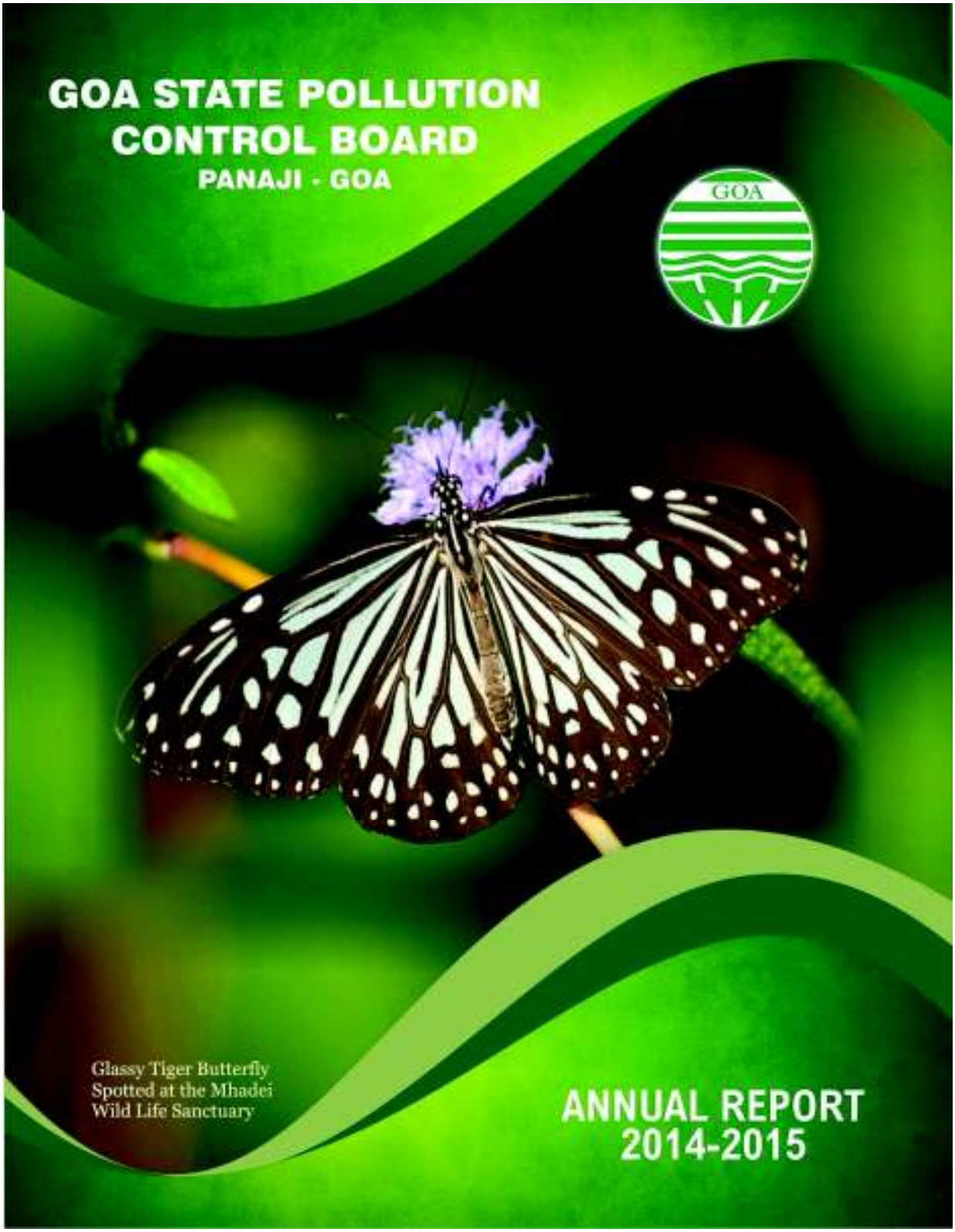

GOA STATE POLLUTION
CONTROL BOARD
PANAJI - GOA
GOA
Glassy Tiger Butterfly
Spotted at the Mhadei
Wild Life Sanctuary
ANNUAL REPORT
2014-2015

GOA STATE POLLUTION CONTROL BOARD
गोंय राज्य प्रदुशण नियंत्रण मंडळ
(An ISO 9001 - 2008 Certified Board)

Dempo Towers
EDC Plaza, Patto, Panaji
Goa - 403 001
Off : (0832) 2438563
Res. : (0832) 2777885
Telefax : (0832) 2438528
E-mail : chairman-gspcb.goa@nic.in
Web : goaspcb.gov.in

Jose Manuel Noronha
Chairman

Message From Chairman

As we complete another year in service to the people of Goa, I am pleased to state that during the year under review the Goa State Pollution Control Board entered into a Memorandum of Understanding with Birla Institute of Technology and Science (BITS), Pilani for the introduction of a two years Master of Technology programme in Environmental Engineering conducted by BITS for the Technical and Scientific staff of the Board. A total of twenty eight staff are presently undergoing this two year programme, which will go a long way in improving the level of service provided by the Board to the people of Goa.

The Architect appointed by the Board has also finalised the planning and design of its new premises at Saligao, Bardez Goa admeasuring approximately five thousand square meters which will house modern laboratories beside Air and Water testing facilities. This project is coming up on a plot admeasuring around five thousand square meters allotted to the Goa State Pollution Control Board by the Government of Goa and is scheduled to complete by December 2016.

The Government of Goa has also entrusted the responsibility of formulating the Goa State Oil Spill Disaster Contingency Plan to the Goa State Pollution Control Board and this document has been designed and prepared by the Board during the year under review. In order to implement the plan in case of oil spills or deposition of Tar Balls on Goan shores extensive training programmes for all stake holders including major Government Departments have been conducted at National Institute of Oceanography (NIO), Dona Paula, Central Library, Patto and Institute of Petroleum Safety Health & Environment Management(IPSHEM), Betul

Besides these activities the Board continues to monitor Air and Water quality at various locations in the state to ensure that these parameters meet with the standards prescribed. We look forward to an active participation from the public by bringing issues concerning pollution of Air and Water to our attention.

Jose Manuel Noronha
Chairman

CONTENTS
LIST OF CHAPTERS
Chairman's Message

Chapter	Sr.No	Description	Page No.
1.		**Introduction**	
	1.1	General Introduction	1
	1.2	The Board Office	1-4
	1.3	Functions of the various sections of the Board	4-6
2.		**Constitution of the Board**	
	2.1	Constitution of the Board including Changes therein	7
3.		**Meetings of the Board**	
	3.2	Extracts of the Minutes of the Board meetings held during the year under report	8-43
4.		**Committees and Sub-Committees constituted by the Board and their activities**	
	4.1	Technical Advisory Committee	44
	4.2	Purchase Committee	44
	4.3	Complaints Committee	45
	4.4	Committee on Prevention and Sexual Harassment of Women in Workplace	45
	4.5	Constitution of Departmental Promotion Committee and Departmental Selection Committee in respect of Group 'A' and Group 'B' Posts	45
	4.6	Constitution of a Sub-Committee to suggest the Implementation of Flexible Complimenting Scheme at the Goa State Pollution Control Board	46
5.		**Monitoring Network for Air & Water Quality**	
	5.1	National Air Monitoring Programme (NAMP)	47-48
	5.2	Trend Status of Air Quality in Goa	48-50
	5.3	National Water Monitoring Programme (NWMP)	50-52
6.		**Present State of Environment, Environmental Problems and Counter Measures**	
	6.1	Status Report on the Project Report "Bio-Remediation" of River Sal	53-59
	6.2	Status Report of the project study entitled "Status Study of St. Inez Creek to check the extent of Environmental degradation as a result of anthropogenic activities, civic infrastructure and natural causes".	59-62
	6.3	Status report of the project entitled "Study of water quality using 3hysic-chemical parameters at surrounding area of Verna Industrial Estate"	62-68
	6.4	Status Report w.r.t. "Environmental Status of the Cuncolim Industrial Estate"	69-78

	6.5	State Level Monitoring cum Working Committee for Solid Waste Management and High Level Task Force to resolve the Solid Waste Management Problems in the State of Goa	79-80
	6.6	Annual Report of Stack Monitoring for the year April 2014 to March 2015	80-82
	6.7	Details on Ambient Air Quality Monitoring conducted by the Board during the year	82-83
	6.8	Report on Ambient Air Quality Monitoring and Noise Level Monitoring during Deepawali Festival, 2014	84-87
	6.9	Continuous Online Monitoring Systems	87
	6.10	Performance evaluations of Effluents Treatment Plant operating in Goa	87-99
	6.11	The Goa State Oil Spill Disaster Contingency Plan (DOS-DCP)	99-102
7.		**Environmental Training**	
	7.1	Training / Workshops/ Seminars, etc., attended by Board Officials	103-106
	7.2	Training on Ambient Air Quality Monitoring and related instrumentation	106
	7.3	Goa SOS-DCP Training and Awareness Programme on Oil Spill Management	107-108
	7.4	Training and Awareness on Oil Spills on coastline and emergency preparedness Goa – State Oil Spill Disaster Contingency Plan (SOS-DCP)	109-110
	7.5	Deputations in the Board	110
	7.6	Resignation from Service	110
	7.7	Appointments	111
8.		**Legal matters of the Board**	
	8.1	Action taken for violations of the Water Act, the Air Act and Environment (Protection) Act	112
	8.2	Important Writ Petitions/Applications/Appeals before the Supreme Court/National Green Tribunal/High Court	112-114
	8.3	Criminal Complaints/FIR's filed by Goa State Pollution Control Board	114
	8.4	Complaint mechanism	114
	8.5	Right to Information Act, 2005	115
9.		**Finance and Accounts of the Board**	
	9.1	Status of Auditing of Accounts of the Board	116
	9.2	Income, Expenditure and Funding	117
10.		**Any other important matters dealt with by the Board**	
	10.1	Implementation of Hazardous Waste (Management , Handling & Transboundary Movement) Rules 2008	118
	10.2	Implementation of Bio-Medical Waste (Management & Handling)Rules 1998	118-119
	10.3	Noise Pollution (Regulation & Control) Rules, 2000	119
	10.4	Implementation of Municipal Solid Wastes (Management & Handling) Rules,2000	119
	10.5	Implementation of Plastic Waste (Management & Handling)	119-120

	Rules, 2011	
10.6	Implementation of Batteries (Management & Handling) Rules, 2001	120
10.7	Implementation of Electronic Waste (Management & Handling) Rules, 2002	120
10.8	Objectives and Achievements	120
10.8.1	Objectives set by the Board	120-121
10.8.2	Achievements made by the Board	121
10.8.3	Skoch RenaissanceAwards – Order of Merit 2014 Ceremony	121
10.8.4	Sustainable Workflow Project	122
10.8.5	Memorandum of understanding (MOU) between Goa State Pollution Control Board (GSPCB) and Birla Institute of Technology (BITS)	122-123
10.9	Celebration of World Environment Day, 2014	123-129
10.10	Implementation of the Supreme Court Guidelines on Prevention of Sexual Harassment of Women at Workplace	129

CONTENTS

LIST OF TABLES

Table No.	Description	Page No.
1.1	Staff employed in the Board with Name and Designation	1-4
5.1	Trend status of the Air Quality in areas which were affected with mining transportation during April 2014 – March 2015	49
5.2	Trend status of the Air Quality for the period April 2014 – March 2015 at different locations in Goa	49-50
6.1	Parameters indicating concentration range over the entire stretch of the St. Inez Creek	61
6.2	Analysis results of some of the parameters analyzed for the well water samples	62
6.3	Details of Stack Emission Monitoring conducted during the year	81-82
6.4	Ambient air quality monitoring at MSW site, Sada, Vasco, w.r.t. complaince to judgement of Honourable NGT.	82
6.5	Ambient air quality monitoring in the vicinity of MPT port area, St-1 Residence of Mr. Arjun Toraskar, Bogda, St-2 Residence of Mr. Shabbir Bichanwar, Jetty Mangor	83
6.6	Ambient air quality monitoring in the vicinity of MPT port area, St-1 Near Residence of Mr. Milind Naik, Sada, Vasco.	83
6.7	Ambient air quality monitoring w.r.t ammonia pollution at Umia Habitat, Zuarinagar.St-1 & St-2 within the building premises.	83
6.8	Ambient Air Quality during Dipawali Festival, 2013	84
6.9	Data/Observations:Noise level during Deepavali festival, 2014:	85
6.10	Data/Observations:Noise level during Deepavali festival, 2014:	85
6.11	Data/Observations:Noise level during Deepavali festival, 2014:	86
6.12	Data/Observations:Noise level during Deepavali festival, 2014:	86
7.1	Trainings Programmes / Workshops / Seminars attended by the Board staff during the year	103-106
7.2	SOS – DCP Programme schedule	108

