9.0
2	Conductivity µs/cm	75.80	82.54	80.31	78.29	70.4	159.76	75.65	233.82	216.65	212.42	67.88	77.89	
33	Turbidity (NTU)	6.43	9.72	13.36	10.92	5.16	2.4	2.11	3.54	3.36	1.78	3.18	2.69	
44	Dissolved Oxygen mg/l	7.7	7.5	8.3	8.3	7.6	7.8	7.9	8.3	7.2	8.6	7.5	8.0	4 mg/l or more
55	Biochemical Oxygen Demand mg/l	1.2	2.5	2	1.1	1.2	1.1	2.6	BDL	1.5	BDL	BDL	BDL	3 mg/l or less
66	Chemical Oxygen Demand mg/l	6.	18	12	4	8	4	12	12	10	14	4	5	
77	Chloride mg/l	11.25	3.5	10.5	6.85	6.99	12.23	15	10	11	15.5	9.29	12.1	
88	Nitrite-Nmg/l	BDL	0.027	BDL	BDL	BDL	BDL	0.051	BDL	0.074	BDL	BDL	BDL	
99	Nitrate-N mg/l	0.25	BDL	BDL	BDL	BDL	BDL	0.14	BDL	2.16	BDL	BDL	BDL	
110	Ammonia mg/l	0.02	BDL	0.11	0.06	0.03	0.05	0.028	0.26	0.08	0.023	0.20	BDL	
111	Phosphate mg/l	BDL	BDL	BDL	BDL	0.02	0.126	0.158	0.06	9.11	0.026	0.08	0.06	
112	Total Suspended Solids mg/l	58	7	26	5	8	5	9	9	6	13	26	20	
113	Total Dissolved Solids mg/l	46	52	52	49	40	100	45	3.54	1179	118	39	44	
114	Total Fixed Solids mg/l	31	45	43	30	31	76	30	96	939	98	17	31	
115	Sulphate mg/l	4.51	4	5.8	2.72	2.42	3.26	4.47	63.28	2.81	BDL	BDL	2.09	
116	Hardness as CaCO ₃ mg/l	24	20	16	10	30	32	38	206	60	54	28	32	
117	Calcium mg/l	6.4	5.61	6.41	4.8	6.41	7.2	7.21	20.04	6.4	11.2	5.61	14	
118	Magnesium mg/l	BDL	BDL	BDL	BDL	3.4	3.4	4.9	37.9	13.02	6.3	3.40	4.4	
119	Phenolphthalein Alkalinity mg/l	0	0	0	0	0	0	0	0	0	0	0	0	
220	Fluoride mg/l		1.21	0.08	0.53	BDL	BDL	0.01	BDL	0.04	0.65		BDL	
221	Total Alkalinity mg/l	32	28	36	28	30	30	36	30	40	26	34	24	
222	Sodium mg/l	13.9	7.5	8.8	7.5	8.2	6.8	6.3	7.7	8.1	6.6	6	16.6	
223	Potassium mg/l	7.1	2.2	2.1	2	1.9	1.8	1.3	2.2	2.3	2.2	1.4	1.9	
224	Boron mg/l	2.52	3.16	0.28				1.58	0.64	3.01	2.82		0.81	
225	Fecal Coliform MPN/100 ml	2200	790	170	350		240	130	23	13	13	13	13	
226	Total Coliform MPN/100 ml	9200	1300	540	920		920	240	280	27	22	22	33	5000 or less MPN/100 ml
227	Nickel(mg/l)	BDL						BDL						
228	Copper(mg/l)	BDL						BDL						
229	Chromium(mg/l)	BDL						BDL						
230	Cadmium(mg/l)	BDL						BDL						
331	Zinc(mg/l)	0.12						0.09						
332	Lead(mg/l)	BDL						BDL						
333	Iron(mg/l)	0.13						2.94						
334	Manganese (mg/l)													
335	Arsenic (mg/l)							BDL						
336	Alpha BHC (mg/l)	BDL						BDL						
337	Beta BHC (mg/l)	BDL						BDL						
338	Gamma BHC (mg/l)	BDL						BDL						

339	Aldrin (mg/l)	BDL						BDL						
340	Dieldrin (mg/l)	BDL						BDL						
441	O,P-DDT (mg/l)	BDL						BDL						
442	P,P-DDT (mg/l)	BDL						BDL						
443	Alpha endosulphane (mg/l)	BDL						BDL						
444	β -endosulphane (mg/l)	BDL						BDL						
445	carbaryl (mg/l)													
446	Anilofos (mg/l)	BDL						BDL						
447	Parathion methyl (mg/l)	BDL						BDL						
448	Malathion (mg/l)	BDL						BDL						
449	Chloropylos (mg/l)	BDL						BDL						

NOTE: BDL Below Detection Limit.

ANNEXURE V

GANESH VISARJAN DATA FOR THE YEAR 2018

River Mandovi at Ferry Point 2018				
Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	27/08/2018 10.30 am	24/09/2018 10.50 am	16/10/2018 12.00 pm
2	Weather	Sunny	Sunny	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	7.12	7.72	7.28
7	Temperature °C	28	27	28
8	Cond ms/cm	17.93	47.75	28.4
9	Turb NTU	8.38	4.21	5.15
10	DO mg/l	5.6	4.6	4.9
11	BOD mg/l	4.1	3.0	BDL
13	Total Dissolved Solids mg/l	10492.0	27175.0	17260.0
14	Total Solids mg/l	10566.0	27610.0	17377.0
15	Chromium mg/l	BDL	0.82	BDL
16	Lead mg/l	BDL	0.24	BDL
17	Zinc mg/l	BDL	0.05	BDL
18	Copper mg/l	0.03	0.02	BDL
River Mapusa at Taricode- Mapusa 2018				
Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh Visarjan
1	Date & Time	27/08/2018 12.00 pm	24/09/2018 12.10 pm	16/10/2018 11.30 am
2	Weather	Sunny	Sunny	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	6.55	6.81	7.03
7	Temperature °C	28	28	28
8	Cond µs/cm	354.12	1859.0	2165.0
9	Turb NTU	10.27	5.53	3.81
10	DO mg/l	3.8	3.7	2.0
11	BOD mg/l	2.3	1.4	BDL
12	COD mg/l	6.0	8.0	14.0
13	Total Dissolved Solids mg/l	205.0	1051.0	1298.0
14	Total Solids mg/l	297.0	1280.0	1395.0
15	Chromium mg/l	BDL	BDL	BDL

16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.06	BDL
18	Copper mg/l	BDL	BDL	BDL

Carambolim Lake at Carambolim 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	28/08/2018 11.30 am	25/09/2018 10.30 am	09/10/18 10.40 am
2	Weather	Raining	Sunny	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	6.68	7.27	7.12
7	Temperature °C	27	29	29
8	Cond µs/cm	128.32	202.93	228.38
9	Turb NTU	12.80	4.69	5.71
10	DO mg/l	6.5	6.8	6.2
11	BOD mg/l	3.7	2.8	2.7
12	COD mg/l	10.0	12.0	14.0
13	Total Dissolved Solids mg/l	77.0	127.0	138.0
14	Total Solids mg/l	129.0	590.0	243.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	BDL	0.04
18	Copper mg/l	BDL	BDL	BDL

Carkhamba (Mansher) Panaji – St. Cruz road 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	27/08/2018 10.45 am	24/09/2018 11.00 am	16/10/2018 12.15 pm
2	Weather	Sunny	Sunny	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	7.14	7.26	7.36
7	Temperature °C	28	27	29
8	Cond ms/cm	5.06	30.34	31.33
9	Turb NTU	11.19	4.85	5.03
10	DO mg/l	6.1	4.7	4.5
11	BOD mg/l	1.0	1.4	1.2
12	COD mg/l	8.0	10.0	14.0
13	Total Dissolved Solids mg/l	3061.0	18792.0	18000.0
14	Total Solids mg/l	3279.0	19400.0	18151.0

15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.06	0.04
18	Copper mg/l	0.02	BDL	BDL

Near the bridge , Chereaband , Dandora, Cuncolim 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh Visarjan
1	Date & Time	27/08/2018 12.00 pm	24/09/2018 1.45 pm	15/10/2018 11.40 am
2	Weather	Raining	Raining	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	6.77	7.49	7.81
7	Temperature °C	28	28	29
8	Cond µs/cm	80.58	195.43	112.87
9	Turb NTU	15.46	5.92	3.83
10	DO mg/l	7.0	7.6	7.8
11	BOD mg/l	0.5	1.7	2.1
12	COD mg/l	16.0	14.0	6.0
13	Total Dissolved Solids mg/l	111.0	48.0	98.0
14	Total Solids mg/l	280.0	64.0	110.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.03	BDL
18	Copper mg/l	BDL	BDL	BDL

Near Railway bridge, Khandiwada , Curchorem 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	28/08/2018 11.45 am	25/09/2018 11.55 am	10/10/2018 12.05 pm
2	Weather	Raining	Raining	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	6.59	6.89	6.78
7	Temperature °C	28	28	29
8	Cond µs/cm	56.23	123.16	434.11
9	Turb NTU	12.07	4.56	3.91
10	DO mg/l	7.8	7.5	6.3
11	BOD mg/l	0.6	1.7	1.7
12	COD mg/l	2.0	6.0	16.0
13	Total Dissolved Solids mg/l	33.0	71.0	231.0

14	Total Solids mg/l	71.0	146.0	417.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.06	0.06
18	Copper mg/l	BDL	BDL	BDL

Paraste, Harmalkar wada, Pernem 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	27/08/2018 12.50 pm	24/09/2018 1.00 pm	16/10/2018 11.00 am
2	Weather	Sunny	Sunny	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	7.13	7.16	7.07
7	Temperature °C	28	28	27.5
8	Cond ms/cm	0.131	18.20	7.59
9	Turb NTU	21.9	5.09	4.15
10	DO mg/l	7.1	5.6	6.3
11	BOD mg/l	0.5	1.2	1.4
12	COD mg/l	8.0	10	12.0
13	Total Dissolved Solids mg/l	79.0	12019.0	4598.0
14	Total Solids mg/l	101.0	12990.0	4673.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.05	BDL
18	Copper mg/l	0.02	0.02	BDL

Daudkiwada River, Daudkiwada-velus, ward no. 1, Valpoi 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	28/08/2018 03.10 pm	25/09/2018 11.40 am	09/10/2018 12.15 pm
2	Weather	Raining	Raining	Cloudy
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	6.65	7.00	7.26
7	Temperature °C	27	27	28
8	Cond µs/cm	73.41	163.38	83.57
9	Turb NTU	11.29	1.41	1.88
10	DO mg/l	7.4	8.0	7.8
11	BOD mg/l	BDL	1.8	1.4
12	COD mg/l	10.0	12.0	12.0

13	Total Dissolved Solids mg/l	44.0	94.0	52.0
14	Total Solids mg/l	93.0	540.0	134.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.04	0.06
18	Copper mg/l	BDL	BDL	BDL

Near bridge, Orcotto, ward no. 4, Sanguem 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	28/08/2018 12.05 pm	25/09/2018 11.40 pm	10/10/2018 01.10 pm
2	Weather	Raining	Raining	Cloudy
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	6.44	6.98	6.89
7	Temperature °C	27	27	28
8	Cond µs/cm	91.04	110.63	82.62
9	Turb NTU	7.58	8.20	6.93
10	DO mg/l	6.4	6.7	6.2
11	BOD mg/l	0.5	1.5	1.3
12	COD mg/l	2.0	4.0	8.0
13	Total Dissolved Solids mg/l	49.0	59.0	48.0
14	Total Solids mg/l	92.0	102.0	104.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.04	0.06
18	Copper mg/l	BDL	BDL	BDL

Pimpolcotto, ward no. 2, Sanguem 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	28/08/2018 12.45 pm	25/09/2018 12.40 pm	10/10/2018 11.15 am
2	Weather	Raining	Raining	Cloudy
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	6.36	7.09	6.85
7	Temperature °C	27	27	28
8	Cond µs/cm	55.07	84.08	68.94
9	Turb NTU	24.8	3.00	3.2
10	DO mg/l	7.4	7.6	7.2
11	BOD mg/l	6.0	1.2	1.9

12	COD mg/l	2.0	4.0	8.0
13	Total Dissolved Solids mg/l	31.0	49.0	39.0
14	Total Solids mg/l	103.0	111.0	86.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.07	0.05
18	Copper mg/l	BDL	BDL	BDL

Panefond River, Kindlebag, ward no. 5, Canacona 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	27/08/2018 01.15 pm	24/09/2018 12.50 pm	15/10/2018 12.35 pm
2	Weather	Raining	Cloudy	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	7.51	7.89	7.82
7	Temperature °C	27	28	29
8	Cond ms/cm	4.113	28.87	28.08
9	Turb NTU	3.38	2.08	10.16
10	DO mg/l	7.5	7.5	6.5
11	BOD mg/l	1.9	5.4	4.7
12	COD mg/l	14.0	82.0	56.0
13	Total Dissolved Solids mg/l	1809.0	15092.0	19950
14	Total Solids mg/l	2139.0	22634.0	21344.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	BDL
17	Zinc mg/l	BDL	0.13	BDL
18	Copper mg/l	0.05	BDL	BDL

Baina Beach, Vasco 2018

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	Date & Time	27/08/2018 11.00 am	24/09/2018 03.00 pm	15/10/2018 10.40 am
2	Weather	Cloudy	Sunny	Sunny
3	Colour	Colourless	Colourless	Colourless
4	Odour	Odourless	Odourless	Odourless
5	Human Activity	NIL	NIL	NIL
6	pH	7.92	8.08	7.75
7	Temperature °C	28	29	29
8	Cond ms/cm	46.26	53.02	57.85
9	Turb NTU	12.30	7.84	6.63
10	DO mg/l	7.0	7.8	6.4

11	BOD mg/l	2.8	2.7	5.1
13	Total Dissolved Solids mg/l	3615.0	19992.0	20769.0
14	Total Solids mg/l	4860.0	26295.0	27987.0
15	Chromium mg/l	BDL	BDL	BDL
16	Lead mg/l	BDL	BDL	0.67
17	Zinc mg/l	BDL	0.10	0.04
18	Copper mg/l	0.06	BDL	BDL

Remark: BDL Below Detection Limit.

Below Detection limits (Method Detection Limit) for parameter analysed

Sr. No.	Parameters	Jan-March 2019
1	NH3	0.05 ppm
2	Dissolved Oxygen	1ppm
3	Sulphate as SO4, Chloride as Cl, COD, Magnesium as Mg, Calcium as Ca	2ppm
4	Total Hardness	4 ppm
5	Dissolved Solids	10 ppm
6	BOD	2 ppm
7	Phosphates as P	0.02 ppm
8	Nitrite Nitrogen as NO2-N	0.005ppm
9	Nitrate Nitrogen as NO3-N	0.1 ppm
10	Turbidity	1NTU
11	Conductivity	0.5Us/cm
12	Dissolved oxygen	1 ppm
13	Metals except Arsenic 0.002ppm	0.01 ppm
14	Pesticides except Anilofos <0.04 ppm	<0.005 ppm

ANNEXURE VI

CLOSURE DIRECTIONS ISSUED UNDER THE WATER ACT AND THE AIR ACT

Sr. No.	Name & Address of the Unit	Date & Or. no	Remark
1	M/s. Maizons Resort, Saqwadi, Arpora, Bardez - Goa	7271 dt 26/06/2018	stop operations of the unit for operating without consent
2	M/s. Star Light Bar & Restaurant, Arpora, bardez	7268 dt 26/06/2018	stop operations of the unit for operating without consent
3	M/s. Saltwater Café Casual Dinning, Baga, Arpora, Bardez- Goa	7267 dt 26/06/2018	stop operations of the unit for operating without consent
4	M/s. Harp Resort (Baywatch Resort), Sernabatim	1916 dt 24/04/2018	suspend the operations of STP till such time its performance is streamlined and consent is obtained for the operation of the same.
5	M/s Rivasa Resort, Maddovaddo, Calangute	17739 dt 11/01/2019	For non complinace of earlier directions and operating without CTO
6	M/s. Mohidin metal Industries, Rassaim, Loutolim, Salcete	LD-216 dt 08/03/2019	directed to stop operations for non compliance of the direction
7	M/s. Crystal Glass, Gogol, Margao - Goa	21367 dt 26/03/2019	For non complinace of earlier directions and operating without CTO
8	M/s. John Distillerie Ltd., Cuncolim I.E., Cuncolim, Salcete	LD-208 dt 13/02/2019	directed to stop the operations of the unit till the compliacnes are carried out an dapproved by the Board/CPCB
9	M/s. Maximum Holiday Inn, Anjuna	20287 dt 01/03/2019	for operating without CTO

ANNEXURE VII

ANNUAL RETURNS OF E-WASTE FOR THE YEAR 2017-18

1	Number of authorised manufacturer, 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 Authorised Bulk Consumer- 52 Nos Authorised Manufacturer- NIL Authorised Refurbisher- NIL Authorised Collection Centre- NIL Authorised Dismantler- 1 Nos Authorised Recycler- NIL
2	Categories of waste collected along with their quantities on a monthly 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 2017 to March 2018.		

ANNEXURE A

Sr. No.	Categories of electrical and electronic equipment	Collected Waste Quantities on Monthly Average Basis in MT
i.	Information technology and telecommunication equipment:	4.536963
ii	Consumer electrical and electronics:	0.57565

ANNEXURE VIII

ANNUAL RETURNS OF BIO-MEDICAL WASTE MANAGEMENT FOR THE YEAR 2017

Annual Report Information on Bio-medical Waste Management

By the SPCBs/PCCs to CPCB for the period January, 2017 to December, 2017.

- (1) Name of the State Pollution Control Board / Pollution Control Committee: **Goa State Pollution Control Board.**
- (2) Name of the Nodal Officer with contact telephone no. & e-mail: **Mr. Sanjeev Joglekar, (0832) 2407700, 9158008605.**
- (3) Total no. of HCFs.
 - (i) Bedded: 86
 - (ii) Non-bedded: 149
- (4) Total no. of beds: 3523
- (5) Status of authorisation:
 - a) Total no. of HCFs applied for authorisation: 603
 - b) Total no. of HCFs granted authorisation: 601
 - c) Total no. of application under consideration: 02
 - d) Total no. of application rejected: Nil
 - e) Total no. of HCFs in operation without applying for authorisation: -
- (6) Quantity of Bio-medical Waste Generation (in kg/ day):
 - a) Bio-medical waste generation by bedded hospitals (in kg/day): 770
 - b) Bio-medical waste generation by non-bedded hospitals (in kg/ day): 104
 - c) Any other

Total: 874 kg/day
- (7) Bio-medical waste treatment & disposal
 - a) Captive bio-medical waste treatment & disposal by HCFs (please enclose details as per Annexure-I (a))

S. No.	Healthcare Facility	Treatment & Disposal				
		No. of HCFs having captive treatment facilities	Total installed captive treatment facility			Total bio-medical waste treated & disposed by captive treatment facilities in /day
			Type of treatment equipment	No.	Capacity (in Kg/day)	
(i)	Bedded	86	Incinerator	1	480.00	78
			Plasma pyrolysis	-		
			Autoclaves	69	1380	400
			Microwave	-		
			Hydroclave	1	750.00	400
			Shredder	-		

			Sharps encapsulation or concrete pit	65	140.00m3	78
			Deep burial pit	67	271.00m3	212
			Any other treatment equipment	-		
(ii)	Non bedded	149	Incinerator	-		
			Plasma pyrolysis	-		
			Autoclaves	88	1760	44
			Microwave	-		
			Hydroclave	-		
			Shredder	-		
			Sharps encapsulation or concrete pit	70	151 m3	5.67
			Deep burial pit	71	287.00 m3	54.80
			Any other treatment equipment	-		
			Total		5219.00	1273

b) Bio-medical waste treatment & disposal by CBWTFs (please enclose details as per Annexure-I)

Not applicable

Total no. ofCBWfFs		Total installed treatment capacity			Total biomedical waste treated in kg/day
In operation	Under Construction	Type of treatment equipment	No.	Total Capacity (in kg/day)	
		Incinerator			
		Plasma Pyrolysis			
		Autoclave			
		Hydroclave			
		Microwave			
		Shredder			
		Sharps encapsulation or concrete pit			
		Deep burial pits			
		Any other equipment			
		Effluent Treatment Plant			
		Total			

(8) Total bio-medical waste generation: 874.00

(9) Total bio-medical waste treated & disposed (in kg/day):