CONTENTS
LIST OF FIGURES

Figure No.	Description	Page No.
1.1 & 1.2	Laboratory Official at work in the GSPCB Laboratory	4
5.1	Map of Goa Showing the Ambient Air Quality Monitoring Stations under the National Air Monitoring Programme (NAMP)	48
5.2	Status of the Air Quality in areas which were affected with mining transportation	49
5.3	Status of the Air Quality in some of the towns in Goa	50
5.4	Map of Goa Showing the water Quality Monitoring locations under the National Water Monitoring Programme, MINARS	52
6.1	Sampling locations within River Sal basin	53
6.2	Data analysis and results of the survey conducted along the Sal River Basin	54-55
6.3	Data analysis and results of the survey conducted at M/s. Sunrise/ Nicomet Secured Landfill Site	56-57
6.4	Data analysis and results of the survey conducted at Bethora Industrial Estate, Bethora - Ponda	58
6.5 (1& 2)	St. Inez Creek near Landscape Shire and Kamara Bhat, St. Inez	60
6.5 (3& 4)	St. Inez Creek opp STP Tonca and Naguendra Hospital	60
6.6 (a)	Location of well-water collection within the lower-reaches of Verna Industrial Estate surrounding (*Lined well)*	63
6.6 (b)	Location of well-water collection within the lower-reaches of Verna Industrial Estate surrounding (*Unlined well)*	64
6.7	Location of well-water collection within the mid-reaches of Verna Industrial Estate surrounding.	64
6.8 (1)	Bailing Machine	80
6.8 (2)	Bailing of Plastic waste in progress	80
6.8 (3)	Bales ready for further process	80
6.8 (4)	Co – Processing of Plastic waste	
7.1	Shri. Jose Manual Noronha, Chairman, GSPCB addressing the participants	107

7.2	Shri. S. Ganesan, Grp General Manager – Head of Institue, ONGC, IPSHEM addressing the participants	107
7.3	Photograph of the participants who attended the programme	108
10.1	Presentation of the “Skoch Order of Merit Award” to GSPCB	121

CONTENTS
LIST OF ANNEXURES

Annexure No.	Description	Page No.
Annexure I	Organogram of the Board	130
Annexure II - A	List of Applications for Consents to Operate (CCA) under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 Bio-Medical Waste (Management & Handling) Rules, 1998 and Hazardous Waste (Management & Handling) (Amendment) Rules, 2000 processed and approved by the Board during the year 2014-2015.	131-166
Annexure II -B	List of Applications for Consents to Establish (CCE) under Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981 Bio-Medical Waste (Management & Handling) Rules, 1998 and Hazardous Waste (Management & Handling) (Amendment) Rules, 2000 Processed and Approved by the Board During the year 2013-2014.	167-172
Annexure III	MINARS Data for the year	173-205
Annexure IV	Water Monitoring Data pre and post Ganesh Visarjan	206-211
Annexure V	Ambient Air Quality Data	212-216
Annexure VI	Closure Directions issued under the Water Act and the Air Act	217-239
Annexure VII	Annual Returns of E-Waste for the year 2014-2015	240
Annexure VIII	Status of Bio-Medical Waste generated during the year	241
Annexure IX	Implementation of Plastic Waste (Management & Handling) Rules 2011 in States/UTS	242
Annexure X	Annual Returns of Lead Acid Batteries from April 2014-March 2015	243

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.

Further the Board has plans to construct a new State of the Art building for establishing a full fledged Laboratory at Saligao by the next year.

1.2 THE BOARD OFFICE

The Goa State Pollution Control Board is presently operating from its own premises on the first floor and the fourth floor of Dempo Towers, EDC Patto Plaza, Panaji-Goa. The Offices of the Chairman, Member Secretary, Technical section, Legal section, Account section, Administrative Section and Scientific section are located on the first floor on a built up area of 600 sq.mts and the laboratory is located on the fourth floor. 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 forty three staff employed in the Board under the various sections. The details of the staff are provided in the table below and the Organization Chart is attached as Annexure I.

Table 1.1: Staff employed in the Board with Name and Designation

SR.NO	NAME OF THE EMPLOYEE	DESIGNATION
Scientific Section		
1	Mrs. Jenica Sequeira	Scientist 'C'
2	Ms. Connie Fernandes	Scientist 'C'
3	Dr. Mohan Girap	Scientist 'C'
4	Mrs. Francisca Pereira	Scientist 'B'
5	Mr. Sanjay Kankonkar	Scientist 'B'
6	Mr. Nilesh Parsekar	Scientist 'B'
7	Mrs. Anny Dias	Scientific Assistant
8	Mrs. Livia D'silva	Scientific Assistant
9	Mr. Ganpat Naik	Scientific Assistant

10	Ms. Edma Fernandes	Scientific Assistant
11	Mrs. Joshna Mahale	Scientific Assistant
12	Mrs. Avina Pereira	Scientific Assistant
13	Mr. Chaitanya Salgoankar	Scientific Assistant
14	Mrs. Chetna Naik	Scientific Assistant
15	Mr. Ravi Naik	Scientific Assistant
16	Ms. Reshma Vaz	Scientific Assistant
17	Mr. Krishnanath Pednekar	Scientific Assistant
18	Mrs. Denza Cardozo	Scientific Assistant
19	Mr. Sajid Inamdar	Senior Laboratory Assistant
20	Mr. Waman Chari	Senior Laboratory Assistant
21	Mr. Santosh Haldankar	Senior Laboratory Assistant
22	Mr. Sanmesh Borkar	Senior Laboratory Assistant
23	Mr. Nilesh Surlekar	Senior Laboratory Assistant
24	Mr. Samir Borkar	Senior Laboratory Assistant
25	Mrs. Jocelyn Coelho	Junior Laboratory Assistant
26	Mr. Kamlesh Kavlekar	Junior Laboratory Assistant
27	Mr. Sunny Pirankar	Junior Laboratory Assistant
28	Mr. Deepak Naik	Junior Laboratory Assistant
29	Ms. Reema Kaulekar	Junior Laboratory Assistant
30	Mr. Freddy Barbosa	Junior Laboratory Assistant
31	Ms. Felsy Pereira	Junior Laboratory Assistant
32	Ms. Sophia Dias	Junior Laboratory Assistant
33	Mr. Johnny Moniz	Junior Laboratory Assistant
34	Ms. Nishtha Lolayekar	Junior Laboratory Assistant
35	Mrs. Quiteria Fernandes e Pereira	Junior Laboratory Assistant
36	Mrs. Sheetal Laad	Junior Laboratory Assistant
37	Ms. Wilma D'costa	Junior Laboratory Assistant
38	Mr. Anthony Miranda	Junior Laboratory Assistant
39	Mr. Anil Parab	Field Assistant
40	Mr. Chandrashekar Parab	Field Assistant
41	Mr. Xawollino Rodrigues	Field Assistant
42	Mrs. Luiza D'silva	Field Assistant
43	Mrs. Milagrina Colaco	Field Assistant
44	Mr. Sidney Gracias	Field Assistant
45	Mr. Saby Fernandes	Field Assistant
46	Mrs. Sangita Korgaonkar	Laboratory Attendant
47	Mr.Ishu Vishnu Dhulapkar	Laboratory Attendant
48	Mr. Mario Fernandes	Laboratory Attendant
49	Mr. Bhuvan Borkar	Laboratory Attendant
LEGAL SECTION		
1	Mrs. Natalia Dias	Senior Law Officer
2	Mr. Constance Fernandes	Assistant Law Officer
ACCOUNTS SECTION		
1.	Mr. D. M. Naik	Accounts cum Administrative Officer
2.	Mr. Devendra Arlekar	Assistant Accounts Officer
3.	Mr. Vidyesh Mahmal	Accountant
4.	Ms. Mitzi D'silva	Accounts Clerk
5.	Ms. Nevies Miranda	Accounts Clerk
6.	Ms. Berlyn Fernandes	Accounts Clerk
7.	Ms. Stefanie Carvalho	Accounts Clerk
ADMINISTRATION SECTION		
1	Mrs. Tulita da Costa e Fernandes	Office Superintendent
2	Mrs. Elmana M D'Silva	Head Clerk
3	Mrs. Swapna Naik	Senior Stenographer
4	Mrs. Daya Usgaonkar e Godinho	Upper Division Clerk
5	Mr. Cedric De Souza	Upper Division Clerk
6	Ms. Margaret Cardozo	Junior Stenographer

7	Ms. Debra Pereira	Junior Stenographer
8	Mrs. Valanie Abranches	Data Entry Operator
9	Mrs. Abygale Vaz	Data Entry Operator
10	Mrs. Dorothy Fernandes	Data Entry Operator
11	Mr. Alleluia D'Mello	Data Entry Operator
12	Mrs. Francisca Auria Lobo	Lower Division Clerk
13	Mrs. Plancy Miranda	Lower Division Clerk
14	Ms. Shane Gracias	Lower Division Clerk
15	Mrs. Ana Maria Lourenco	Lower Division Clerk
16	Mr. Maison Fernandes	Lower Division Clerk
17	Mrs. Supriya Nageshkar	Lower Division Clerk
18	Ms. Joice Coutinho	Lower Division Clerk
19	Mrs. Ria Naik	Lower Division Clerk
20	Ms. Preeti Barreto	Lower Division Clerk
21	Mrs. Suzee Fernandes	Lower Division Clerk
22	Mrs. Alisha Colaco	Lower Division Clerk
23	Mr. Umesh Kankonkar	Record Keeper
24	Mrs. Gaudalupe Dias	Record Keeper
25	Mr. Lourenco Fernandes	Driver
26	Mr. Gopal Girodkar	Driver
27	Mr. Pravin Kavlekar	Driver
28	Mr. Mahesh Veluskar	Driver
29	Mr. Hemant Satarkar	Driver
30	Mr. Narayan Shirodkar	Driver
31	Mr. Shantadurga Pereira	Driver
32	Mr. Daniel Colaco	Driver
33	Mr. Sebastiao Dias	Driver
34	Mr. Conceicao Colaco	Driver
35	Mr. Derrick Dias	Peon
36	Mr. Salvador Rodrigues	Peon
37	Mr. Denister Dias	Peon
38	Mrs. Catarina Pereira	Peon
39	Mr. Roque Fernandes	Peon
40	Mr. Ankush Kankonkar	Peon
41	Mrs. Piedade Crasto	Peon
42	Mr. Issac Lobo	Peon
TECHNICAL SECTION		
1	Mr. Sanjeev Joglekar	Environmental Engineer
2	Mrs. Nandan Prabhudessai	Junior Env. Engineer (Civil)
3	Mr. Keshav Fadke	Junior Env. Engineer (Civil)
4	Mr. Abner Rodrigues	Junior Env. Engineer (Civil)
5	Mr. Rohan Nagvekar	Junior Env. Engineer (Civil)
7	Mr. Manoj Kudalkar	Junior Env. Engineer (Mech./Prod)
8	Mr. Amit Shanbhag	Junior Env. Engineer (Mech./Prod)
9	Mr. Pravin Faldessai	Junior Env. Engineer (Mech./Prod)
10	Ms. Indira Faldessai	Network Engg. (Software)
11	Mr. Sebastiao Barreto	Engg. Assistant (Civil)
12	Mr. Ashley Pereira	Engg. Assistant (Civil)
13	Mr. Vinson Quadros	Engg. Assistant (Civil)
14	Mr. Sebastiao Colaco	Engg. Assistant (Civil)
15	Mr.Liston Fernandes	Engg. Assistant (Mechanical)
16	Mr.Pratik Chari	Engg. Assistant (Computers)
17	Mr. Chetan Upadhye	Network Assistant (Hardware)
18	Mr. Rajendra Naik	Network Assistant (Hardware)
CHAIRMANS PERSONAL STAFF		
1.	Mr. Sarvesh Satardekar	PS to the Charman
2.	Mrs. Valencia Fernandes	PA to the Chairman
3.	Mr. Roland Moses	Chaiman's Driver

4.	Mr. Narayan Chopdekar	Chairman's Peon
STAFF TAKEN ON CONTRACT BASIS		
1.	Miss. Pranali Dessai	Junior Law Officer
2.	Mr. Antonio Godinho	Legal Assistant
3.	Mr. Shashank K. Dessai	Junior Env. Engineer (Mech.)
4.	Mr. Vijay Kansekar	Junior Env. Engineer (Mech.)
5.	Mr. Nikhil Caeiro	Junior Env. Engineer (Civil)
6.	Shri. Nilay N. Shenvi	Junior Env. Engineer (Civil)
7.	Miss. Lee Ann Antao	Junior Env. Engineer (Civil)
8.	Shri. Bento Thomas	Junior Env. Engineer (Civil)
9.	Shri. Digvijay Dessai	Junior Env. Engin eer (Civil)
10.	Miss. Raveena R. Naik	Junior Env. Engineer (Civil)
11.	Shri. Devesh M. Gholkar	Junior Env. Engineer (Civil)
12.	Mrs. Deepti Jambhale	Junior Env. Engineer (Civil)
13.	Miss Pratiksha Prabhu	Network Engineer (Software)
14.	Mrs. Sudiksha N. Dessai	Network Assistant (Hardware)
15.	Mr. Vlnayak Talankar	Driver
16.	Mr. Sailesh R. Mahale	Driver
17.	Shri. Immam Sheikh	Driver
18.	Shri. Ravi Kadam	Driver
19.	Shri. Hariesh Vernekar	Driver
20.	Shri. Vijay Halarnkar	Driver
21.	Shri.Narayan Haldankar	Driver

1.3 FUNCTIONS OF THE VARIOUS SECTIONS

1.3.1 SCIENTIFIC SECTION

Fig 1.1 & 1.2 : Laboratory Official at work in the GSPCB Laboratory

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 16 ambient air quality monitoring stations and 52 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 16 air stations, 13 are outsourced to MoEF approved laboratories and 3 are operated by the GSPCB. The 52 NWMP stations are all managed by 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. The Board has two mobile laboratories which are being used during NAMP and NWMP monitoring programmes throughout the year.