- By Captive Treatment Facilities by the HCFs: 874.00

- ByCBWTFs:Nil
- (10) Total no. of violation by:
- HCFs: 360(non submission of annual reports)
 - CBWTFs:
- (11) Show cause notices/ directions issued to defaulters:
- HCFs:
 - CBWTFs:
- (12) Any other relevant information:
- a) No. of workshops / trainings conducted during the year :
 - b) No. of HCFs installed liquid waste treatment facility: -
 - c) No. of captive incinerators complying to the norms: 1
 - d) No. of HCFs organised trainings: 03
 - e) No. of HCFs constituted Bio-medical Waste Management Committees: Nil
 - f) No. of HCFs submitted Annual Report: 235
 - g) No. of HCFs practising pre-treatment of lab microbiology & Bio-technology waste:
Nil

ANNEXURE IX

ANNUAL RETURNS OF PLASTIC WASTE FOR THE YEAR 2017

STATE-WISE STATUS OF IMPLEMENTATION OF PLASTIC WASTE MANAGEMENT RULES, 2016 AS AMENDED 2018, FOR THE 2017-2018

Name of SPCB/CPCB	Estimated Plastic Waste generation 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) (Attach Action Plan)	Partial/complete ban on usages of Plastic Bags (through executive order) Attach copy of notification or Executive Order	No. Of registered Plastic Manufacturing/Recycling units (Rule 13)			No. Of unregistered Plastic Manufacturing or recycling units (in residential or unapproved areas) (Rule 13)	Status of Marketing, Labelling on carry bags (Rule 11) Specify No. of units not complied	No. Of violation and action taken on non compliance of provisions 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 ULBs to SPCB/PCCs (Rule 16)	Submission of Annual Report to CPCB (Rule 17)
					Plastic Units	Compostable Plastic Units	Multilayer Plastic Units						
(1)	(2)	(3)	(4)	(5)	(6)			(7)	(8)	(9)	(10)	(11)	(12)
Goa State Pollution Control Board	4498* Tonnes	Implemented	The Goa Solid Waste Management Corporation (GSWMC) collects all bio-degradable waste (secondary collection) from all 191 Village Panchayats ^ & ULB's for co-incinerations. There are three bailing stations i.e. Bicholim, Verna, Cacora. In additions to all bailing station of all 14 ULB's and 6 Village Panchayats	No order issued as on date under consideration of Government	34	Nil	1	Nil	Nil	Nil	-	Partial	Yes

*The total plastic waste collected by Goa Solid Waste Management Corporation (GSWMC) and sent for co-incineration to cement kilns in Karnataka.

ANNEXURE X

STATUS OF LEAD ACID BATTERY (APRIL 2017-MARCH 2018)

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
1	Manufacturers/ Reconditioners	0	0	NA	0	NA	Units which have not submitted returns have been directed to do so.
2	Assemblers	0	0	NA	0	No	
3	Collection Centres	0	Nil	NA	Nil	No	
4	Dealers	37	NIL	1907 Nos	748 Nos	Yes	
5	Importers	Nil	Nil	Nil	Nil	NA	
6	Bulk Consumers	38	370 Nos	Nil	NA	Yes	
7	Auctioneers	Nil	NA	NA	NA	NA	
8	Recyclers	Nil	NA	NA	NA	NA	
1	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						
2	Percentage of compliance achieved in the state for the collection of used batteries as per schedule I of the rules : 39%						

ANNEXURE XI

MINUTES OF THE 133rd MEETING OF THE GOA STATE POLLUTION CONTROL BOARD HELD ON 29TH JUNE, 2018, AT 3.30 PM, IN THE CONFERENCE HALL OF THE GOA STATE POLLUTION CONTROL BOARD, PANAJI.

1. The 133rd meeting of the Goa State Pollution Control Board was held on 29th June, 2018 at 3.30 p.m. in the Conference hall of the Goa State Pollution Control Board.

The following members / officials attended the meeting:

1.	Mr. Ganesh Budhu Shetgaonkar, Chairman
2.	Chief Engineer, Water Resource Dept was represented by Mr. Dinesh Mahale, Engineering Officer
3.	Director of Mines and Geology was represented by Mrs. Neha Panvelkar, Dy. Director
4.	Director of Health Services was represented by Dr. Kalpana Mahatme, Health Officer
5.	Representative of the Department of Tourism
6.	Director of Industries, Trade and Commerce was represented by Mr. Manuel Fernandes, Industries Officer
7.	Mr. Shawn Brian Martins, Panch Member, Village Panchayat Calangute
8.	Ms. Unnati Sahastrabudhe, Panch Member, Village Panchayat Velgum
9.	Mr. Rajsingh Rane, Councillor, Mapusa Municipal Council
10.	Mr. Sanjay Naik, Panch Member, Village Panchayat Sanvordem
11.	Mr. Savio Messias, President, Travel and Tourism Association of Goa
12.	Mr. Levinson Martins, Member Secretary

II. At the outset, Chairman welcomed the Board members for the meeting. Thereafter, agenda was taken up for deliberations, discussions and suitable decision in the matter.

Agenda item no. 01

Confirmation of the Minutes of the 132nd meeting of the Board held on 27/03/2018

The minutes of the 132nd meeting of the Board held on 27th March, 2018, meeting duly signed were forwarded vide this office letter no. 4/132/18-PCB/Admn/138 dated 03/04/2018. The same were confirmed so as to enter in the minutes Book.

Agenda item no. 02

Follow up action on the decision taken at the 132nd meeting of the Board held on 27/03/2018

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 decision of the Board for revision of fees for Bio-medical Waste Authorisation has been sent to the Department of Environment for issue of a suitable notification.

However, it was noted that the validity for which the authorisation is to be granted was discussed in the meeting but was not approved. It is now approved grant authorisation as follows:

1.	Non – bedded health care facilities (HCFs) - 10 years	As per notification, non bedded HCFs are to be given one time authorisation.
2.	Bedded Health Care Facilities	Same as Consent validity

Member Secretary further informed the members that the Board receives applications requesting for authorisation for a lesser period than 10 years as the HCFs are in rented premises or operated by aged people. After deliberations, it was decided that in such cases, the Board could grant authorisations for a period not less than 3 years with a proportionate amount of fees.

Agenda item no. 9 – Member Secretary informed the members that as per the decision of the Board, the bank guarantees of the mining units may have been forfeited for which show cause notices have been issued to the mining units on case to case basis. He further informed that of the 35 mines issued show cause notices, all have replied except M/s Vedanta Codli mine as per the information from Technical Section. The general replies from the mining units have been that they have complied with the measures and that the exceedences in AAQM cannot be attributed to them. After deliberations the various mining units were categorized as under and it was decided as follows::

a.	Mines which are complying to short term and medium term measures but there is exceedance in AAQ in the cluster transportation route - 27 nos. where in no action is required to be taken by the Board.
----	--

1.	M/s. Haider Kassim Khan (Vangi Bindi Advona Iron ore Mine) T.C. No.10/51
2.	M/s. Chowgule & Company Ltd (Sirigao Iron Ore Mine) T.C. No. 5/49,13/49
3.	M/s. R. S. Shetye (Deulem Pissurlem iron ore Mine) T.C. No. 70/51
4.	M/s. Chowgule & Company Pvt. Ltd. (Onda Iron ore Mine) T.C No. 98/52
5.	M/s. Sesa Resources Limited (Surla-Sonshi Iron ore Mine) T.C. No. 5/54,20/54,21/54
6.	M/s. Kunda Gharse (Cazreachem Culna Iron ore Mine) T.C. No. 51/52
7.	Sem Denominacao Especial Sonshi iron ore mine, V.G. Quenin, T. C No 16/55
8.	M/s. Eyestar Finance And Leasing Pvt. Ltd., Huldool Dongor Bimbol Iron ore Mine, T. C. No. 8/41
9.	M/s. Baddrudin H. Mavani,(Nomoxitembo de Caurem iron Ore Mine) T. C. No 14/52
10.	M/s. Panduronga Timblo Industrias, Bondra Advona Iron Ore mine, T. C. No. 61/53
11.	V. M. Salgaoncar & Bros. Ltd. , Sigao Iron Ore Mine, T.C. No. 47/54,50/53,13/55
12.	M/s. Sesa Mining Corporation Ltd (Bicholim Iron Ore Mine) T.C. No. 11/41, 12/41, 13/41, 14/41, 15/41
13.	M/s. V. M. Salgaokar & Bros. Ltd (Velguem-Surla Iron Ore Mine) T.C. No. 83/52, 29/54, 19/58, 62(B)/52
14.	M/s. Chowgule & Company Pvt. Ltd. (Costi Iron Ore Mine), T.C. No. 22/50 38/51 12/57
15.	M/s. V. D. Chowgule, (Costi Iron ore Mine), T.C. 40/50, 16/51
16.	M/s. N. S. Narvekar Minerals (Kalay Iron Ore Mine), T.C. No. 12/52, 40/51
17.	M/s. Chowgule & Company Pvt. Ltd. (Pale Iron Ore Mine)T.C. No.31/53,41/56
18.	M/s. G. N. Agrawal (Borchi Mordi Iron Ore Mine) T.C. No.6/61
19.	M/s. Vedanta Ltd. (Botvadecho Dongor Iron ore Mine) T.C. No. 28/51
20.	M/s. Sesa Goa Ltd. (Mareta Sodo Iron ore Mine) T. C. No. 6/55
21.	M/s. Cosme Costa & Sons (Gaval Sonshi Iron Ore Mine) T.C. No.110/53
22.	M/s. Sociedade De Fomento Industries Pvt. Ltd. (Quelchim Tour Iron ore Mine) T.C. No. 14/53
23.	M/s. Sociedade De Fomento Industries Pvt. Ltd.(Cormolem E Bog) T.C. No. 45/52
24.	M/s. Geetabala Manohar Naik Parulekar , (Gullem e Gaval