During the year under report the Board laboratory collected 1,375 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 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, 1431 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 after initially scrutinizing the complaints through the 'Complaint Committee'. The complaints are monitored by inspection, samples are collected and analysed where required and action deemed fit is initiated if required.

1.3.3 LEGAL SECTION

The Legal section handles all the legal / Court matters related to the functions of the Board. The matters are filed before the Hon'ble Supreme Court, the Hon'ble High Court, the National Green Tribunal, 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.

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

1.3.4 ADMINISTRATIVE CUM 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 on the 4th Floor. 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 on the 1st floor with a seating capacity for 60 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. Jose Manuel Noronha. This Board was constituted vide Order No. 5/20/87-STE/P-IV/635 dated 3rd September, 2012 and the composition is as given below:-

Chairman

1. Shri. Jose Manuel Noronha, Chief Executive Officer, Agnel Technical Education Complex, Verna and Assagao.

Members

2. Addl. Principal Chief Conservator of Forests.
3. Director, Directorate of Industries, Trade & Commerce, Panaji
4. Chief Engineer, Water Resource Department, Panaji
5. Director, Directorate of Mines & Geology, Panaji
6. Director, Department of Tourism
7. Shri. Narayan Naik, Sarpanch, Village Panchayat of Sancoale, Sancoale.
8. Shri. Tony Rodrigues, Dy. Mayor, Corporation of City of Panaji.
9. Dr. Vasudev Deshprabhu, Chairperson, Pernem Municipal Council
10. Mrs. Neelam A. Naik – Manager, Shantadurga Higher Secondary School, Sancoale
11. Shri. Shekhar Sardessai, President, Goa State Industries Association, Panaji
12. Shri. Shrirang Jamble, Agriculturalist, Savoi – Verem, Ponda
13. Dr. Pramod Sawant, Vice Chairperson, Goa State Infrastructure Development Corporation Ltd, Panaji

Member Secretary

16. Shri. Levinson Martins, Goa Civil Services.

Resignation of Board Members –

1. Shri Marconi Correira, Medical Practitioner - Member of the Board – resigned with effect from 08/06/2014 citing personal reasons.
2. Shri Frank Fernandes – Sarpanch, Village Panchayat Navelim – Member of the Board resigned from 15/01/2015 citing personal reasons.
3. Mrs. Neelam A. Naik – Manager, Shantadurga Higher Secondary School, Sancoale appointed as Member of the Board in place of Dr. Marconi Correira on 18/11/2014 vide Notification no. 5/20/87/STE/P-IV/1187 dated 18/11/2014

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.	113th	27/05/2014	Board's Conference Hall	09
2.	114th	19/08/2014	Board's Conference Hall	11
3.	115th	24/10/2014	Board's Conference Hall	12
4.	116th	16/12/2014	Board's Conference Hall	09
5.	117th	12/03/2015	Board's Conference Hall	10

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

113th Meeting of the Board
In the 113th Meeting the Board took the following decisions:

Agenda Item no. 01
Confirmation of the minutes of the 113th meeting of the Goa State Pollution Control Board held on 27th May, 2014.

The members perused and confirmed the minutes of the 113th meeting of the Goa State Pollution Control Board held on 27th May, 2014, so as to enter the same in the minutes book.

Agenda Item no. 02
Follow up action on the decision taken at the 112th Meeting of the Board.

Agenda item no. 02 – Table item no. 2 – Decisions of the Board has been communicated to M/s Harekrishna Petroleum. –
The members were informed that the decision taken by the Board at the earlier meeting regarding permitting M/s Harekrishna Petroleum to dispose-off the diesel and petrol that was presently stored in his tanks. Chairman further informed that the unit had disposed off the available petrol and diesel and had sought through an application, permission for Consent to Operate under the Water Act and the Air Act. The issues concerning seepage and run-off, of petrol and diesel into the river Valvanti, which is a drinking water source was discussed at length and members expressed concern that appropriate measures would need to be taken by the applicant prior to any approval being issued by the Board. Various proposals were placed before the Board by the members and after detailed discussions, it was approved that the unit be directed to construct a reinforced cement concrete enclosure of appropriate thickness for the tanks, so that any leakage could be contained within the enclosure. It was further approved that after this construction is carried out, an inspection be done by the Environmental Engineer of the Board and Consent application could be processed.

Agenda item no. 5 – Chairman informed that as decided in the earlier Board meeting, he had obtained biodata's of Dr. Sangeeta Sonak, and Mr. N. Somasundaram. He further informed that he was unable to obtain the bio-data of Dr. Antonio Mascarenhas. Chairman informed the members that the reason to appoint a Consultant was to avail of his/her expertise for the JAICA funded river Sal project that was presently underway and was to complete by November, 2014. He further informed that the nature of expertise

required was in the field of Microbiology. It was stated that Dr. Sonak had shifted to Mumbai and Mr. N. Somasundaram's expertise was more in Hydrogeology.

Chairman proposed that Dr. Joe D'Souza, Retired Professor from the Department of Microbiology, Goa University would be best suited for such a consultancy project and after deliberations, it was decided to avail the services of Dr. Joe D'Souza – Retired Professor – Goa University for a period of four months renewable upto completion of the project, on a consolidated salary of Rs. 20,000/- (Twenty thousand only) per month and accordingly sign a Contract in this regard.

Agenda item no. 8 - Chairman informed the members that the decision to procure FRP motor boat for conducting National Water Quality Monitoring was kept in abeyance due to the Model Code of Conduct (MCC) in force and since the MCC was lifted the process will be initiated.

Agenda item no. 10 – Chairman informed the members that as decided earlier, a Committee was constituted comprising of the following members to study the implementation of office automation system using SAP ARP:

1.	Mr. A.P. Selvan, Head IT Division, CSIR – National Institute of Oceanography, Dona Paula
2.	Mr. Rakesh Shrivastava, Professor, Goa Institute of Management Studies, Sankhali
3.	Dr. Damodar Reddy, Assistant Professor, National Institute of Technology, Farmagudi.
4.	Mrs. Louella Mesquita Colaco, Assistant Professor, Computer Department, Padre Conceicao College of Engineering, Verna
5.	Mr. D.M. Naik, Accounts cum Administrative Officer, GSPCB
6.	Mr. Sanjeev Joglekar, Environmental Engineer, GSPCB
7.	Miss Indira Faldessai, Network Engineer (Software), GSPCB

He further informed that a representative of SAP wanted to clarify certain issues like scope of their work, technology, usage etc to the Board members and the Chairman invited them to make a presentation before the Board. After the presentation, the matter was discussed in detail and it was pointed out that the Committee should take a closer look at other office automation software systems and Chairman was authorized to decide on the issue to be adopted after which quotations / tender could be invited.

Agenda item no. 3

Annual Report of the Board for the year 2013-2014

Chairman informed the members that a copy of the Annual Report of the Goa State Pollution Control Board for the year 2013-2014 has been forwarded to the members. He further informed the members that the achievements / works undertaken by the Board during the past one year have been highlighted. The Report was discussed in brief and the members acknowledged the achievements made by the Board during the period under review and proposed to forward the report to the Director, Department of Environment for placing the same before the Goa Legislative Assembly.

Agenda item no. 04

Application of M/s Sanofi India Limited, Plot no. L-121, Phase III, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Operate under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Sanofi India Limited, has submitted a proposal for expansion of the unit i.e manufacture of additional products - Paracetamol and Myoril Capsules.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Sanofi India Limited, Plot no. L-121, Phase III, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Operate under the Water Act and the Air Act (expansion), subject to obtaining approval from the State HPCC on industries and implementation of rain water harvesting and ground water recharge

Agenda item no. 05

Application of M/s. Swanson Plastics (India) Private Limited, Plot No 2, Honda Industrial Estate, Honda, Sattari, Goa**,** for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Swanson Plastics (India) Private Limited, has submitted a proposal for expansion in the manufacturing capacity of PE (Polyethylene embossed film) from the existing capacity of 3000MT/annum to 6000MT/annum.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Swanson Plastics (India) Private Limited, Plot No 2, Honda Industrial Estate, Honda, Sattari, Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to obtaining approval from the State HPCC on industries and implementation of rain water harvesting and ground water recharge

Agenda item no. 06

Application of M/s Pentair Water India Pvt. Ltd., Plot No. L-52-55, Verna Industrial Estate, Verna, Goa, for Consent to Operate under the Water Act and the Air Act (expansion)

The Chairman informed the members that the State's HPCC has cleared the proposal of M/s Pentair Water India Pvt. Ltd., for the expansion in the manufacturing capacities of its product i.e.

(a) (i) pumps submersible-VMS-Horizontal-Inline-Single Imperial Driven Sewage, Pumps for Home/Domestic RO System, from 2000 nos./annum to 10,02,000 lakhs nos./annum an increase by 10,00,000 lakhs nos./annum, (ii) Water Treatment System for filtration-Softening-sewage Treatment Effluent, Home/Domestic RO Systems, Water Softeners from 1200 nos./annum to 74400 nos./annum an increase by 73200 nos./annum and (iii) Additional new product i.e. Home/Domestic RO membranes 9,00,000 nos./annum & (iv) Melt Blown cartridges for Domestic RO Systems 30,00,000 nos./annum.

(b) Increase in the built-area of 3628m^2

(c) Increase in additional water requirement is 45m^3/day and additional requirement of Power load is 665KVA (which will be drawn from M/s. Reliance Energy Limited), at Plot No. L-52-55, Verna Industrial Estate, Verna, Goa

The HPCC has cleared the above proposal with a condition that the unit shall make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground **water** aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Pentair Water India Pvt. Ltd, Plot No. L-52-55, Verna Industrial Estate, Verna, Goa, for Consent to Operate under the Water Act and the Air Act (expansion) as approved by the HPCC and subject to the implementation of rain water harvesting and ground water recharge.

Agenda item no. 07

Application of M/s Tata Consultancy Services Ltd., Plot No 17-B,5A, 5B and 5C, Tivim Industrial Estate, Karaswada, Mapusa, Bardez-Goa, for Consent to Operate under the Water Act and the Air Act (expansion)

The Chairman informed the members that the State's HPCC has cleared the proposal of M/s Tata Consultancy Services Ltd., for enhancing the manufacturing production capacities of its different types of products with existing facilities:

a.	Automatic teller machines, sorting machines, bank notes or cheques processing & acceptors machines etc. with the capacity of 5000 nos./annum
b.	Automatic data processing, parts & accessories for computer & computer based systems with the capacities of 60000 nos./annum
c.	Manufacture of industrial process control equipments for remote sensing of temperature, pressure etc. with the capacity of 7500nos. /annum
d.	Parts and accessories of UPS generator sets, power convertors, etc. with the capacity of 111000 nos./annum
e.	Parts and accessories for Rf transmitters, Radio modules, Base stations and Line Telephony with the capacity of 3000000 nos./annum

The HPCC has cleared the above proposal with a condition that the unit shall make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Tata Consultancy Services Ltd, Plot No 17-B,5A, 5B and 5C, Tivim Industrial Estate, Karaswada, Mapusa, Bardez-Goa, for Consent to Operate under the Water Act and the Air Act (expansion), as approved by the HPCC and subject to the implementation of rain water harvesting and ground water recharge.

Agenda item no. 08

Fees for correction in the Consent /Authorization orders

Chairman informed the members that the Board issues Consents /Authorizations to units for processing the relevant applications on line through the XGN software and in hard form. Subsequently, once the Consent to Establish / Consent to Operate are issued, the Board receives requests from the units that have already been granted Consents for change in name and style, change in process details, change in ownership etc., which resulted in additional work load for the Board staff. Chairman further informed that for

making relevant corrections in the Consent, a fee is required to be levied, which after deliberations the members decided that a fee of Rs. 5000/- be levied on Red Category of industries, Rs. 3000/- for Orange category of industries and Rs. 2000/- for Green category of industries, for each such correction as administrative charges.

The members decided, to send a proposal to the Director, Department of Environment for issue of a suitable Notification.

Agenda item no. 09

Replacing the Bank Guarantee with Bank Deposit.

Chairman informed the members that Board directs units for carrying out compliances to certain conditions as laid down in the Consent to Operate. If the unit fails to comply with the stipulated conditions within a time frame, the unit is required to submit a Bank Guarantee towards the same. The Bank Guarantee once submitted by the industrial units are required to be continuously monitored, and this process is time consuming and in certain cases, the concerned staff may miss the date of renewal / expiry of such a Bank Guarantee prior to encashment in case of deficiencies in terms of Consent to Operate / directions.

For this purpose, it was proposed to replace the Bank Guarantee with a Bank Deposit in the form of fixed deposit of equivalent amount, which would be refunded in case of total compliance of the conditions, to the satisfaction of the Board.

After deliberations the members noted that submission of Bank Guarantee is the preferred mode in Government departments and further noted that it was easier to encash the Bank Guarantee as compared to Fixed deposits.

Members suggested that a calendar be maintained by the Accounts section to track such Bank Guarantee, so that they may be encashed before the due date in case of non-compliance.

Agenda item no. 10

Voluntary Retirement availed by Mr. Lourenco De Souza, Peon, of the Board

The members noted that Mr. Lourenco De Souza, Peon has availed Voluntary retirement from service in the Board office and that he stood relieved from service with effect from 31st March, 2014. Further the members approved that dues admissible to him be paid.