	(Pissurlem) Mine) T.C. No. 55/1951
25.	M/s. Sociedade De Fomento Industries Pvt. Ltd., Copila Gaichem Paul, T.C. No. 88/52
26.	M/s. Vedanta Ltd. Codli Iron Ore Mine, T.C. No. 69/51, 70/52, 126/53
27.	M/s. Jairam Neogui, Tembecho Dongor Iron and Manganese Mine, Maina, Cavorem
b.	Mines which have not operated and they have not complied with short term and medium term measures and have not submitted Bank guarantee – 14 nos. – No action is required to be taken
1.	M/s. Sesa Resources Ltd (Culpem Iron Ore Mine) T.C. No 3/51, 40/54
2.	M/s. Rajesh Timblo, Godbaem Ou Cuttiem Culpem Iron ore Mine, T.C. No. 63/51
3.	M/s. Panduronga Timblo Industrias, (Shigao [Advona Toleamati E Galiguro) Iron Ore Mine T. C. No. 87/53
4.	M/s. Panduronga Timblo Industrias (Sailetembi-Iron Ore Mine, Suctole) T. C. No. 143/1953
5.	M/s. M. S. Talaulikar & Sons (Saniem Iron Ore Mine) T.C. No. 2/51
6.	M/s. Kashinath Talaulikar (Carmolachem Mol iron ore mine) T. C. No. 48/58
7.	M/s. Panduronga Timblo Industrias (Oiteiro Borga do Bairo Queri) T. C. No. 34/50
8.	M/s. Panduronga Timblo Industrias (Borga Dongrachem Fall Iron ore Mine, Rivona) T. C. No. 29/52
9.	M/s. Bandekar Brothers Private Limited- Jaquela Oujacadevicho Mollo Iron Ore Mines, TC No. 84/1952
10.	M/s. Madachem Bat Mines Pvt. Ltd, Madachem Iron ore Mine, T.C. No. 8/61
11.	Gajanan Padiyar
12.	Salgaonkar Mining Industries, Tolem de Quela- Keli Iron Ore Mine, T. C. NO. 2/77
13.	Salitho Ores Pvt. Ltd., Purmar e Pavedat-Pale Iron Ore Mine, T. C. No 86/53
14.	Marzook & Cadar Pvt. Ltd., Devachi Raim Iron Ore Mine, T. C. No. 4/55
c.	Mines which have not operated and not complied but Bank Guarantee was submitted – 3 nos.- no action is required to be taken
1.	M/s. Sociedade Timblo Irmaos Limitada (Dignem Iron ore Mine) T. C. No. 92/52
2.	Matta-e-Dando Iron Ore Mines (TC No. 62A/1952)
3.	M/s. Timblo Pvt. Ltd, Gaotone, Dusrifal, Codli, T.C. No 14/58
d.	Mines which have not complied with measures and Bank Guarantee not

	submitted, but operated, although they gave written letter saying that they will not operate. – 3 nos. – Action for prosecution to be initiated
1.	M/s. Orasso Dongor Iron ore Mine, T.C. No. 76/52
2.	M/s. Vedanta Ltd. (Sanquelim Iron Ore Mine) T.C. No. 9/49,10/49,3/54
3.	Sova, Odamola Iron Ore Mine, T.C. No. 45/54
e.	Mines which have not complied with measures and Bank Guarantee not given, but operated with e-auctioned ore – 1 no. –to be examined for action to be initiated depending on ore was transported from the lease or elsewhere being e-auctioned ore
1.	M/s. Sesa Resources Ltd (Colomba Iron Ore mine) T.C.No.35/52
f.	Mines which have not complied to short term / medium term measures and have submitted Bank Guarantee and operated – 2 nos. – The Bank guarantee is to be forfeited
1.	Pravin Kumar Gosalia, T.C No: 4/NSD/BAUX
2.	A. X. Palodikar, Hunantlo Dongor Iron & Manganese Ore Mine
g.	Bank Guarantee was submitted but Consent was not given – 1 no.- no action to be taken
1.	Dattaraj Velingkar, Corpadega Valuco Predio Purna Pericodil E Terrenos Adjacentes (Corpadega Iron Ore Mine) T.C. No. 24/57
h.	Complied with measures and submitted Bank Guarantee and also operated – 2 nos.-no action to be taken
1.	M/s Litho Ferro (Calsanicho Mato de Oilomol Iron ore mine) T.C. No. 89/52
2.	Monte de Sirigao Iron Ore Mine, Rajaram Bandekar Sirigao Iron ore Mine, T.C. No 4/49

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

Agenda item no. 11 – The members noted the same. However, members were informed that the Board is also required to monitor the discharge of sewage from the cruise vessel to STP Tonca, for which, fee was not prescribed. Members approved for levying a fee of Rs. 1500/- per trip for the cruise vessels.

Table Item no. 01- The members noted the same.

Table item no. 02 – Members were informed that closure directions are issued to three units discharging their waste in the Baga creek. Members also informed that the Board should also undertake surprise inspection of the other locations where raw sewage is being discharged. It was decided that members suggest locations for such visits which could be taken up every month, wherein a team of the Board officials could visit the same along the coast. Members were of the opinion that the treated water from hotels after analytical

test report could be re-used by them for flushing and could also be utilised for construction purpose; for which necessary infrastructure with dual pipeline, collection tank for treated water needs to be in place. It was decided that the Board may write to the respective local authorities to encourage the same. Further the issue of treated water of government STPs was also discussed and it was decided to write to PWD/Sewage Corporation. It was also discussed that, MPT to examine the proposal for utilization of Baina STP treated water for project proponents specially coal handlers in MPT.

Further Board member Mr. Shawn Martins suggested that once new Baga STP is commissioned, the treated water from the STP should not be released in the creek, as it can have potential health hazard and affect tourism. It was further suggested and decided by the Board that the Govt. / sewage corporation could examine to use this treated water from the STP by laying necessary infrastructure to use the water at Pilerne IDC.

Agenda Item no. 03

Empanelling of Bank for providing payment gateway service for OCMMS software.

Member Secretary informed the members that the Board had approved for Online Consent Management and Monitoring System (OCMMS) for online Consent processing and management for Air & Water Act, Biomedical, E-waste, Plastic Rules etc. which will replace the Board's current Online Consent Processing system - Xtended Green Node (XGN). OCMMS software provides online payment facility using third party payment gateway to facilitate cashless transaction for various fees collected by Board for Air, Water Consent etc. The same is being implemented by the other State Boards.

Member Secretary further informed that the Board presently has HDFC payment gateway and that ICICI Bank has submitted a proposal to provide payment gateway solution through OCMMS portal. ICICI Bank has agreed to provide this service free of cost and transaction charges if any will have to be borne by payers, which will be as per the RBI guidelines. It was also informed that ICICI is working with National Informatics Centre (NIC) for providing payment gateway service for OCMMS in 14 other States in India.

Members agreed to have payment gateway with ICICI Bank in addition to HDFC payment gateway.

Agenda item no. 04

Application for Consent to Operate under Air and Water Act received from M/s Mormugao Port Trust (Mooring Dolphin 1, 2 and 3)

Member Secretary informed the members that M/s Mormugao Port Trust has submitted an application for setting up mooring dolphins no. 1, 2, 3 for handling of the following cargo: (1) Bauxite: 10000 MT/month, (2) Break Bulk Cargo: 400000 MT/month, (3) Iron Ore: 81900 MT/month, (4) Limestone: 5500 MT/month, (5) Pellets: 400000 MT/month, (6) Pig Iron: 17700 MT/month, (7) Sand: 400000 MT/month.

He further informed the Board that earlier the Port had applied for Consent for 6 mooring dolphins including handling of coal, however, the Board had rejected the application at the 132nd Board meeting as it did not have Environmental Clearance. The Port clarified to the Board that the 3 mooring dolphins viz 1, 2 and 3 were constructed prior to 2005 and the estimated cost was less than Rs. 50 crores, and as such as per EIA notification 1994 does not require Environmental Clearance.

Member Secretary further informed that the TAC of the Board had sought clarifications from MPT with regard to measures that would be taken during handling and it was clarified stating that :

1.	The machinery and equipments operated for handling of cargo are by skilled persons so that cargo spillage is avoided and generally the ship gears only are used for handling of cargo
2.	The cargo is fully covered during transportation through barges.
3.	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 particles carried away with wind. The cargo will be dropped from the lowest possible height within the hatches of ships/barges which will control the air pollution, if any, within the permissible limits
4.	The Air Model Studies will be taken up to find out extent and direction of particle dispersion.

Members noted that TAC has recommended for grant of Consent for 6 months after incorporating points referred at (1) to (4) and further compliance to sr. no. (4) to be submitted within 3 months from Consent issuance.

After deliberations the members approved the proposal in principle for cargo except coal/coke handling, however the members desired that clarifications be sought from MPT with respect to break up of bulk cargo and

its quantity to be handled. The members were of the opinion that stringent pollution control measures be imposed so as to avoid any pollution. It was further decided that the MPT should obtain Environmental Clearance for Mooring Dolphin 4, 5 and 6 in case they want to handle any cargo there.

Agenda item no. 05

Application for Consent to Operate under Water and Air Act of M/s. South West Port for handling of cargo.

Member Secretary informed the members that M/s South West Port Limited has submitted an application for Consent to Operate under the Water and Air Acts for handling of cargo for coaking /thermal/ coal – 5.5MMTA, Limestone/Dry bulk cargo-1.0MMTA and Steel Coils/Slabs-1.0MMTA.

He further informed the members that the Board had earlier reduced the quantity of handling coaking/thermal/ coal to 4.125MMTA as the AAQM standards were found to be exceeding limits. Further, the Board had prosecuted the facility for the years-2012-2013, 2014-2015, 2015-2016. The Board is now filing prosecution/amendment to complaint so as to prosecute for the year 2013-2014, 2016-2017 and 2017-2018.

The Board had earlier in its 132nd Board meeting had rejected the application as the facility did not have valid Environmental Clearance. The facility has now submitted a clarification from the Ministry of Environment, Forest & Climate change that the Environmental Clearance issued by the Ministry of Shipping vide Letter No. PD-26018/2/2000-PDZ (CRZ) dated 24.01.2001 for construction of two multipurpose cargo berths (5A & 6-A) in Mormugao Port is valid and subsisting. Members further noted that since Source Apportionment Studies are being conducted by IIT, Mumbai, the coal handling operation has to function in order to assess the impact of the same.

After deliberations the members based on the technical and scientific inputs agreed that the per annum quota has to be fairly distributed throughout the year to control pollution load taking into consideration the port operations and the incoming vessels and the capacity of such vessels for handling of cargo with stringent pollution control measures and hence the board approved to grant a cap on handling i.e. 4 Lakhs tons (0.4MMT) per month. Considering that for the current financial year three months have already lapsed, the quantum of coal to be handled needs to be fairly distributed for 9 months starting from July, 2018 to March, 2019 for this year and therefore, the total quantum that can be handled shall be 0.4 MMTPA x 9 months, which will be 3.6 MMTPA upto validity of this consent, i.e. upto March 2019. It was further decided that a check be

maintained for any exceedance in the handling of the cargo, for which MPT as well as the applicant is required to submit handling data every month to the Board. The Board also agreed to impose as a condition in the consent to submit a Bank Guarantee of Rs. 1 Crore by the applicant to be submitted within 10 days from the issue of consent for ensuring compliance of consent and its conditions including condition of capping; which could be forfeited in case of any non compliance. The Board further decided that the applicant has to ensure connectivity of CAAQMS to the Board server within 15 days from the date of issuing consent. It was also decided to have proper plan of ships movement coming in the port till March in order to avoid the further extension of consent period after March 2019.