Agenda item no. 11

Procedure for effecting payment of bills of the Board Advocate

Chairman informed the members that the Board at its 106th meeting had resolved that payment of fees by the Board would be governed by certain terms and conditions. i.e payment of professional fees to the Advocates of the Board to be done only on submission of a duly certified certificate of appearance in a matter as issued by the Court before which the matter has been heard or on submission of a certified copy of the Order of the Court before which the matter has been heard indicating an effective hearing as also the appearance of the concerned Advocate.

It was further informed that the office of the Senior Counsel of the Board Adv. A.N.S. Nadkarni has informed the office that it is not possible for them to submit certificates of appearance from Courts of Law in respect of appearances by the Ld. Senior Counsel and Advocates appearing with him. Further, with regard to submission of certified copies of Orders of the Court indicating hearings, such orders are not passed by the Courts in every instance.

After deliberations it was decided that the claims raised by the Ld. Advocate General and other Board Advocates are to be submitted along with the Rozanama duly certified by the individual Advocate / responsible

officials in the Advocate General Office as the case may be or be certified by the Legal Section of the Goa State Pollution Control Board, based on the Rozanama submitted by the Advocates.

The members further agreed to insertion of condition no. 10 to the terms and conditions as adopted by the Board at its 106th meeting, namely;

'10. The Chairman of the Board has the discretion to engage any Advocate as he deems fit, to represent the Board before any Court of Law or Judicial Forum or Tribunal, after consultation with the Senior Counsel of the Board and to decide on the amount of professional fees to be paid to the said Advocate so appointed. The Chairman of the Board further has the discretion to decide on the payment of supplementary expenses towards the aforestated appointment including payment of expenses towards travelling and accommodation incurred by the concerned advocates. '

The members further decided that this discretionary power of the Chairman shall be operative with retrospective effect.

Agenda item no. 12

Empanelment of an Agency by the Board for booking of tickets / vehicle / accommodation on official tours.

Chairman informed the members that the staff of the Board are quite often deputed for trainings organized by Central Pollution Control Board / Ministry of Environment and Forests / Administrative Staff College of India and other such institutions. At times, intimation is received at a very short notice. In such instances, it is not possible to arrange for booking of tickets i.e air fare / train tickets / bus tickets. Accommodation is also required to be arranged in some cases.

Further, the Board staff is also required to attend Court cases in the National Green Tribunal, Pune. In this case, the Board was required to hire vehicles for the staff attending the hearings, as a large number of files are required to be carried along with them for reference.

Chairman informed the members that considering the above difficulties faced, it was proposed that the Board empanel an agency which could provide services for booking of air tickets / train tickets / bus tickets / booking of accommodation / hiring of vehicles etc.

The members approved the proposal and further approved that an advertisement be issued in the local newspapers inviting agencies for providing the above services and selection of an agency be made as per rules in force.

Agenda item no. 13

Purchase of vehicle for the Chairman of the Board.

Chairman informed the members that the Chairman of the Board is presently using the vehicle Honda city, which was purchased in the year, May, 2008. He further informed that the vehicle had presently covered a mileage of 1,00,300 kms, and there were constant break downs and the vehicle required servicing quite often.

Chairman further informed the members that a budgetary provision of Rs. 10.00 lakhs had been made in the Budget Estimate 2014-2015 and that as per the State Government Circular, Chairman of autonomous bodies are entitled for purchase of new vehicle upto Rs. 10 lakhs.

Chairman further informed that the present vehicle is proposed to be disposed under the buy-back scheme and the price offered by the authorized dealer of the Honda City was Rs. 2,00,000/- . After discussions, it was approved that a new vehicle be purchased for Chairman within the present budget and type of vehicle be that of Chairman's choice.

Agenda item no. 14

Extension of time for obtaining Consent to Operate under the Water Act and Air Act.

Chairman informed the members that the Board at its 77th meeting had decided to waive the past fees for Consent from those industries, which had not obtained Consent of the Board under the Water Act and the Air Act. Subsequently, the Board at its 108th meeting decided to extend the time limit for waiver for obtaining Consent under the Water Act and the Air Act upto 31/12/2013, considering that the industries that have not obtained Consent are small scale and micro enterprises, it was proposed to extend waiver of past fees for such industries applying for Consent upto 31/12/2014.

The members approved extension of waiver of past fees upto 31/12/2014, so as to move a proposal to the Director, Department of Environment for issue of a suitable Notification.

A members of the Board suggested that the decision of the Board be conveyed to the Goa Industries Association and the Goa Chamber of Commerce and Industries, which was approved by all present.

Table item no. 01

Applications for Consent to Operate of the mine units

Chairman informed the members that the Hon. Supreme Court of India in its judgement passed in Writ Petition (Civil) no. 435/2012 has declared that mining leases operated after 22/11/2007 were illegal and the impugned order of the State of Goa dated 10/09/2012 and order dated 14/09/2012 of the Ministry of Environment and Forests, Govt. of India were not liable to be quashed.

Chairman further informed that the Goa State Pollution Control Board had earlier rejected all applications made by the mining units for renewal of Consent to Operate in light of the Government of Goa order dated 10/09/2012 and Ministry of Environment and Forests, Government of India order dated 14/09/2012 and Hon. Supreme Court judgement dated 21/04/2014. He further informed that the mining units had challenged the directions of the Board before the Administrative Tribunal and Chairman also informed that the Board had filed its replies before the Administrative Tribunal and further informed that the Advocates representing the Board before the Administrative Tribunal in this matter had sought to know the stand of the Board in light of the directions and declarations of the Hon. Supreme Court as contained in the judgement dated 21/04/2014 passed in Writ Petition (Civil) no. 435/2012.

The members were further informed that the State Policy on Mining was yet to be formulated by the State Government and the Board was awaiting the same, so as to process the applications of the mining companies for issue of Consent to Operate.

It was further informed that since the mining leases beyond 2007 were declared to be illegal by the Hon. Supreme Court, it was decided that once the State Government finalizes its mining policy and allocations of leases are made, the concerned lessee could approach the Goa State Pollution Control Board for Consent to Operate under the Water Act and the Air Act.

III. Chairman informed the members that the World Environment Day is celebrated world-wide on 5th June, the theme for this year was 'Raise your voice, not the sea level'. As one of the stake holder, the Goa State Pollution Control Board, as in the past, is organizing series of events to commemorate this day. Chairman further informed that a Memorandum of Understanding is also proposed to be signed with the management of BITS Pilani, Zuarinagar, so as depute the staff of the Board for further studies. The educational programmes conducted under this collaborative arrangement will offer the employees of GSPCB an opportunity to enhance their academic qualification and synergize theory with practice on a sustained basis.

Chairman further informed the members that an invite for the function would be sent to them shortly and requested them to attend.

Chairman further informed the members that initially it was proposed to shift only the laboratory section of the Board, however, he proposed that the whole office be shifted to Saligao as it would be in a better position for administrative reasons. The members approved the proposal of Chairman that the entire office of Goa State Pollution Control Board be shifted to Saligao in the new premises once it is complete.

Chairman further informed the members that Architect Gerard Da Cunha was the Architect for the proposed office cum laboratory building and staff quarters. A team of Architects made a presentation before the members of the proposed building. The members expressed their satisfaction on the same. Further, the Architect informed the members that the building was proposed to be a Green building and would consume minimum power and would also utilize water harvesting technique.

Chairman further informed the members that the building is proposed to be completed within one year and he further stated that it was proposed to inaugurate the premises by the 5th of June, 2015. The total cost of the building was estimated to be approximately Rs. 15 crores.

114th Meeting of the Board
In the 114th Meeting the Board took the following decisions:

Agenda Item no. 01
Confirmation of the minutes of the 113th meeting of the Goa State Pollution Control Board held on 27th May, 2014.

The members perused and confirmed the minutes of the 113th meeting of the Goa State Pollution Control Board held on 27th May, 2014, so as to enter the same in the minutes book.

Agenda Item no. 02
Follow up action on the decision taken at the 113th Meeting of the Board.

Agenda item no. 3 – Chairman informed the members that the Annual Report of the Board for the year 2013-2014 were forwarded to the Director, Dept. of Environment, Govt. of Goa, as informed by the Dept. of STE the reports will be placed before the Goa Legislative Assembly in the ensuing Assembly session.

Agenda item no. 4 – The members noted that Consent to Operate under the Water Act and the Air Act (expansion) has been issued to M/s Sanofi India Limited as clearance from HPCC is awaited.

Agenda item no. 5 – Members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Swanson Plastics (India) Pvt. Ltd.

Agenda item no. 6 - Members noted that Consent to Operate under the Water Act and the Air Act (expansion) has been issued to M/s Pentair Water India Pvt. Ltd.

Agenda item no. 7 – Members noted that Consent to Operate under the Water Act and the Air Act (expansion) has been issued to M/s Tata Consultancy Services Ltd.

Agenda item no. 8 – Members noted that the decision of the Board to levy fees for correction in the Consent / Authorization orders has been forwarded to the Director, Dept. of Environment for issue of a suitable Notification.

Agenda item no. 12 – Members noted that the decision of the Board for empanelment of an agency by the Board for booking of tickets / vehicle / accommodation on official tours is under process and an advertisement in this regard would be issued shortly.

Agenda item no. 13- Members noted that a vehicle Honda City costing Rs. 9,78,333/- has been purchased for the Chairman of the Goa State Pollution Control Board.

Agenda item no. 14 – Members noted that the decision of the Board for extending time for obtaining Consent to Operate under the Water and Air Act and waiver of fees upto 31/12/2014 has been forwarded to the Director, Dept. of Environment for issue of a suitable Notification.

III. Members noted that a Memorandum of Understanding has been signed with the Management of BITS Pilani, Zuarinagar, a list of officials of the Board proposed to be deputed for the studies has been submitted to BITS Pilani for scrutiny.

IV. Chairman informed the members that drawings for the proposed Board facility at Saligao have been submitted to the Town and County Planning Dept., Govt. of Goa, Mapusa for approval, and simultaneously, a file has also been submitted to the Collector, North Goa for conversion of the allotted land admeasuring 4803 sq. mtrs. from Orchard to Institutional. He further informed that the soil testing work was required to be carried out at the proposed site and the contract for this activity has been awarded to M/s Alcon Constructions (Goa) Pvt. Ltd., Panaji, after which a detailed estimate would be prepared for e-tendering purpose. He further informed that the construction work would most probably start by September, 2014.

Agenda item no. 03

Setting up of Continuous Ambient Air Quality Monitoring Station(s) - Instructions received from the Central Pollution Control Board (CPCB).

Chairman informed the members that the Board had received a letter from the Member Secretary, Central Pollution Control Board stating that as per the 58th Conference of the Chairmen and Member Secretaries of SPCDs and PCCs held on 21st to 22nd February, 2014 at Bengalaru, a resolution was passed that Continuous Ambient Air Quality Monitoring (CAAQM) Station atleast one each will be set up in one million plus cities (as per Census 2011) and State Capitals, for which, State Boards are required to install CAAQM stations on 50:50 fund sharing basis between CPCB and concerned State Pollution Control Board. It was informed that the parameters to be monitored are SO_2, NO_2, NH_3, CO, 0_3, $PM_{2.5}$, PM_{10} and Benzene as per the Revised national Ambient Air Quality Standards, 2009 (except metals and BaP) and the estimated capital cost of one CAAQM station is Rs. 110.00 lakhs.

Chairman stated that the CAAQM stations are required to be procured by inviting global tenders and the bidding documents for supply, installation, commissioning and operation and maintenance of the CAAQM and technical specifications of the instruments and equipment would be provided by CPCB. He further informed that, CPCB would assist the State Board in technical matters and participate in technical committee meetings. He also stated that the Goa State Pollution Control Board has to bear the operation and maintenance cost of the CAAQM station and this CAAQMS is required to be maintained under the supervision of the SPCB. He further stated that the monitoring data of the CAAQM has to be made available on GSPCB and GSPCB websites.

Shri Levinson Martins, Member Secretary stated that Member Secretary, CPCB has requested to convey the Boards acceptance to install CAAQM station at Panaji as a State Capital and to bear the 50% capital cost and annual operation and maintenance cost and that CPCB proposed to release its share within this financial year. He further stated that the Board has to accordingly intimate CPCB of the decision of its meeting Board in this regard.

Chairman further informed the members that process for locating the station at Panaji is underway. After detailed discussions, the members approved the proposal to establish a CAAQM at Panaji and suggested that a request be forwarded to the State Government for incurring 50% of the total cost towards installation of the CAAQM.

Agenda item no. 04

Application of M/s Birla Furukawa Fibre Optics Limited, Plot nos. L-62 to L-64, Verna Industrial Estate, Verna, Salcete Goa for Consent to Operate under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Birla Furukawa Fibre Optics Limited, has submitted a proposal for expansion in the manufacturing capacity of optical fibre from 60 lakhs km/annum to 80 lakh km/annum.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Birla Furukawa Fibre Optics Limited, Plot nos. L-62 to L-64, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge

Agenda item no. 05

Application of M/s Himachal Futuristics Communications Limited, Plot nos. L-35, 36, 37, Verna Industrial Estate, Verna, Salcete Goa for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Himachal Futuristics Communications Limited, has submitted a proposal for expansion in the manufacturing capacity of optical fibre cables from 48000 km/annum to 80000 km/annum.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Himachal Futuristic Communications Limited, Plot nos. L-35, 36, 37, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to obtaining approval from the State HPCC on industries and implementation of rain water harvesting and ground water recharge.

Agenda item no. 06

Application of M/s Cipla Limited, Plot no. L-139 to L-146, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Cipla Limited, has submitted a proposal for expansion in the pharmaceutical products i.e. Addition to 100 million units/annum of Respules product, addition of 12.5 million units/annum – Nasal spray and amendment in the hazardous waste quantities.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers

appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Cipla Limited, Plot no. L-139 to L-146, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to obtaining approval from the State HPCC on industries and implementation of rain water harvesting and ground water recharge.

Agenda item no. 07
Resignation letter submitted by Board Member.

Chairman informed the members that Dr. Marconi Correia, Member of the Board has submitted his resignation due to personal reasons. He further informed the members that he has thanked the Member Secretary and the members of the Board for his association with the Board's work and wished the team the best in the future. Chairman informed that his resignation was accepted and forwarded to the State Govt. for necessary action. The members noted the same.

Chairman further informed the members that at present there are two vacant posts of Board members in the present constitution of the Board, which are required to be filled by the State Government

Agenda item no. 08
Applicability of fees for Authorizations issued by the Board

(a) Under the Hazardous waste Authorization
The members approved for levying a fee of Rs. 3,000/- on establishments applying to the Board for issue of Hazardous waste authorization, as the Board is required to conduct inspections of these units to certify their compliance, which involves deputing of staff to these locations.

(b) Under the e- waste Authorization
The members approved for levying a fee of Rs. 3,000/- on establishments applying to the Board for issue of e- waste authorization, as the Board is required to conduct inspections of these units to certify their compliance, which involves deputing of staff to these locations.

(c) For amendments and expansion involving no additional investment
The members approved for levying a fee of Rs. 3,000/- on applications received by the Board for amendments and applications for expansion without additional investment, as such cases, the applications are required to be processed by the Board for issue of amendments in the Consent Orders.

(d) Fees for registration of dealers under Batteries Waste (Management and Handling) Rules.

The members approved for levying a fee of Rs. 3,000/- on establishments applying to the Board for issue of authorization under the Batteries Rules, as the Board is required to conduct inspections of these units to certify their compliance, which involves deputing of staff to these locations.

The members proposed that the decision of the Board at (a), (b), (c) and (d) be forwarded to the Department of Environment, for issue of a suitable Notification.

Agenda item no. 09
Partial modification in the Categorization of industries.

Chairman informed the members that the Goa Pharmaceutical Manufacturers Association has requested the State Government to amend the Rules and Regulations of the Factories and Boilers and to issue a Notification for de-listing of pharmaceutical formulation manufacturing units from the list of industries involving hazardous processes as per the provisions made under section 2(cb) and section 112 of the Factories Act.

He further informed that as far as the classification of 'Pharmaceutical Formulation' as Orange category by the Department of Science, Technology & Environment, vide its Notification dated 07/07/2011 is concerned, the Goa State Pollution Control Board had recommended the categorization of industries as Red, Orange and Green to the State Government and accordingly, the State Government notified the said categorization of industries as recommended by the Board vide Notification dated 07/07/2011. He also informed that CPCB vide its directions dated 04/06/2012 and 14/09/2012, issued under section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974 directed the GSPCB to maintain uniformity in categorization of industries as Red, Orange and Green and to revise the list of categorization of industries based on the criteria specified in the report prepared by the Working Group constituted during the 56th Conference of Chairmen and Member Secretaries of PCB's/ PCC's.

It was stated that entry number 50 of the list of categorization of industries as specified in the report prepared by the Working Group categorizes 'Pharmaceutical formulation and formulation for R &D purpose (for sustained release / extended release of drugs only and not for commercial purpose) as Orange category.

Chairman informed that GSPCB at its 105th meeting held on 01/11/2012 resolved to recommend to the State Government to categorize industries in the State in terms of the directives of the CPCB as aforestated. It was also stated that the said resolution was forwarded to the State Government which is presently under consideration.

Chairman proposed that since 'General Tablets and Formulation' involving Dry compaction, 'mixing and Packing' does not involve substantial air and water pollution i.e substantial discharge of trade effluents and emissions of air pollutants, such a process could be categorized under 'Green category'.

The members discussed this proposal in detail and approved the same so as to forward to the State Government for making necessary amendments, and accordingly issue a suitable Notification.

Agenda item no. 10

Discussion on applications for stand –alone Consent to Establish / Consent to Operate for Spas / Massage parlours / saloons etc.

Chairman informed the members that the Board receives a number of applications for grant of Consent to Establish / Consent to Operate for Spas / massage parlour/saloons etc. and that the following documents are required to be submitted for processing their applications for Consent to Operate:

1. Ownership documents
2. Name and address of the Operator
3. NOC from the Health Department
4. NOC from the local authority
5. Disposal method for waste water
6. Disposal method for solid waste
7. Fees as applicable along with plans and drawings

The members suggested that a SPA / Massage parlours / saloons are required to have a recognized Medical Professional, wherein the staff in the SPA / Massage parlours are required to be under the supervision of the said Medical Profession. The members also opined that the qualifications of the staff working in such spas / massage parlours be also recorded and in case of Ayurvedic Massage parlours, it should be under the supervision of a Registered Ayurvedic Doctor.

Chairman informed the members that such applications received from SPA / massage parlour/saloons etc. would be placed before the Technical Advisory Committee of the Board and the recommendations of the TAC would be forwarded to the Chairman for the granting / rejection of Consent.

Agenda item no. 11

Representation received from the Travel and Tourism Association of Goa to install a Sewage Treatment Systems and Dispersal.

Chairman informed the members that the Travel and Tourism Association of Goa, had requested for permission to install a Sewage Treatment Systems and Dispersal (STADS) developed by Captain Joseph Lobo. The conventional system comprises of oil and grease trap followed by collection/settling/ equalization tank followed by aeration, clarifier and tertiary treatment by sand and carbon filter.

It was stated that the STADS System comprises installation of Venturi Aerator in the septic tank and dozing of the sewage by Effective Micro-organisms (EM). It was also stated that the treated water thereafter is applied to the roots of the plants within the premises and that the treated water is pumped through the pipe into the plastic containers which are buried around the trees. It was clarified that the water seeps through the pore holes of plastic containers into the soil and thereafter is absorbed by root system of the trees.

He further informed that this system has been installed at Resort Lagua Azul, Arpora and Dona Alcina Resort, Candolim.

Members at first were apprehensive of such a system, however, after deliberations, the members decided to permit eight hotels on a trial basis, four in North Goa and four in South Goa. It was further stated that this decision would be reviewed after a year.

Agenda item no. 12

Application of M/s Procter & Gamble Hygiene & Health Care Ltd. , Plot no. 173, 314, 315, Kundaim Industrial Estate, Kundaim Goa, for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Procter & Gamble Hygiene & Health Care Ltd, has submitted a proposal for expansion in the manufacture of Whisper sanitary napkins from the present quantity of 1100 MSU/Month (1 MSU = 2,40,000 whisper pads) to 245 MSU/month.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Procter & Gamble Hygiene & Health Care Ltd, Plot no. 173, 314, 315, Kundaim Industrial Estate, Kundaim Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to obtaining approval from the State HPCC on industries and implementation of rain water harvesting and ground water recharge.

Agenda item no. 13

Reassessment of staff requirement in the Goa State Pollution Control Board.

Chairman informed the members that the Board at its 108th meeting held on 10th June, 2013, had approved the report on 'Strengthening of the Board' which included creation of 26 additional posts in the Technical Section, IT Section and Legal section.

It was stated that the State Government approved creation of the additional / new posts for a temporary period of one year, purely on contract basis with a condition that the Board should re-assess the requirements of the posts within a period of one year and re-submit the proposal thereafter.

The Chairman informed the members that an interim exercise for assessing the staff requirement at the Board was carried out internally and it was noted that many posts were vacant. He further informed that after detailed analysis it was concluded that these positions were not required to be filled by the Board since the present staff compliment was sufficient to carry out the existing work requirements both at the technical and scientific level. The Chairman tabled the report prepared by the Board in this regard and after detailed discussions it was decided to abolish the following posts which were presently vacant in the Board from the date the post was lying vacant.

Sr.	Designation of post	No. of post	
	Scientific section		
1.	Scientific Assistant (Chemistry)	05	
2.	Scientific Assistant (Stack Monitoring)	01	
3.	Scientific Assistant (Microbiology)	01	
4.	Senior Laboratory Assistant	06	
5.	Junior Laboratory Assistant	01	
6.	Field Assistant	01	
	Total:		15
	Technical Section		
7.	Engineering Assistant (Civil)	01	
	Total:		01
	Administration section		
8.	Assistant Data Entry Operator	02	
9.	Driver	01	
10.	Peon	01	
	Total:		04
	Total vacant posts:		20

Table Item no. 01
Payment of sitting fees to the Members of the Board

Chairman informed the members that members of Village Panchayat / Councils / Corporation, who are members of the Board were not paid sitting fees and this matter required to be resolved since the members attending Board meetings had to meet travelling and out of pocket expenses from their personal means. After deliberations, it was approved that all members who belong to Village Panchayats / Councils / Corporation be paid a consolidated sitting fee of Rs. 1000/- for each sitting of the said meetings at the Board. It was further decided that this decisions be implemented from the date of constitution of the present Board i.e. from 03/09/2012.

Table Item no. 02
Categorization of formulation, packing of natural and synthetic resins under Orange category of Industries.

Chairman informed the members that the Board is in receipt of an application from an unit requesting to categorize the activity of formulation, packing of natural and synthetic resins under Green Category. He further stated that the unit deals in formulation and packing of natural and synthetic resins and does not generate any waste water so also no solid waste is generated and that the process involves re-placing of

resins and harderner from large containers of approximately 200 kgs into small containers of 250 gms to 500 gms after adding some additives to get the desired properties for a specific product as and when required.

The members deliberated that since the containers being used for such activity are being washed and this waste wash water contained chemicals the same should be classified as 'Orange category and not as Green category as proposed. It was decided that such a process could be covered under the Orange category industries.

115th Meeting of the Board
In the 115th Meeting the Board took the following decisions:

Agenda Item no. 01
Confirmation of the minutes of the 114th meeting of the Goa State Pollution Control Board held on 19th August, 2014.

The members perused and confirmed the minutes of the 114th meeting of the Goa State Pollution Control Board held on 19th August, 2014, so as to enter the same in the minutes book.

Agenda Item no. 02
(a) Follow up action on the decision taken at the 114th Meeting of the Board.

Agenda item no. 3- The members noted that e-tender was invited for procurement of one nos. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) under the scheme of the Ministry of Environment and Forests, Govt. of India. It was further informed that full financial assistance was already made available for the procurement of this system and presently, scrutiny of the e-tender was in progress.

Chairman informed the members that at the earlier decision taken by the Board at the 114th meeting held on 19th August, 2014, it had approved the procurement of one no. of CAAQMS on a 50:50 cost sharing basis under the Scheme of Central Pollution Control Board and he further proposed to the members that such a system would be procured from the selected bidder from the presently floated e- tender. After discussions, it was approved that an additional CAAQMS be procured on a 50:50 cost sharing basis, as approved at the 114th Board meeting held on 19th August, 2014 from the selected tenderer under the presently considered e-tender process.

Agenda item no. 04 – The members noted that Consent to Operate under the Water Act and Air Act (expansion) has been issued to M/s Birla Furukawa Fibre Optics Limited, Verna Industrial Estate.

Agenda item no. 05 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Himachal Futuristics Communications Ltd., Verna Industrial Estate.

Agenda item no. 06 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Cipla Limited, Verna Industrial Estate.

Agenda item no. 12 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Proctor & Gamble Hygiene & Health Care Ltd., Kundaim Industrial Estate.

Agenda item no. 13 – The members noted that decision of the Board for abolition of posts lying vacant in the Board office has been forwarded to the Director, Environment.

(b) Follow up action on the decision taken at the 108th Meeting of the Board held on 10th June, 2013

Agenda item no. 21 – The members noted that in the previous meeting, the Board had approved for providing Personal Accident Insurance of Rs. 5 lakhs each to all the employees of the Board.

An exercise was undertaken by the Board for inviting quotations from the Insurance companies for providing insurance cover to the staff of the Board. On scrutiny of the quotations received by the Board, a query was raised by the Accounts section of the Board with regard to the insurance cover, as the Board employees are treated on par with the employees of the State Government. The State Government does not have any other special policies for its employees other than the Goa Employees Group Insurance Scheme (Group Insurance) wherein the premium is deducted from the salary of the concerned employee. It was also informed that the employees of Group 'C' and 'D' carry out high risk work in some Government departments such as Fire Services, PWD, Electricity etc. who are also covered under GEGIS Scheme.

Further, if the above Insurance Scheme is adopted then there will be an additional liability on the Board to the tune of Rs. 5 lakhs to Rs. 8 lakhs per annum and since the premium will be paid by the Board without any returns to the Board or to the employees, then a specific provisions will have to be made every year for the same and the amount towards it may increase in the years to come depending upon the increase in the number of employees.

After deliberations, the members decided to keep the matter in abeyance.