Agenda item no. 06

Application for Consent to Operate under Water and Air Act of M/s. Mormugao Port Trust at Berth No 10/11 for enhancement of handling of General cargo from 2.5MMTA to 6.0MMTA.

Member Secretary informed the members that M/s. Mormugao Port Trust has submitted an application for Consent to Operate under Water and Air Act of M/s. Mormugao Port Trust at Berth No 10/11 for enhancement of handling of General cargo from 2.5MMTA to 6.0MMTA.

MPT has informed that since coal handling has been stopped, they are expecting an increase in handling of the general cargo.

After deliberations, the members decided to grant in principle approval, however they desired that clarifications be sought from the handler with respect to the quantity of sand and wood chips based on which the Chairman may grant consent.

Agenda item no. 07

Application for Consent to Operate under Water and Air Act for change in Product Mix of M/s Deccan Fine Chemicals (I) Pvt. Ltd. located at Survey no. 28, Santa Monica Works, Corlim, Ilhas-Goa

Chairman informed the members that M/s Deccan Fine Chemicals (I) Pvt. Ltd. Have submitted an application for change in product mix in manufacture of CPTAP(2000TPA) and Metobromuron (1600TPA) utilising the capacity of Profenophos (1600TPA), Cuman (1400TPA) and Pretichlor (600TPA). He further informed that the unit is proposing to utilise the capacity of Profenophos

(1600TPA), Cuman (1400TPA) and Pretichlor (600TPA), with the said activity there is no additional water requirement

After deliberations the members approved for change in product mix, however as there was exceedance of certain parameters like nickel and pretichlor, the Board shall monitor the water quality i.e ETP water periodically, preferably quarterly, at the cost to the unit and take further necessary action if any as required.

Agenda item no.: 08

Application for amendment in the Consent to Operate and Authorisation granted to M/s. Adani Mormugao Port Terminal Pvt. Ltd.

Member Secretary informed the members that M/s Adani Mormugao Port Terminal Pvt. Ltd. deals in handling of coal at berth no 7 for a capacity of 5.20 MMTA, however, the Board had restricted the handling capacity to 3.9 MMTA. The facility has now requested to amend the Consent for handling of coal to 5.2 MMTA. The facility has stated that the terminal has not reached capacity, however due to future business projection, they have ascertained that there will be increase in cargo volume hence the amendment is sought. The facility has installed CAAQMS at location approved by the Board and the same is connected to the Board server. The facility has not violated or exceeded their handling quantum.

After deliberations the Board decided to amend the Consent for handling of coal to 4.8 MMTPA; subject to 0.4 MMT/month. However, the facility will require to take pollution control measures as per the consent conditions for which necessary steps are also required to be taken by MPT by adopting sweeping of the transportation city roads route i.e. both mechanically as well as manually, water sprinkling, proper covering of trucks with tarpaulin and to ensure that trucks are not overloaded. The members also suggested that the facility should have complete plan of the arrival of ships and the permitted handling capacity should be adhered to.

Agenda item no. 09

Application for amendment in Consent to Operate granted under Water and Air Acts of M/s Mormugao Port Trust – Berth no. 9 for handling all types of dry bulk, break bulk, liquid bulk, container and general cargo.

The members deliberated and decided to in principle grant Consent, however, the Board may seek clarification as regards to the type of cargo and the quantum to be handled based on which the Chairman may grant Consent.

Agenda item no.10

Annual Report of the Board for the year 2017-2018

The Annual report of the Goa State Pollution Control Board was placed at the table during the meeting for perusal of the members. Member Secretary informed the members that the Annual Report of the Board was released during the World Environment Day celebrations held on 5th June. The members agreed for forwarding the Annual Report of the Board to the Department of Environment, so as to place before the Goa State Legislative Assembly, as per section 39 of the Water (Prevention and Control of Pollution) Act, 1974.

Agenda item no. 11

Revised validity of Consent for Industries as forwarded by Central Pollution Control Board

Member Secretary informed the members that the Board at its 105th meeting held on 1st November, 2012 had approved the categorization of industries as prepared by the Working Group constituted during the 57th Conference of Chairmen and Member Secretaries of State Pollution Control Boards and Pollution Control Committees, for issue of suitable notification.

He further informed the Central Pollution Control Board vide their letter dated 02/04/2018 has now forwarded a revised list of categorization, wherein it is directed to issue Consents to the units as follows:

(a) Red category - 05 years (b) Orange category - 10 years (c) Green category - 15 years. The Board agreed for the same provided that if Consent is sought by the industry for minimum of five years, for Orange and Green category of industries may be granted provided applicant pay the proportionate fees.

Members were informed that the Board had approved for enhancement of fees to be paid annually, the proposal is presently forwarded to the Govt. for issue of notification. However, the proposal of CPCB could be accepted provided the respective units pay fees proportionate to the enhanced fees for the number of years i.e upto the validity period of the Consent.

Members approved for the revised validity, as directed by Central Pollution Control Board and as suggested above for a lesser period at the request of the applicant. The same shall be forwarded to the Director, Department of Environment for issue of a suitable notification.

Agenda No.12

Application for Consent to Establish under Air and Water Acts of M/s Goan Marine Impex Pvt. Ltd. for setting up fish meal plant in Barcem-Quedem Village, Quepem Taluka.

Member Secretary informed the members that M/s. Goan Marine Impex Pvt. Ltd. have vide their application dated 16/11/2015 seeking Consent to Establish of this Board under the Air and Water Acts to set up a fish meal plant in Barcem- Quedem Village, Quepem Taluka. The application was placed before the Board in its 128th meeting and it was decided to instruct the unit to validate the odour control measures through Indian Institute of Science, (IISc) Bangalore and submit the report for further examination of the proposal as per Air Act & Water Act. No reply has been received from the unit till date.

The Village Panchayat has informed that there is strong objection from the people around the area and the property is close to scheduled tribe habitation and heritage site, as such the Panchayat has decided not to grant permission for setting up fish processing or any activity / unit in the area.

Member Secretary further informed that as of now under the Goa Water Rules, NOC from the Village Panchayat is mandatory though new rules are yet to be notified, since the unit has failed to submit NOC from the local Village Panchayat, the Board declined to give Consent to the application. The applicant could apply afresh once NOC from the Village Panchayat is obtained etc.

Agenda item no.13

Allowances to the staff carrying out monitoring.

The item has been deferred for the next Board meeting.

Agenda item no.14

Annual Performance Assessment Report of the staff of the Board for the previous years

Member Secretary informed the members that the annual performance appraisal report of the staff of the Board for the years 2015-2016 and 2016-2017, which were forwarded to the earlier Chairman of the Board (Shri R. K. Srivastava), as Reviewing Officer have been returned by his office as he retired from service on 31/12/2016 and were time barred. He further suggested that since the reports are signed by the reporting Officer, the comments of the Reporting Officer be taken into consideration. However, for those reports which are not available, the reports of those years could be adjusted and prior reports be taken into consideration. Members approved for the same.

Agenda item no. 15

Payment of additional allowance to the Driver allotted the CAAQMS mounted vehicle.

Members noted that the Driver of the Board, Shri Hemant Satarkar , who is required to drive the CAAQMS vehicle (heavy vehicle) and also perform duties of Light Vehicle Driver has been sanctioned a special pay of Rs. 900/- per month with effect from 1st March. 2018.

Agenda item no. 16

Recruitment Rules for Chairman and Member Secretaries of State Pollution Control Boards / Pollution Control Committees.

Member Secretary informed the members that Central Pollution Control Board has forwarded the draft recruitment rules for the Chairman and Member Secretaries of SPCBs/PCCs as per the direction the Hon. Supreme Court of India in Civil Appeal no. 1359/2017 (Techni Tagi Tara V/s Rajendra Singh Bhandari & Ors.) dated 22/09/2017, for guidance of the SPCBs and PCCs. Further, CPCB has requested to frame uniform recruitment rules / guidelines for appointment of Chairman and Member Secretaries keeping in view the judgement of the Hon. Supreme Court of India, in six months as directed.

Member Secretary informed the members that appointment to the post of Chairman and Member Secretaries and rules are framed by the State Government. Members decided to forward the letter received from CPCB to the Department of Environment for further action in the matter.

Agenda item no. 17

Application for Consent to Establish under the Air Act and the Water Act of M/s Deccan Fine Chemicals (I) Pvt. Ltd. located at Survey No 28, Santa Monica Works, Corlim, Ilhas - Goa. for the settling up of pilot plant with a capacity of 10 TPA)

Chairman informed the members that the M/s Deccan Fine Chemicals (I) Pvt. Ltd. have submitted an application for Consent to Establish a pilot plant with a capacity of 10 TPA, the additional waste water is proposed to be treated in the existing effluent treatment plant. This was placed before the TAC and the committee has recommended that the application may be considered for grant subject to submission of the flow sheet of the proposed product to be taken in pilot plant, at the time of seeking Consent to Operate.

Members approved for setting up of the pilot plant

Agenda item no. 18

Progress of the construction of the Office cum laboratory building at Saligao

Member Secretary placed before the members the various stages of the progress of work of the office cum laboratory building which is under construction at Saligao. Members perused the agenda notes and noted that since the work of elevators, interiors and allied works, audio visual, fire fighting, HVAC works etc. are still in progress, members agreed for grant of extension of time for completion of the above works upto 31/07/2018. Members suggested that a green belt be maintained around the premises of the building.

Member Secretary also informed that a site visit could be arranged for the members to appraise themselves of the work being undertaken. The date for the visit shall be finalised shortly.

Agenda item no. 19

Rent Assessment for the present office premises at Panaji (i.e 1st and part of the 4th floor) at Dempo Towers Bldg.

Member Secretary informed the members that the Board office and laboratory is presently occupied/located in Dempo Towers building at Patto on 1st floor (603.74sqm) and 4th floor (327 sqm). consequent to shifting to the new premises, it is proposed to rent these premises of the Board, he further informed

that PWD was requested to assess the rent for the premises, for which PWD has quoted was much lesser as compared to the rent paid by the other offices.

Member Secretary informed the members that the office has presently approached a private Valuer for assessing the rent for the Board (which shall include furniture, electrical fittings etc.). on submission of the report of the Valuer, the same shall be assessed by the Board in comparison with the rent paid the other buildings in the surrounding and forward the quote of the Board to the State Government, for utilising the premises of the Board on rental basis i.e. on the 1st Floor as well as on 4th Floor i.e. as per the request of the State Government by Urban Development Department and by any other Department/agency as per the request of the Government.

III. With the permission of the Chair, the following Table items were taken up for discussion:

Table item No. 01

Payment of transportation charges to the Legal Retainer appointed by the Board

Member Secretary informed the Board that Adv. S.B. Faria in terms of the Board order no. 1/40/11-PCB/Vol.VI/Admn/8446 dated 07/08/2017 was appointed as a Legal Retainer for the Board, besides his fees for appearance per case and transportation allowance is specified, the Board had agreed to provide transport to him to attend the Courts and further in the event, if it cannot be provided the he shall be entitled for TA as per Government Rules applicable for private vehicles used for official purpose from his headquarters at Margao to Panaji or to attend Courts besides twice a week to attend official work at GSPCB. Since the rates for transport allowance as notified are old rates and very meagre, and having considered the status of Shri. Faria it is proposed that he be paid as on date for the transportation effected as per rates notified by the Directorate of Transport as applicable to taxi.

After deliberations it was decided that in the interest of the Board, Shri. Faria be paid a consolidated Transportation Allowance of Rs. 10,000/- per month in addition to his retainership fees which have been now approved as 25,000 per month for a further period of two years from 1st July 2018, since it would save the Board of a Vehicle and a Driver, which could be utilised for carrying out the monitoring activities. However, Shri. Faria shall be provided Board vehicle to attend to courts from his headquarters at Margao.

Table item No. 02

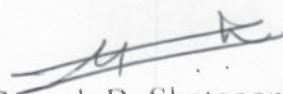
Complaint with respect to off side loading / unloading of vessels at berth no. 7 of Mormugao Port Trust was received by the Board based on which inspection was conducted and the same was stopped. Letters were addressed to MPT seeking explanation. MPT has clarified to the Board that the vessel was at Berth No.7. They further stated that offside loading is a permissible activity at all ports in India and is the most environment friendly operation since there is no multiple handling, stacking or road movement involved; as such there is no violation of the environmental clearance or consent conditions through such mode of handling.

The reply was placed before the Technical Advisory Committee of the Board and TAC has recommended considering better option for safeguarding environmental standards considering the fact that there will not be multiple handling of coal and further as transportation of Coal from the vessel Berth at No.7 of MPT could directly discharge into the Barges which can thereafter transport coal to the captive unloading jetty of M/s Sesa Goa. By this operation the Board observed that the transportation by road will be avoided which otherwise would require numerous trucks for transportation . The mechanism shall involve transferring coal from the ship to the barges which would be a one -time operation. The Board after deliberating on the issue and having considered the fact that this sort of operation would in fact reduce pollution aspect decided to approve the proposal in -principle. However, it was decided that M/s. Adani may give a proper plan/mechanism of handling of cargo from the ship to the barges alongside berth no.7 along with pollution control measures based on which and after assessing the same the Board may grant permission accordingly.

IV. The meeting ended with thanks to the Chair.



(Levinson J. Martins)
Member Secretary



(Ganesh B. Shetgaonkar)
Chairman

ANNEXURE XII

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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No. 1/5/18-PCB/Vol. XXIV/ Admn. /15643

20/11/2018

ORDER

Whereas, provisions pertaining to delegation of powers are contained in section 15 of the Air (Prevention and Control of Pollution) Act, 1981, which state that 'A State Board may, by general or special order, delegate to the Chairman or the Member Secretary or any other officer of the Board subject to such conditions and limitations, if any, as may be specified in the order, such of its powers and functions under this Act as it may deem necessary'. Section 12 (3-B) of the Water (Prevention and Control of Pollution) Act, 1974, states that 'The Board may, by general or special order, and subject to such conditions and limitations, if any, as may be specified in the order, delegate to any officer of the Board such of its powers and functions under this Act as it may deem necessary'.

Whereas Rule 18(8) of the Goa Water (Prevention and Control of Pollution) Rules, 1988, states that all orders or instructions to be issued by the Board shall be over the signature of the Member Secretary or any other Officer authorized in this behalf by the Chairman.

Whereas, the powers to obtain information under section 20 of the Water (Prevention and Control of Pollution) Act, 1974 and section 25 of the Air (Prevention and Control of Pollution) Act, 1981, power of entry and inspection under section 23 of the Water (Prevention and Control of Pollution) Act, 1974 and section 24 of the Air (Prevention and Control of Pollution) Act, 1981, power to take samples of effluents and emissions under section 21 of the Water (Prevention and Control of Pollution) Act, 1974 and section 26(1) of the Air (Prevention and Control of Pollution) Act, 1981 and power to conduct inquiry under section 25(3) of the Water (Prevention and Control of Pollution) Act, 1974 and section 21 of the Air (Prevention and Control of Pollution) Act, 1981, power to issue, refuse withdrawal and vary Consent under section 25, 26 and 27 of the Water (Prevention and Control

of Pollution) Act, 1974 and section 21 of the Air (Prevention and Control of Pollution) Act, 1981 lies with the State Boards or the Officer empowered by the Board.

Whereas, as per the decision taken by the Board at its 135th meeting held on 2nd November, 2018, Vide Agenda item no. 14, it was decided to revise the delegation of powers by the Board to its officers for better operation and smooth functioning of the Board as being presently followed by the other State Boards.

The following powers have been delegated by the Board in terms of the provisions of section 15 of the Air (Prevention and Control of Pollution) Act, 1981 and Section 12 (3-B) of the Water (Prevention and Control of Pollution) Act, 1974, to the officers / officials of the Board listed below, who shall exercise such powers accordingly:

1	Power to obtain information under Section 20 of the Water Act and section 25 of Air Act and under the Hazardous Waste Rules.	1. With respect to Red category units (Large - New) – Member Secretary with approval of the Board. <i>(Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary.)</i>
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.	Red category units (Large) – MS with approval of Chairman <i>(Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary.)</i>
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.	Red Category units (Medium, Small and all Renewals of Consents of all Red Category units) – Member Secretary. <i>(Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary)</i>
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.	2. All Orange Category units (Small, Medium, Large and all Renewals) – Environmental Engineer
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	

	<p>section 33A of the Water Act and under section 31A of the Air Act. and under the Hazardous Waste Rules.</p>	<p><i>(Dr. Mohan Girap, Scientist 'C' shall be the Link Officer for the Environmental Engineer in this regard and shall be authorized to exercise these powers in absence of the Environmental Engineer)</i></p> <p>3. All Green Category units (Small, Medium, Large and all Renewals) – Scientist 'C' (Dr. Mohan Girap) <i>(Smt. Jenica Sequeira, Scientist 'C', shall be the Link Officer for the Scientist 'C' Dr. Mohan Girap, Scientist 'C' In this regard and shall be authorized to exercise these powers in absence of the Dr. Mohan Girap Scientist 'C')</i></p>
6	<p>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</p>	<p>1. Member Secretary shall be the authorized officer 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 Red category units. <i>(Environmental Engineer shall be the Link Officer for the Member Secretary in this regard and shall be authorized to exercise these powers in absence of the Member Secretary.)</i></p> <p>2. Environmental Engineer shall be the authorized officer to file complaint before the Criminal Courts under the provisions of the Water Act and the Air Act in respect of all issues/complaints pertaining to all Orange category units. <i>(Dr. Mohan Girap, Scientist 'C' shall be the Link Officer for the Environmental Engineer in this regard and shall be authorized to exercise these powers in absence of Environmental Engineer)</i></p> <p>3. Dr. Mohan Girap, Scientist 'C' shall be the authorized officer to file complaints before the Criminal Courts under the provisions of the Water Act</p>

		and the Air Act in respect of all issues/complaints pertaining to all Green category units. <i>(Smt. Jenica Sequeira, Scientist 'C' shall be the Link Officer for the Scientist 'C', Dr. Mohan Girap in this regard and shall be authorized to exercise these powers in absence of Dr. Mohan Girap, Scientist 'C')</i>
7	Power to carry out certain works section 30 of the Water Act	Member Secretary
8	Power to take emergency measures section 32 of the Water Act and Section 23 of the Air Act	Member Secretary
9	Power to give sanction to make application to the Court for restraintment of the Board section 33 of the Water Act & section 22 of the Air Act	Chairman
10	Power to give direction section 33 (A)-of the Water Act & Section 31 (A) of the Air Act, with regard to subjects other than those related to Consent to Operate.	Member Secretary with approval of Chairman.
11	Sanction for making complaint to the Court Under Section 49 of the Water Act & Section 43 of the Air Act.	Chairman
11. a	Officer authorized to file complaint before appropriate Court of Law under provisions of the Water Act and the Air Act including under section 49 of the water Act and Section 43 of the Air Act in respect of matters other than those that relate to Red, Orange or Green category of industrial units.	Member Secretary
12	BIO MEDICAL WASTE (MANAGEMENT AND HANDLING) RULES	
a.	Conduct enquiry on applications for authorization	Miss Connie Fernandes (Scientist 'C') <i>(Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in</i>
b.	Power to grant, refuse, renew, suspend or cancel authorization	
c.	Power to ensure compliance with	

	all provisions of the BMW Rules pertaining to the GSPCB.	<i>absence of Miss Connie Fernandes Scientist 'C')</i>
13.	SOLID WASTE MANAGEMENT RULES	
a.	Conduct enquiry on applications for authorization	<i>Miss Connie Fernandes (Scientist 'C') (Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')</i>
b.	Power to grant, refuse, renew, suspend or cancel authorization	
c.	Power to ensure compliance with all provisions of the SMW Rules pertaining to the GSPCB.	
14	PLASTIC WASTE RULES	
a.	Conduct enquiry on clearance applications rule 13	<i>Miss Connie Fernandes (Scientist 'C') (Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')</i>
b.	Power to grant, refuse, renew, suspend or cancel authorization	
c.	Power to ensure compliance with all provisions of the Plastic Rules pertaining to the GSPCB.	
15	CONSTRUCTION AND DEMOLITION AND WASTE RULES	
a.	Monitoring of implementation of rules by local bodies and authorities, preparation and submission of annual report to CPCB and State Governments	<i>Miss Connie Fernandes (Scientist 'C') (Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')</i>
b.	Granting of authorizations to CDW processing facility	
c.	Power to ensure compliance with all provisions of the C and D Waste Rules pertaining to the GSPCB.	
16	NOISE POLLUTION RULES	
a.	Collection, compiling, publishing technical and statistical data reg. noise pollution and devising measures for prevention control and abatement.	<i>Miss Connie Fernandes (Scientist 'C') Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')</i>
b.	Noise monitoring	
c.	Power to ensure compliance with all provisions of the Noise Rules pertaining to the GSPCB.	
17	BATTERIES (MANAGEMENT AND HANDING) RULES	
a.	Accepting yearly and half yearly report from battery manufacturer, importer, assembler,	<i>Miss Connie Fernandes (Scientist 'C') Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie</i>