(c) Follow up action on the decision taken at the 112th Board meeting and 113th Board meeting held on 25th March, 2014 and 27th May, 2014 respectively.

Agenda item no. 10 – While discussing the Implementation of Office Automation System using SAP Enterprise Resource Planning at the Goa State Pollution Control Board, the Chairman informed the members that since the Board was in the process of construction of office building and laboratory at Saligao, at an estimated cost of Rs. 26 Crores, prudent financial measures would need to be undertaken for proper financial control. Chairman further informed that he would carry out the exercise to determine the availability of funds to meet with this additional requirement. After discussions, it was approved that order for Implementation of Office Automation System using SAP Enterprise Resource Planning could be approved by the Chairman after sufficient funds were available with the Board.

(d) Follow up action on the decision taken at the 113th Board meeting held on 27th May, 2014.

Agenda item no. 2, no. 5 – Chairman informed the members that the appointment of Dr. Joe D'Souza, Retired Professor from the Department of Microbiology, Goa University was approved by the Board at the 113th meeting held on 27th May, 2014. He further informed that as per the present rules in force, appointments to such positions could be made only for a period of four months. Chairman further informed that the services of Dr. Joe D'Souza would be required for atleast a period of one year, since the JAICA funded River Sal project, presently being implemented by the Board requires assistance in the field of Microbiology, which was a subject of expertise of Dr. Joe. After discussions, it was approved that Dr. Joe D'Souza Retired Professor from the Department of Microbiology, Goa University be appointed as Consulting Scientist for a period of one year from the date of his initial appointment (i.e from 2nd June, 2014 to 1st June, 2015) on a consolidated salary of Rs. 20,000/- per month.

V. Proposed office building and laboratory at Saligao – Chairman informed the members about the progress made in the construction of the proposed Board office and laboratory at Saligao and stated that the Bill Of Quantities (BOQ) as submitted by the Consulting Architect was being scrutinized by the Board officials. He further stated that the estimated cost of the building was around Rs. 26 Crores and after detailed discussions, it was approved that the same be e-tendered through the approved tendering process once the BOQ was approved.

Agenda item no. 03

Discarding of unwanted/ obsolete material and old records.

Chairman informed the members that instruments / equipments which are not in working condition are occupying a major space in the Board premises. He further stated that the instruments / equipments were

purchased from the grants received from CPCB / MoEF and permission had to be obtained from them for discarding these instruments / equipments. It was further informed that the Board had requested permission from Ministry of Environment and Forests, Govt. of India to dispose the non working instruments / equipments. However, it was noted that no reply had been received by this office from the Ministry. After discussions it was decided that a reminder be sent to the Ministry, as a last attempt to seek their approval and it was further decided that in the event that no reply was received after one month, the equipments / instruments could be discarded after following the approved procedures.

Further, it was also approved to discard the files, after making an inventory of the same, for the period from 1997 which are lying in the Record section, which have since been soiled.

Agenda item no. 04

Application of M/s Swanson Plastics (India) Private Limited, Plot No 2, Honda Industrial Estate, Honda, Sattari, Goa**,** for Consent to Operate under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Swanson Plastics (India) Private Limited, has submitted a proposal for expansion in manufacturing capacity of PE (Polyethylene embossed film) from the existing capacity of 3000MT/annum to 6000MT/annum. Consent to Establish (expansion) was issued by the Board. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Swanson Plastics (India) Private Limited, Plot No 2, Honda Industrial Estate, Honda, Sattari, Goa**,** for Consent to Operate under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge.

Agenda item no. 05

Application of M/s Ordain Health Care Global Pvt. Ltd., Verna Industrial Estate, Verna, Salcete Goa**,** for Consent to Establish under the Water Act and the Air Act.

The Chairman informed the members that M/s Ordain Health Care Global Pvt. Ltd, has submitted a proposal for Research and Development Centre with small batch manufacturing unit. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Ordain Health Care Global Pvt. Ltd., Verna Industrial Estate, Verna, Salcete Goa**,** for Consent to Establish under the Water Act and the Air Act, subject to implementation of rain water harvesting and ground water recharge

Agenda item no. 06

Application of M/s Shirdi Steel Re-rollers Pvt. Ltd., Plot no. L-8 and L-9, Cuncolim Industrial Estate, Cuncolim, Salcete Goa**,** for Consent to Operate under the Water Act and the Air Act.

The Chairman informed the members that M/s Shirdi Steel Re-rollers Pvt. Ltd, has submitted a proposal for expansion in the manufacturing capacity of hot rolled steel in various sections from the existing capacity of 54000 MT/annum to 72000 MT/annum. Consent to Establish (expansion) was issued by the Board. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Shirdi Steel Re-rollers Pvt. Ltd., Plot no. L-8 and L-9, Cuncolim Industrial Estate, Cuncolim, Salcete Goa**,** being a small scale industry for Consent to Operate under the Water Act and the Air Act, subject to implementation of rain water harvesting and ground water recharge

Agenda item no. 07

Application of M/s Merck Ltd., Plot no. 11/1, Marwasodo, Usgaon, Goa, for Consent to Operate under the Water Act and the Air Act (expansion) for setting up a Captive Power Plant.

The Chairman informed the members that M/s Merck Ltd, has submitted a proposal for setting up a captive power plant and Consent to Establish was issued by the Board.

It was further stated that since the proposal was cleared by the State HPCC in its 76th meeting held on 01/10/2012 and a presentation was made by M/s Merck Ltd. before the Technical Advisory Committee who heard their proposal, the members approved the proposal of M/s Merck Ltd., Plot no. 11/1, Marwasodo, Usgaon, Goa, for Consent to Operate under the Water Act and the Air Act (expansion) for setting up a Captive Power Plant.

Agenda item no. 08

Siting of glass cutting, glass painting, glass etching, painting of motor vehicles and spray painting units.

Member Secretary informed the members that the office receives complaints from the public stating that glass cutting, glass painting, glass etching, painting of motor vehicles and spray painting units operate in shops below their residences and some are also in close proximity to residential buildings, thereby releasing toxic / hazardous VOC in the air which are hazardous to their health.

He further informed that such units conduct their activity without obtaining Consent of the Board, however they approach the Board for Consents only when complaints are received against them. He further stated that in such circumstances, the Board is not in a position to either grant or refuse permission since they posses all the other required clearances.

After deliberations it was decided that such units be granted one year's time to shift their activity to a regulated industrial zones. It was also suggested that such units should control the air and water pollution including noise pollution to the levels recommended by the Board. It was also decided to write to the Municipalities / Panchayats and the Town and Country Planning Dept. to ensure that such units are relocated in industrial areas / industrial zones within a period of one year.

Table item no. 01

Service Rules for the employees of the Goa State Pollution Control Board.

Chairman informed the members that the Goa State Pollution Control Board adopts the Service Rules governing the State Government employees, for the Board employees, as per the provisions of the Goa Water (Prevention and Control of Pollution) Rules, 1989. Chairman informed that the Board should have its own Service Rules for its employees based on the Service Rules of other State Pollution Control Boards. However, the members were of the opinion that the rules followed by the State Government are the best and suggested that the Board should follow the same.

Member Secretary informed the members that the staff of the Board are required to attend and accompany the Advocates in legal matters in the Hon. Supreme Court, Courts in Delhi and National Green Tribunal at Pune, at a very short notice. He stated that some officials who are required to attend the Court cases are not entitled for air travel, as such it becomes difficult to represent the Board in these cases. He also highlighted that the accommodation in some cities is expensive and the State Government does not have lodging facilities at Pune where the National Green Tribunal Bench sits.

After discussions the members decided that the officials travelling in connection with legal matters out of the State be permitted to travel by air and reimburse the expenses towards the hotel accommodation.

Further, the members also empowered the Chairman to accord relaxation in air travel in emergency and exceptional cases depending upon its merit.

Table item no. 02

Application of M/s Berger Becker Coatings Pvt. Limited, Plot no. 114, Pilerne Industrial Estate, Pilerne, Goa , for Consent to Operate under the Water Act and the Air Act (expansion).

The Chairman informed the members that M/s Berger Becker Coatings Pvt. Limited has submitted a proposal for increase in the production capacity of paints from the present 14400 kl/month to 20000 kl/annum. Consent to Establish (expansion) was issued by the Board. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Berger Becker Coatings Pvt. Limited, Plot no. 114, Pilerne Industrial Estate, Pilerne, Goa , for Consent to Operate under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge.

Table item no. 03

Application of M/s Unichem Laboratories Ltd., Plot no. 15, 16, 17, 17A and 18, Pilerne Industrial Estate, Pilerne, Goa, for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Unichem Laboratories Ltd. has submitted a proposal for increase in the production capacity of tablets / capsules from the present 2400 million /annum to 7400 million per annum. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Unichem Laboratories Ltd., Plot no. 15, 16, 17, 17A and 18, Pilerne Industrial Estate, Pilerne, Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge.

Table item no. 04

Application of M/s Andrew Telecommunications Pvt. Ltd., Plot no. N-2, Phase IV, Verna Industrial Estate, Verna, for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Andrew Telecommunications Pvt. Ltd. has submitted a proposal for increase in the production capacity of antennas from 20000 nos. to 30000 nos. and installation of 2 DG sets of 750 KVA. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Andrew Telecommunications Pvt. Ltd., Plot no. N-2, Phase IV, Verna Industrial Estate, Verna, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge.

116th Meeting of the Board

In the 116th Meeting the Board took the following decisions:

Agenda Item no. 01

Confirmation of the minutes of the 115th meeting of the Goa State Pollution Control Board held on 26th October, 2014.

The members perused and confirmed the minutes of the 115th meeting of the Goa State Pollution Control Board held on 26th October, 2014, so as to enter the same in the minutes book.

Agenda Item no. 02

(a) Follow up action on the decision taken at the 115th meeting of the Board.

Agenda item no. 02 (a) Follow up action on the decision taken at the 114th meeting of the Board – Agenda item no. 03- The members noted that the Board has accepted and signed the terms and conditions which are forwarded to Central Pollution Control Board for the release of Rs. 55.00 lakhs for 2014-2015 for procurement of the Continuous Ambient Air Quality monitoring stations

Agenda item no. 02(c) – Follow up action on the decision taken at the 112th meeting and 113th Board meetings held on 25/03/2014 and 27/05/2014 respectively – Agenda item no. 10 – Implementation of Office Automation System using SAP Enterprise Resource Planning at Goa State Pollution Control Board – Chairman informed the members that as per the decision taken in the last meeting, it is seen that sufficient funds were available with the Board and it was therefore decided that a final Agreement would be signed with M/s High Bar Technologies on submission of Bank Guarantee valuing at 15% of the cost of work. It was further informed that the estimated cost towards this software was Rs. 1,98,36,372/- and it was proposed that this amount be paid in eight installments from December, 2014 to June, 2016. The members noted the same.

Agenda item no. 02 –(d) – Follow up action on the decision taken at the 113th Board meeting held on 27/05/2014 – Agenda item no. 2 – no. 5 – The members noted that a Contract agreement had been signed with Dr. Joe D'Souza appointing him as a Consulting Scientist for the JICA funded project, for a period of one year from 2nd June, 2014 to 1st June, 2015.

V- Office building - Chairman informed the members that the estimates for the new proposed office building and laboratory at Saligao had been submitted by the Consultant which was estimated to cost Rs. 15,31,82, 290/-. The members were further informed that Notice Inviting Tenders had been published in the local dailies and the date of opening of the on-line tender was 07/01/2015.

Agenda item 03 – Discarding of unwanted /obsolete material and old records – The members noted that a reminder has been send to the Ministry of Environment, Forests and Climate Change, New Delhi, for permission to dispose the non working instruments equipments.

Agenda item no. 04 – The members noted that Consent to Operate under the Water Act and the Air Act (expansion) has been issued to M/s Swanson Plastics (India) Private Limited, Plot no. 2, Honda Industrial Estate, Honda, Sattari Goa.

Agenda item no. 05 – The members noted that Consent to Establish under the Water Act and the Air Act has been issued to M/s Ordain Health Care Global Pvt. Ltd., Verna Industrial Estate.

Agenda item no. 06 – The members noted that Consent to Operate under the Water Act and the Air Act has been issued to M/s Shirdi Steel Re-rollers Pvt. Ltd., Cuncolim Industrial Estate, Cuncolim, Salcete Goa.

Agenda item no. 07 – The members noted that Consent to Operate under the Water Act and the Air Act (expansion) has been issued to M/s Merck Ltd., Usgao Goa for setting up a captive power plant.

Agenda item no. 08 – The members noted that a letter has been issued to the Director of Urban Development and Director of Panchayats of the decision of the Board for relocating units involving glass cutting, glass painting, glass etching, painting of motor vehicles and spray painting units to industrial areas / industrial zones within a period of one year.

Table item no. 02 – The members noted that Consent to Operate under the Water Act and the Air Act (expansion) has been issued to M/s Berger Becker Coatings Pvt. Ltd., Pilerne Industrial Estate.

Table item no. 03 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Unichem Laboratories Ltd, Pilerne Industrial Estate.

Table item no. 04 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Andrew Telecommunications Pvt. Ltd., Verna Industrial Estate.

(b) Follow up action on the decision taken at the 111th meeting of the Board held on 24th January, 2014.

Agenda item no. 15 – Continuing Education Programme for the staff of the Goa State Pollution Control Board – Chairman informed the members that the list of staff who met the requirements for the M.Tech course was sent to BITS, Pilani and those staff who did not meet with the requirements had been recommended by the him for consideration of the authorities of BITS, Pilani.

Chairman further informed the members that the academic activities were proposed to be conducted on Saturdays / Sundays and Public Holidays from January 11, 2015, which would not hamper the routine office work. He further informed that the Registration fee of Rs. 15,000/- and Application fee of Rs. 1,600/- would be borne by the official nominated and the Tution fee (per semester) i.e Rs. 36,500/- would be paid on 50:50 basis i.e by the Board and the official. It was further informed that a Bond as prescribed to this effect would be signed by the employees. Further, it was stated that as regards the contract employees of the Board, the employees would be required to pay the entire fees without any contribution from the Board in addition to signing the prescribed bond.

While discussing this matter, the members approved that the Bond as prescribed be executed between the employees of the Board and further approved that Tution fees for the permanent and temporary employees be paid on a 50:50 sharing basis between the Board and the employee. Further, it was decided that the contract employees of the Board who were nominated for this programme be required to pay the entire cost towards this programme and the Board not make any contribution towards the fees etc. However, it was decided that all contract employees who were stated to undergo this programme would need to execute the prescribed Bond, and that signing of the Bond will in no way have any liability on the Board to continuously engage them in service with the Board and that such staff will in no way have a right for continuous employment with the Board during the Bond period.

Board members opined that conducting such programmes would be beneficial not only to the staff but also to the Organization and therefore recommended that other departments should also be informed about this programme, so that staff from concerned departments like Water Resource Dept., Public Works Dept., Forest Dept., Environment Dept. etc. could nominate their employees to undergo this programme.

It was resolved to communicate this decision to other Department Heads, so that their staff could avail of this facility.

(c) Follow up action on the decision taken at the 107th meeting (Special) of the Board held on 15/02/2013.

Chairman informed the members that consequent to the order passed by the Hon. High Court of Bombay at Goa dated 17/09/2014 in Writ Petition no. 583/2013, the nine terminated Scientific staff of the Board were given a personal hearing by the Chairman and the following order was passed '…….in view of the findings arrived at hereinabove, I find that there is no merit in the reply filed to the present show cause notice and in view of the reasons as recorded above, I am of the considered opinion that the selection and consequent appointment of the petitioner in the Goa State Pollution Control Board is held to be illegal and accordingly selection is annulled, the services be terminated with effect from 03/07/2013.' The members noted the same.

Agenda item no. 03

Application of M/s IFB Industries Ltd., Plot No 62, 64, 66, Corlim Industrial Estate, Corlim, Goa**,** for Consent to Establish under the Water Act and the Air Act (addition of new product)

The Chairman informed the members that M/s IFB Industries Limited has submitted a proposal for addition of new product – clothes drier – 25000 units/annum. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s IFB Industries Limited, Plot No 62, 64, 66, Corlim Industrial Estate, Corlim, Goa for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from State's HPCC on Industries

Agenda item no. 04

Application of M/s Cipla Limited, Plot nos. S-103 to 105, S-107 to S-112, L-138, L-147, L-147/1 to L-147/4 and L-150, Verna Industrial Estate, Verna Goa**,** for Consent to Establish under the Water Act and the Air Act (expansion – new building)

The Chairman informed the members that M/s Cipla Limited has submitted a proposal for increase in the production capacity of Tablets – from the existing capacity of 2590 million units/annum to 3690 million units/annum. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Cipla Limited, Plot nos. S-103 to 105, S-107 to S-112, L-138, L-147, L-147/1 to L-147/4 and L-150, Verna Industrial Estate, Verna Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from the State's HPCC on Industries.

Agenda item no. 05

Application of M/s Polynova Industries Ltd., Plot nos. 92-101, Kundaim Industrial Estate, Kundaim Goa**,** for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Polynova Industries, has submitted a proposal for expansion in the manufacturing product of artificial and unsupported artificial leather from the present 14400 Kl/annum to 20000 Kl/annum. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers

appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Polynova Industries Ltd., for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from the State's HPCC on Industries.

Agenda item no. 06

Application of M/s Procter & Gamble Hygiene & Health Care Ltd., Plot nos. 173, 314, 315, Kundaim Industrial Estate, Kundaim Goa**,** for Consent to Operate under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Procter & Gamble Hygiene & Health Care Ltd, has submitted a proposal for expansion of the existing capacity of Sanitary napkins to 245 MSC/month The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Procter & Gamble Hygiene & Health Care Ltd., Plot nos. 173, 314, 315, Kundaim Industrial Estate, Kundaim Goa for Consent to Operate under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from the State's HPCC on Industries.

Agenda item no. 07

Application of M/s Abott India Limited, Plot no. L-18, L-19, Verna Industrial Estate, Verna, Goa, for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Abott India Limited, has submitted a proposal for expansion of the existing capacity of tablets. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Abott India Limited, Plot nos. L-18, L-19, Verna Industrial Estate, Verna, Goa , for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from the State's HPCC on Industries.

Agenda item no. 08
Application of M/s Varun Beverages Limited, Plot no. 4-A, Sanguem Industrial Estate, Sanguem Goa, for Consent to Establish under the Water Act and the Air Act.

The Chairman informed the members that M/s Varun Beverages Limited, has submitted a proposal for Packaged drinking water 2,29,5000 PET CSD 17,85,000. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Varun Beverages Limited, Plot no. 4-A, Sanguem Industrial Estate, Sanguem Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from the State's HPCC on Industries.

Agenda item no. 9
Application of M/s Tevapharm India Limited, Plot no. A-1, Phase I-A, Verna Industrial Estate, Verna, Goa, for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Tevapharm India Limited, has submitted a proposal for expansion in the manufacture of tablets / capsules from the existing 0.24 billion to 2.847 billion/year. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Tevapharm India Limited, Plot no. A-1, Phase I-A, Verna Industrial Estate, Verna, Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from the State's HPCC on Industries.

Agenda item no. 10
Application of M/s Global Ispat Ltd., Plot no. M-18, M-19, Cuncolim Industrial Estate, Cuncolim, Goa, for Consent to Operate under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Global Ispat Ltd, has submitted a proposal for expansion in the production capacity of induction furnace manufacturing M.S ingots from 100 MT/day to 140 MT/day. The

proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Global Ispat Ltd, Plot no. M-18, M-19, Cuncolim Industrial Estate, Cuncolim, Goa, for Consent to Operate under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge. The members noted that the unit is a Small Scale Industry and has been issued Endorsement to the SSI certificate by the Directorate of Industries, Trade and Commerce for the said expansion in production upto 42000 MT/annum (i.e 140 MT/day).

Table item no. 1

Chairman informed the members that the Board in its 103rd meeting had approved a Research Proposal submitted by The Energy Research Institute (TERI) regarding 'Persistence of Pesticides in the Mandovi Estuarine Eco systems, Goa.

It was further informed that the total project funding was approved for Rs. 15,50,000/- and the expenditure was proposed to be booked under the Water Cess Act, inorder to obtain reimbursement of the entire cost from the Ministry of Environment, Forests and Climate Change.

Chairman further informed that the proposal was forwarded to Central Pollution Control Board for consideration and they have responded stating that the project should be taken up on 'Polluters Pays Principle'.

It was further stated that renewed discussions were held between the officials of the Board and officials of TERI and they had re-submitted the proposal for 'Persistence of Pesticides in the Mandovi Estuarine Eco systems, Goa to include the following areas:

i. Creeks or streams proximity to agricultural land having high pesticide usage i.e two locations would be selected based on the survey.

ii. Coastal stretch with high hospitality industry (Candolim – Calangute-Baga)

iii. Estuaries (a) Mandovi (b) Zuari (c) Sal (Betul)

After detailed discussions, it was approved that the study be carried out as proposed at a total cost of Rs. 15,50,000/-. It was further approved that the proposal be also sent to Central Pollution Control Board for sanctioning grants/ funds towards this project, which if sanctioned could supplement the Boards contribution towards this project.

IV. Chairman brought to the attention of the members that the Ministry of Environment, Forests and Climate Change (MoEF&CC) , Govt. of India had constituted a High Level Committee under the Chairmanship of Shri T.S.R. Subramanian, Former Cabinet Secretary to review various Acts administered by MoEF&CC. He further informed that the Committee was constituted to review the various Acts administered by MEFCC. He further stated that the report of the High Level Committee was submitted to the Government and he urged members of the Board to study the same.

117th Meeting of the Board
In the 117th Meeting the Board took the following decisions:

Agenda Item no. 01
Confirmation of the minutes of the 116th meeting of the Goa State Pollution Control Board held on 16th December, 2014.

The members perused and confirmed the minutes of the 116th meeting of the Goa State Pollution Control Board held on 16th December, 2014, so as to enter the same in the minutes book.

Agenda Item no. 02
Follow up action on the decision taken at the 116th meeting of the Board held on 16th December, 2014

Agenda item no. 03 – The members noted that Consent to Establish under the Water Act and the Air Act (addition of new product) has not been issued to M/s IFB Industries Ltd., Plot no. 62, 64, 66, Corlim Industrial Estate.

Agenda item no. 04 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion – new building) has been issued to M/s Cipla Limited, Plot nos. S-103 to 105, S-107 to S-112, L-138, L-147, L-147/1 to L-147/4 and L-150, Verna Industrial Estate.

Agenda item no. 05 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Polynova Industries, Plot nos. 92-101, Kundaim Industrial Estate.

Agenda item no. 06 – The members noted that Consent to Establish under the Water Act and the Air Act (expansion) has been issued to M/s Proctor & Gamble Hygiene and Health Care Ltd. Plot nos. 173, 314, 315, Kundaim Industrial Estate

Agenda item no. 07 – The members noted that Consent to Establish under the Water Act and the Air Act of M/s Abott India Limited, Plot no. L-18, L-19, Verna Industrial Estate is under process.

Agenda item no. 08 – The members noted that Consent to Establish under the Water Act and the Air Act to M/s Varun Beverages, Plot no. 4-A, Sanguem Industrial Estate is under process.

Agenda item no. 09 – The members noted that Consent to Establish under the Water Act and the Air Act has been issued to M/s Tevapharm India Limited, Plot no. A-1, Phase I-A, Verna Industrial Estate.

Agenda item no. 10 – The members noted that Consent to Operate under the Water Act and the Air Act to M/s Global Ispat Ltd., Plot no. M-18, M-19, Cuncolim Industrial Estate, Cuncolim is under process.

Table Item no. 01 – The members noted that the office is in the process of making a communication to the Central Pollution Control Board for sanction of grants totaling to Rs. 15,50,000/- towards the Research proposal submitted by The Energy Research Institute (TERI) regarding 'Persistence of Pesticides in the Mandovi Estuarine Eco Systems, Goa. and also noted that the work order for the proposal is being prepared.

Agenda Item no. 03
Follow up action on the decision taken at the 105th meeting (Special meeting) of the Board held on 1st November, 2012.

Agenda item no. 8 – Chairman informed the members that the Law Department, Govt. of Goa has informed the Board that they cannot modify the categorization recommended by the Central Pollution Control Board under section 18(1)(b) of the Water (Prevention and Control of Pollution) Act, 1974. The members deliberated on this issue and suggested that the Chairman inform the Law Department that these directions from the Central Pollution Control Board cannot be read as Statutory directions. The categorization requires

to be site specific, as such the members were of the opinion that this issue is required to be discussed at the meetings of the Central Pollution Control Board with Chairperson and Member Secretary whenever this meeting is convened next and the Board be informed accordingly.

Agenda Item no. 04

Follow up action on the decision taken at the 108th meeting of the Board held on 10/06/2013.

Agenda item no. 26 - The members noted that four contractors / agencies have submitted their online bids, out of which the application of M/s Skyway Infra Projects Pvt. Ltd., Mumbai was rejected as the bidder did not fulfill the Technical criteria.

It was informed that M/s Kalyani Global Engineering Pvt. Ltd., Pune, Maharashtra had quoted Rs. 16,90,02,643.00, M/s R.B.S. Candiaparcar, Ponda Goa had quoted Rs. 20,73,74,045.00 and M/s Khuranna Constructions, Vadodara, Gujarat had quoted Rs. 20,93,38,700.00

The members were also informed that the estimated cost was Rs. 15,31,82,290.00 and the reasonable estimate was Rs. 17,85,92,179.00, as submitted by the Board appointed Architect.

The members noted that since the quoted amount was within reasonable estimate of Rs. 17,85,92,179.00 and the quote had been calculated based on Goa Schedule of Rates, the Board accepted the quote of M/s Kalyani Global Engineering Pvt. Ltd., Pune, Maharashtra.

'The members resolved that the quote of M/s Kalyani Global Engineering Pvt. Ltd., Pune, Maharashtra, for an amount of 16,90,02,643.00, for the construction of office building and laboratory be approved and authorized Member Secretary to negotiate with M/s Kalyani Global Engineering Pvt. Ltd., Pune, Maharashtra and issue work order accordingly, after negotiations.

Agenda item no. 05

Approval of the Revised Budget Estimates of the Goa State Pollution Control Board for the financial year 2014-2015 and Budget Estimate's of the Board for the financial year 2015-2016.

The members perused the Revised Budget Estimates of the Goa State Pollution Control Board for the financial year 2014-2015 and Budget Estimate's of the Board for the financial year 2015-2016, which was placed before the Board as per section 38 of the Water (Prevention and Control of Pollution) Act, 1974, prepared in Form VI and VII, prescribed in Rule 31.

The Accounts cum Administrative Officer of the Board gave a detailed account of the proposed Budget. He further informed the members that increase has been effected only in the salary component due to release of increments and increase in two nos. of Dearness Allowances and a provision has been made towards leave contribution towards one of the Board staff who is due to retire during the financial year, while minor changes are made on other expenses. He further informed that the major expenditure to be borne during this financial year would be on the construction of office cum laboratory building, for which Rs. 1800.00 Crores has been earmarked.

After detailed discussions, the Revised Budget Estimates for the financial year 2014-2015 and Budget Estimates of the Goa State Pollution Control Board for the financial year 2015-2016 was approved, where Rs. 1141.70 lakhs was the estimated Receipts and Rs. 3,577 lakhs the Estimated Expenditure. It was resolved to forward the same to the Department of Science, Technology & Environment, Govt. of Goa.

Agenda item no. 06.

Extension of the contract of the staff appointment by the Board on contract basis.

Chairman informed the members that the one year contract period of the officials appointed on contract expired in February, 2015 and approval from the Government has been conveyed vide letter 24/02/2015 of the Department of Environment, for extending the contract by one more year stating that the Board shall complete

the exercise of reassessment of the staff requirement and creation of corpus fund within the next six months time period.

Chairman further informed the members that M/s R.K. Pikale and Associates had been appointed by the Board for guiding the Board in creating a corpus fund and this study was in progress.

The members noted that the contract period of the officials on contract has been extended by one year.

Agenda item no. 07
Pensionary Benefits provided to the Staff of the Board

I. Chairman informed the members that the Board employees are provided Gratuity Scheme through Life Insurance Corporation of India. The Gratuity Scheme was regulated by a duly constituted Trust set up by the Board for the purpose. The Trust when initiated by the Board had the then Member Secretary, Shri Amar K. Vazirani and the Accountant, Shri Shrikrishna Naik as Trustees. It was informed that the officials are presently not in service with the Board, however, they still remained as Trustees in the Policy Document.

Chairman further informed the members that he had deliberations with the officials of the Life Insurance Corporation and the officials informed that the Board was required to open a separate Bank Account for depositing the settlement claims forwarded by Life Insurance Corporation and the Board is then required to thereafter reimburse the amount due to the employee.

II. Chairman also informed the members that the Board provides to its employees Insurance under Life Insurance Policy wherein a total amount of Rs. 20/- is remitted to Life Insurance Corporation (Rs. 13/- towards Insurance paid by the employee and Rs. 7/- towards savings fund, which is paid by the Board). The Insurance claim is forwarded by L.I.C to the Bank Account of the Board to be disbursed to the employee concerned.

After deliberations, the following resolution was adopted during the meeting, so as to convey the decision of the Board to Life Insurance Corporation.

'The members resolved that henceforth Shri Jose Manuel Noronha, Chairman of the Goa State Pollution Control and Shri Levinson Martins, Member Secretary of the Goa State Pollution Control Board shall be the Trustees for the Gratuity Scheme through Life Insurance Corporation of India. It was further resolved that as and when there is change in the Notification appointing the Chairman and Member Secretary, Goa State Pollution Control Board, the same shall be intimated to Life Insurance Corporation by way of Deed of Variation.

The members further resolved to open a separate Bank Account to reimburse the Gratuity claims as forwarded by Life Insurance Corporation to its employees. It was further resolved that the signatories to the said Account shall be the Chairman and Member Secretary of the Goa State Pollution Control Board.'

Agenda item no. 08
Resignation of the Board Member

Chairman informed the members that Mr. Frank Fernandes, Sarpanch, Village Panchayat Navelim, Salcete has vide his letter dated 15/01/2015, has resigned as a member of the Goa State Pollution Control Board, due to personal reasons, and that his resignation has been accepted and forwarded to the State Govt. for necessary action.

Agenda item no. 09
Payment of honorarium to the Board staff

Chairman informed the members that the staff of the Board is required to attend the Environmental Public Hearings, which are conducted by the Board, for which the staff is required to put in long hours of work, at times without any lunch break. The latest being of the Greenfield Airport at Mopa. During the 89th meeting of the Board held on 30/09/2008 the Board had fixed a honorarium of Rs. 500/- for the Panel Member of the Committee who represents the Board for the hearing and Rs. 350/- each for the supporting staff. Chairman further informed the members since more than six years have passed since the honorarium was fixed, the same required to be revised.

After deliberations, the honorarium payable to the officials who are engaged in the conduct of Public hearing has been approved as follows.

	Officials representing the Board	Revised honorarium proposed
1.	Panel Member of the Committee who represents the Board for the hearing	Rs. 1000/-
2.	Officers representing the Board	Rs. 800/-
3.	Stenographers	Rs. 600/-
4.	Clerical staff, Drivers and Peons	Rs. 500/-

The members further decided to extend this revision of honorarium from the last public hearing held with regard to the Mopa Airport i.e 01/02/2015.

Agenda item no. 10

Proposed guidelines to be listed for setting up a cowshed

Chairman informed the members that the Board receives numerous complaints regarding cow sheds in residential area. It was also informed that the officials of the Board are required to conduct inspection with regard to these complaints, and on inspection it is found that major pollution is of discharge and disposal of solid waste.

Chairman further informed the members that such complaints were placed before the Technical Advisory Committee meeting of the Board and the Committee had formulated certain guidelines for ensuring proper disposal and discharge of solid waste generated in the cow shed.

The members discussed the guidelines as prepared by the Technical advisory Committee and after deliberations, it was decided that Shri Shrirang Jamble, Member of the Board, put up his views along with suggestions for guidelines on Cow sheds and this be placed at the next Board meeting for consideration.

Agenda item no. 11.

Proposed guidelines for Rural Garbage Disposal sites

Chairman informed the members that Panchayats select garbage disposal sites for their respective Villages and Authorization for the site is granted by the Board after due scrutiny by the Committee constituted under the Rules, for processing of the applications. He further informed that inorder to maintain uniformity and ensure that the selected sites do not cause any harm to the environment, the Technical Advisory Committee of the Board, had formulated guidelines for selection of such sites and this was placed before the members for discussions.

1.	Residential areas / Schools / Temples / Churches /Mosques / Cemetery and other ecologically sensitive sites should be at a distance of atleast 500 metres from the garbage sites.
2.	Water bodies should be located at a distance of atleast 200 metres from the proposed site.
3.	Site should not be located in a low lying area / Khazan land / agricultural field.
4.	Proper leachate collection and disposal / treatment facility should be provided and no discharge should be allowed.
5.	Site should have a buffer plantation zone of 5 to 10 metres.

6.	Odour to be controlled using proper composting facility
7.	The site should be properly fenced on all sides.

The members deliberated on the proposed guidelines and approved the same, so as to forward to the Department of Environment, Govt. of Goa, for issue of a suitable Notification.

Agenda item no. 12.

Application of M/s United Breweries, Plot no. 166, 167, Bethora, Ponda Goa**,** for Consent to Operate under the Water Act and the Air Act (additional production).

The Chairman informed the members that M/s United Breweries Limited, has submitted a proposal for additional production of beers from 4168.0 KlT/month to 6150.0 KlT/month. Consent to Establish (additional production) was issued by the Board. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s United Breweries, Plot no. 166, 167, Bethora, Ponda Goa**,** for Consent to Operate under the Water Act and the Air Act (additional production). subject to implementation of rain water harvesting and ground water recharge and obtaining approval from Goa Investment Promotion and Facilitation Board.

Agenda item no. 13.

Application of M/s Esteem Industries Pvt. Ltd. Plot no. 76, 77, 103, 108, 131, Pissurlem Industrial Estate, for Consent to Establish under the Water Act and the Air Act (expansion).

The Chairman informed the members that M/s Esteem Industries Pvt. Ltd, has submitted a proposal for increase in production of organic / inorganic compounds and agents from 345 MT/month to 790 MT/month. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Esteem Industries Pvt. Ltd. Plot no. 76, 77, 103, 108, 131, Pissurlem Industrial Estate, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from Goa Investment Promotion and Facilitation Board.

Agenda item no. 14.

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 Chairman informed the members that M/s M. K. Aromatics (Project Goa Polymer), has submitted a proposal for setting up a unit for the manufacture of synthetic crude polymer oil – 300 tons/month from waste plastic.

It was informed that the project was approved by the Cabinet and land admeasuring approximately 4000 sq. mtrs. was made available within the Pernem Municipal Council Solid Waste Management facility. It was further informed that the Government of Goa had provided grants for setting up of this plant, which would process all types of plastic except PolyVinyl Chloride (PVC).

The members discussed that such a process may release air pollutants especially with regard to furans and Dioxins.

After discussions, it was decided to approve the proposal 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, with a condition that Continuous Ambient Air Quality Monitoring Stations (CAAQMS) be installed for the monitoring of ambient air quality.

Agenda item no. 15.

Application of M/s M.R.F Limited, Survey no. 258/0, 253/1, 255/1-A, 255/2, 255/3 and 256/1-A, Tisk, Usgaon, Ponda Goa, for Consent to Establish under the Water Act and the Air Act (expansion).

The Chairman informed the members that M/s M.R.F Limited, has submitted a proposal for expansion in the production of tyres from 1.35 laksh/month to 1.833 lakhs/month and flaps from 1.63 lakhs/month to 1.833 lakhs/month. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s M.R.F Limited. Survey no. 258/0, 253/1, 255/1-A, 255/2, 255/3 and 256/1-A, Tisk, Usgaon, Ponda Goa, for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge.

Agenda item no. 16.

Application of M/s M.R.F Limited, (unit – II) Survey no. 254/0 Tisk, Usgaon, Ponda Goa, for Consent to Establish under the Water Act and the Air Act (expansion).

The Chairman informed the members that M/s M.R.F Limited, (unit – II) has submitted a proposal for expansion in the production of tubes from 1.58 lakhs/month to 1.833 lakhs/month. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers

appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s M.R.F Limited. M/s M.R.F Limited, (unit – II) Survey no. 254/0 Tisk, Usgaon, Ponda Goa, for Consent to Establish under the Water Act and the Air Act (expansion).

Agenda item no. 17.

Application of M/s Siemens Ltd. (ETTS), Plot no. 73/74, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Establish under the Water Act and the Air Act

The Chairman informed the members that M/s Siemens Ltd. (ETTS), has submitted a proposal for the manufacture of control and protection system panels – 100 nos./month and convertor / valve assembly – 100 nos./month. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Siemens Ltd. (ETTS), Plot no. 73/74, Verna Industrial Estate, Verna, Salcete Goa, for Consent to Establish under the Water Act and the Air Act, subject to implementation of rain water harvesting and ground water recharge and obtaining approval from Goa Investment Promotion and Facilitation Board.

Agenda item no. 18.

Application of M/s Bharat Petroleum Corporation Ltd., Plot no. M-19 to M-35, Phase III (B), Verna Industrial Estate, Verna, Salcete for Consent to Establish under the Water Act and the Air Act (expansion)

The Chairman informed the members that M/s Bharat Petroleum Corporation Ltd. has submitted a proposal for expansion of shed for putting up pressure testing facility for LPG cylinders. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area.

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s Bharat Petroleum Corporation Ltd., Plot no. M-19 to M-35, Phase III (B), Verna Industrial Estate, Verna, Salcete for Consent to Establish under the Water Act and the Air Act (expansion), subject to implementation of rain water harvesting and ground water recharge and obtaining approval from Goa Investment Promotion and Facilitation Board.

Agenda item no. 19
Filing of status report in the matter of Almitra Patel v/s Union of India & Others before the National Green Tribunal at New Delhi.

Chairman informed the members that the National Green Tribunal (NGT) at New Delhi vide order dated 20/02/2015 was pleased to direct the Goa State Pollution Control Board to file a status report before it with reply / suggestions based upon and with reference to the Judgment of Captain Mall Singh v/s Punjab Pollution Control Board and the comments of Central Pollution Control Board with regard to Model Policy for collection and disposal of Municipal Solid Waste.

He further informed the members that the Report was required to indicate as to whether any District or Village in the State of Goa which was collecting and disposing of Municipal Solid Waste entirely in accordance to Municipal Solid Waste Rules.

He informed that inorder to comply with the directives of the NGT, the Board had prepared a Status report of the collection and disposal of Municipal Solid Waste carried out by thirteen Municipal Councils and one Municipal Corporation, along with recommendations. The members perused the order of the National Green Tribunal and the Status report of the solid waste in the State of Goa, as prepared by the Board, and approved the report, so as to place before the National Green Tribunal.

Agenda item no. 20.
Application of M/s IFB Industries, Plot no. 62, 64 and 66, Corlim Industrial Estate, Corlim, Ilhas for Consent to Establish under the Water Act and the Air Act (additional product).

The Chairman informed the members that M/s IFB Industries has submitted a proposal for manufacture of additional product – cloth dryers – quantity 25000 nos. The proposal was approved by the Technical Advisory Committee of the Board, which recommended for placing the proposal before the Board.

The members noted that the unit has to make provisions for rain water harvesting and re-charging of wells, within their premises, so as to recharge the ground water aquifer, which has been depleted. The members observed that the applicant unit may be required to take permission from the Ground Water Officers appointed under the