	reconditioned, dealer, recycler, bulk consumer and bulk purchaser	<i>Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')</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	E-WASTE MANAGEMENT RULES	
a.	Conduct enquiry on clearance applications rule 13	<i>Miss Connie Fernandes (Scientist 'C') Smt. Jenica Sequeira, Scientist 'C' shall be link officer for Miss Connie Fernandes (Scientist 'C') and shall be authorized to exercise these powers in absence of Miss Connie Fernandes, Scientist 'C')</i>
b.	Power to grant, refuse, renew, suspend or cancel authorization'	
19	NODAL OFFICER FOR STP AND ETP	
a.	Performance Evaluation	<i>Shri. Sanjay Kankonkar, Scientist 'B'. Smt. Francisca Pereira, Scientist 'B' shall be link officer for Sanjay Kankonkar, Scientist 'B'. and shall be authorized to exercise these powers in absence of Shri Sanjay Kankonkar, Scientist 'B'</i>
b.	National Water Monitoring Programme	<i>Dr. Mohan Girap, Scientist 'C'. Mrs. Francisca Pereira, Scientist 'B' shall be link officer for Dr. Mohan Girap, Scientist 'C'</i>
c.	National Ambient Air Monitoring Programme	<i>Mrs. Francisca Pereira, Scientist 'B' Mr. Ganpat Naik, S.A shall be Link Officer to Mrs. Francisca Pereira, Scientist 'B'.</i>
20	CONTINUOUS MONITORING OF AMBIENT AIR QUALITY	
		<i>Smt. Jenica Sequeira, Scientist "C. Miss Connie Fernandes, Scientist 'C' shall be link officer for Smt. Jenica Sequeira, Scientist 'C' and shall be authorized to exercise these powers in absence of Smt. Jenica Sequeira, Scientist 'C'</i>
21	ISSUE OF ANALYSIS REPORT	
a.	Carrying out analysis	<i>All analyst accredited by the Board of National Board of Accreditation of laboratory. Authorized signatory Scientist 'B' and/</i>

		or accredited analyst recognized under Environment Protection Act, 1986 and NABL and under NABL Scientist 'C'. Scientist 'B'.
b.	Purchase and issue of Purchase Orders of chemicals, equipments, maintenance of equipments, annual maintenance of contract and glassware and certification of bills.	
i.	*upto Rs. 1 lakh	Smt. Jenica Sequeira, Scientist 'C' with approval of AAO and M.S
ii	* above Rs. 1 lakh upto 2 lakhs * 2 lakhs and above	A.A.O with approval from M.S and Chairman
c.	Issue of letters, communications, inquiry with regards to the Scientific section	Smt. Jenica Sequeira, Scientist 'C'
d.	Board Water laboratory	Smt. Jenica Sequeira, Scientist 'C' <i>Miss Connie Fernandes, Scientist 'C' shall be link officer for Smt. Jenica Sequeira. Scientist 'C' and shall exercise these powers in absence of Smt. Jenica Sequeira, Scientist 'C'.</i>
e.	Board Air laboratory	
f.	Verification of the analysis of Water, Air and other reports and forwarding the same to CPCB under NWMP	
g.	Verification of the analysis of Air and forwarding the same to CPCB under NAAQM	
h.	Verifying the online water monitoring report	
i.	Verifying the online air monitoring report	
j.	Verifying the monitoring report submitted by the industries and providing inference / opinion on the same	
k.	Verifying the Air monitoring report submitted by the industries and providing inference / opinion on the same	
l.	In charge of Conducting Stack monitoring	Smt. Francisca Pereira Scientist 'B' with the approval of Smt. Jenica Sequeira, Scientist 'C'. <i>(Mr. Sanjay Kankonkar, Scientist 'B' shall be link officer for Smt. Francisca Pereira, Scientist 'B' and shall be</i>

		<i>authorised to exercise these powers in absence of Smt. Francisca Pereira, Scientist 'B')</i>
m.	Submitting scientific opinion/submission/inputs to the delegated authorities in-charge of granting Consents, Legal section, Member Secretary and Chairman as and when requested.	Smt. Jenica Sequeira, Scientist 'C'. <i>(Miss Connie Fernandes, Scientist 'C' shall be link officer for Smt. Jenica Sequeira, Scientist 'C' and shall be authorized to exercise these powers in absence of Smt. Jenica Sequeira, Scientist 'C')</i>
22	TECHNICAL SECTION	
a.	Repairs, maintenance of vehicles, maintenance of boat, payment of petrol and diesel bills for vehicles and boat and certification of bills	E.E with approval of the A.A.O
b.	Maintenance of building	
23	ACCOUNTS SECTION	
a.	Issue of letter for returning Bank Guarantees with approval of MS and Chairman,	A.A.O
b	Payments of electricity/ water/ telephone bills, House tax, Building maintenance fees	A.A.O
c	Maintenance of Bank Guarantee register, Return and forfeiture of Bank Guarantee	A.A.O
24	ADMINISTRATIVE SECTION	
a.	Booking of tickets, Booking of accommodation at Goa Sadan, Goa Bhawan, booking of accommodation for attending Court matters	O.S
b.	Maintenance of attendance, approval of leaves of all staff except Section Heads	O.S
c.	Scrutiny of applications for posts	O.S.
d.	Training/Workshops	Section In-charge with approval of M.S/Chairman
25	LEGAL SECTION	
a.	Attending of matters before courts of Law	S.L.O/ALO and Scientist 'C', Scientist, B", EE and only as and when required.
b. "	Briefing of Boards Advocates.	S.L.O/ALO and Scientist 'C', Scientist, 'B', E.E only as and when required.

c.	Issue of orders for appointment of Advocates	S.L.O
d.	Certification and approval of Advocate bills for appearance, Hotel accommodation, hiring of vehicles and other bills related to the court matter with after due verification by concerned officials and with approval of Chairman	S.L.O/A.L.O
e.	Processing and disposal of RTI applications	S.L.O/A.L.O
f.	Coordination and assistance to legal retainer of the Board.	JLO with approval of SLO
g.	Legal drafting vetting of legal documents, submissions of legal opinion/advice	ALO/SLO
26	INFORMATION TECHNOLOGY SECTION	
a.	Purchase of all hardware and software	
i.	* upto Rs. 1 lakh	I.T Head with approval of A..A.O and M.S
b.	Issue of purchase orders	I.T Head with approval of A.A.O and M.S
c.	Annual maintenance	I.T Head with approval of A.A.O and M.S
i.	* upto Rs. 1 lakh	I.T Head with approval of A.A.O and M.S
ii.	* above Rs. 1 lakh	A.A.O with approval of M.S and Chairman.

* Power to conduct personal hearings of parties / members of the public / representatives of units / complainants etc. in terms of the principles of Natural Justice, to effectively decide various issues pending for decision with the Board including decisions on public complaints and Consent applications have been delegated to officials who have been delegated power to grant Consent under the Water and Air Act for various category of Industry.

* In case of directives of the Courts/ Judicial Forums, the Chairman will hear the parties on behalf of the Board.

* Link Officers:- wherever not specifically mentioned about the link officers for the following officials of the Board who will exercise the powers delegated to the aforesaid officials in their absence shall be as follows.


Name of the Officer	Link Officer
Member Secretary	Environmental Engineer
Environmental Engineer	Dr. Mohan Girap
Smt. Jenica Sequeira, Scientist 'C'	Miss Connie Fernandes, Scientist 'C'

Dr. Mohan Girap, Scientist 'C'	Miss Connie Fernandes, Scientist 'C'.
Ms. Connie Fernandes, Scientist 'C'	Dr. Mohan Girap, Scientist 'C'.
Smt. Francisca Pereira, Scientist 'B'	Shri Sanjay Kankonkar, Scientist 'B'.
Shri Sanjay Kankonkar, Scientist 'B'.	Smt. Francisca Pereira, Scientist 'B'
Sr. Law Officer	Asst. Law Officer
Asst. Law Officer	Sr. Law Officer

* Present handling of M. R functions with reference to Quality system/OSHAS and with reference to NABL system remain unchanged.

* All other duties and responsibilities of the officers not specified in the order shall continue to remain in force..

This order supersedes all other orders issued earlier on this subject.


 (Dr. Shamila Monteiro)
 Member Secretary
 Goa State Pollution Control Board

To,
The concerned officials

c.c. to:

1. P.A to the Chairman, GSPCB 2. P.A to member Secretary, GSPCB
3. All Section Heads 4. Order file 5. Staff file 6. Admn. file
7. Office Notice Boards 8. Website of GSPCB 9. Guard file

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

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:
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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. 1/5/18-PCB/Vol.XXIV/Admn/20136

26/02/2019

OFFICE ORDER

Ref:

1. Office order no.1/5/18-PCB/Vol.XXIV/Admn./15643 dated 30/11/2018
2. Corrigendum no.1/5/18-PCB/Vol.XXIV/Admn/16014 dated 07/12/2018
3. Office order no. 1/5/18-PCB/Vol.XXIV/Admn/16015 dated 07/12/2018

In partial modification of the Office order referred to (3) above, Shri Ganpat Naik, Scientific Assistant shall be the Link Officer to Mrs. Francisca Pereira, Scientist 'B', (i.e with respect to work relating to air quality monitoring, monitoring of online Air and Water reports of the industries connected to the GSPCB portal)

All other contents of the above referred Office order at serial no. (3) remain unchanged.

(Dr. Shamila Monteiro)
Member Secretary

To,

1. Mrs. Francisca Pereira, Scientist 'B'
2. Mr. Ganpat Naik, Scientific Assistant

cc.c. to:

1. Scientist 'C' (Scientific section In-charge)
2. Scientist 'C' (Connie)
3. Scientist 'C' (Dr. Mohan)
4. Env. Engineer
5. S.L.O
6. Scientist 'B' (Sanjay)
7. Office copy
8. Personal file of the officials
9. Office copy
10. Admn. copy
11. Guard file.

GOA STATE POLLUTION CONTROL BOARD

गोंय राज्य प्रदूषण नियंत्रण मंडळ

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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. 1/5/18-PCB/Vol.XXIV/Admn./16014

07/12/2018

CORRIGENDUM

Read: Order no. 1/5/18-PCB/Vol.XXIV/Admn./15643 dated 30/11/2018

In partial modification of the order referred to above, 'and approval' shall be added after the words Verification / Verifying mentioned at serial no. 21 (f), (g), (h), (i), (j), (k).

All other contents of the above referred order remain unchanged.

(Dr. Shamila Monteiro)
Member Secretary

To,
The concerned officials
(Smt. Jenica Sequeira, Sc. 'C', Miss Connie Fernandès, Sc. 'C')

c.c. to:

1. P.A to the Chairman, GSPCB
2. P.A to Member Secretary, GSPCB
3. All Section Heads
4. Order file
5. Staff file
6. Admn. file
7. Office Notice Boards
8. Website of GSPCB
9. Guard file

GOA STATE POLLUTION CONTROL BOARD

गोंय राज्य प्रदूषण नियंत्रण मंडळ

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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. 1/5/18-PCB/Vol.XXIV/ Admn. /16015

07/12/2018

OFFICE ORDER

Ref: Office order no. 1/5/18-PCB/Vol.XXIV/Admn/15643 dated 30/11/2018

Mrs. Francisca Pereira, Scientist 'B' is hereby entrusted with the work relating to air quality monitoring. She shall also monitor the online Air and Water reports of the industries connected to the GSPCB portal.

The verified reports requiring action shall be put up to the Scientist 'C' for initiating necessary action.

(Dr. Shamila Monteiro)
Member Secretary

To,

1. Mrs. Francisca Pereira, Scientist 'B', GSPCB

c.c. to:

1. Scientist 'C', (Scientific section In-charge), 2. Scientist 'C' (Connie) 3. Scientist 'C' (Dr. Mohan) 4. Env. Engineer 5. S.L.O 6. Office copy 7. Personal file of the official 8. Office copy 9. Admn. copy 10. Guard file.

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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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. 1/5/18-PCB/Vol.XXIV/Admn/ 2013 7

26 /02/2019

AMENDMENT

Ref:

1. Office order no.1/5/18-PCB/Vol.XXIV/Admn./15643 dated 30/11/2018
2. Corrigendum no. 1/5/18-PCB/Vol.XXIV/Admn./16014 dated 07/12/2018
3. Office order no. 1/5/18-PCB/Vol.XXIV/Admn./16015 dated 07/12/2018

In partial modification of the office order Office order no. 1/5/18-PCB/Vol.XXIV/Admn./15643 dated 30/11/2018, serial no. 19 (a) shall be read as follows:

19	NODAL OFFICER FOR STP AND ETP	Shri. Sanjay Kankonkar, Scientist 'B'. <i>Mr. Niles Parsekar, Scientific Assistant shall be Link officer for Sanjay Kankonkar, Scientist 'B'. and shall be authorized to exercise these powers in absence of Shri Sanjay Kankonkar, Scientist 'B'</i>
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All other contents of the above referred Office orders / Corrigendum remain unchanged.

(Dr. Shamila Monteiro)
Member Secretary

cc.c. to:

1. Scientist 'C' (Scientific section In-charge)
2. Scientist 'C' (Connie)
3. Scientist 'C' (Dr. Mohan)
4. Env. Engineer
5. S.L.O
6. Office copy
7. Personal file of the officials
8. Office copy
9. Admn. copy
10. Guard file.

GOA STATE POLLUTION CONTROL BOARD

गोंय राज्य प्रदुशण नियंत्रण मंडळ

(An ISO 9001-2008 Certified Board)

Phone Nos : 91-832-2438567, 2438528
2438563, 2438550

Tel / Fax No.: 0832-2438528



Email id's :

Member Secretary, GSPCB - ms-gspcb.goa@nic.in
Environment Engineer, GSPCB - ee-gspcb.goa@nic.in
Scientist, GSPCB - scientist-gspcb.goa@nic.in
Asst. Env Engineer, GSPCB - aee-gspcb.goa@nic.in
Asst. Law Officer, GSPCB - alo-gspcb.goa@nic.in

No. 9/1/16-PCB/Vol.XXVII/Admn/1251

13 /04/2018

ORDER

It is noticed that the riverine stretches as per the table below are having maximum BOD values and the same has been identified by Central Pollution Control Board, and has classified these fifteen stretches as "Polluted Riverine Stretches" as ranging from Priority-I / III / IV and V, wherein Priority - I has a more priority over III than IV and V. These priority category indicates run-off / release / discharge of untreated sewage into the water-body and mandates timely intervention of the local authorities to provide infrastructural facility to address the same.

This matter was deliberated during the Review Meeting held at the Central Pollution Control Board (CPCB) wherein it was instructed that every State need to constitute a State-level Monitoring Committee (SLMC) to proposes Plan of Action (PoA) to minimize the pollution and improve upon the water-quality parameters with reference to BOD and microbial contamination.

Sr. No	River Name	Polluted River Stretches	Priority	Municipalities/Village Panchayat
1.	Assanora	Assanora – Sirsaim	IV	Assanora Village Panchayat
2.	Bicholim	Bicholim-Curchirem	III	Bicholim Municipal Council
3	Chapora	Pernem to Morjim	III	1. Alorna Village Panchayat 2. Siolim Village Panchayat
4.	Kalna	Chandel to Alorna	V	Khandepar - Opa Village Panchayat
5	Khandepar	Ponda to Opa	III	Chandel Village Panchayat
6.	Kushawati	Xelvona to Cavorim	III	Rivona - Kevona Village Panchayat
7.	Madei	Dabos, Velgeum	III	Valpoi Municipal Council
8.	Mandovi	Marcel to Volvoi	III	Marcel Village Panchayat
9.	Mapusa	Mapusa to Britona	III	Mapusa Municipal Council
10.	Sal	Khareband to Mober	I	1. Margao Municipal Council 2. Mober - Cavelossim Village Panchayat
11.	Sinquerim	Sinquerim to Candolim	III	Nerul Village Panchayat

12.	Talpona	Canacona to Talpona Beach	V	Talpona Village Panchayat
13.	Tiracol	Aronda to Tiracol	V	Keri Village Panchayat
14.	Valvanti	Sankli to Bicholim	III	Sankhali Municipal Council
15.	Zuari	Borim bridge to Marcaim jetty	III	1. Borim Village Panchayat 2. Madkai Village Panchayat

In order to contain the pollution levels, a State Level Monitoring Committee is constituted comprising of the Departments.

a.	Representative of Water Resource Department	Member
b.	Secretary of the concerned Village Panchayat where the polluted riverine stretch is identified :	Members
i.	Assanora Village Panchayat, Assanora	
ii.	Alorna Village Panchayat, Alorna	
iii.	Siolim Village Panchayat, Siolim	
iv.	Khandepar - Opa Village Panchayat, Khandepar	
v.	Chandel Village Panchayat, Chandel	
vi.	Rivona - Kevona Village Panchayat, Rivona	
vii.	Marcel Village Panchayat, Marcel	
viii.	Mobor-Cavelossim Village Panchayat, Cavelossim	
ix.	Nerul Village Panchayat, Nerul	
x.	Talpona Village Panchayat, Talpona	
xi.	Keri Village Panchayat, Keri	
xii.	Borim Village Panchayat, Borim	
xiii.	Madkai Village Panchayat, Madkai	
c.	Chief Officers of the Municipal Councils where the polluted riverine stretch is identified -	Members
i.	Bicholim Municipal Council, Bicholim	
ii.	Valpoi Municipal Council, Valpoi	
iii.	Mapusa Municipal Council, Mapusa	
iv.	Margao Municipal Council, Margao	
v.	Sankhali Municipal Council, Sankhali	
d.	Representative of the Public Works Department	Member
e.	Representative of the Goa Sewerage Development Corporation Ltd.	Member
f.	Dr. Mohan Girap, Scientist 'C', Goa State Pollution Control Board	Member Convenor

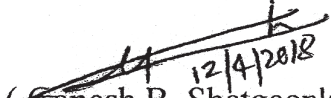
The terms of reference of the Committee shall be as follows:

1. To carry out survey of the river stretches which are found to be polluted
2. To identify the cause for the pollution
3. To suggest measures for remediation of the polluted river stretches.



4. Ensure that the remediation is carried out as per the suggestions made.
5. To monitor the water quality thereafter to verify that the remediation has been effective.

The Committee stands constituted with immediate effect.


(Ganesh B. Shetgaonkar)

Chairman,
Goa State Pollution Control Board

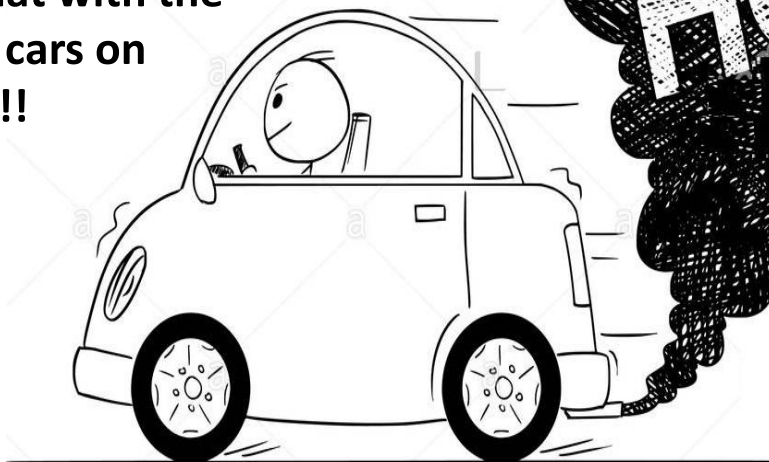
To,
All the Members of the Committee

Copy to:

1. Section Head – Scientific section
2. Admin. copy
3. CPCB file
4. Order copy
5. Guard file.

**You may look good in your car , but
your AIR is not!**

**Idling your car for 5
minutes per day can
emit approx 11.4 kgs
of harmful pollutants
and approx. 113 kgs
of CO₂ per year !
Multiply that with the
number of cars on
your roads!!**



**NOx
SO₂ PM
CO
HC**

**PLEASE SWITCH OFF YOUR
ENGINE AT A TRAFFIC LIGHT
OR WHEN PARKED**

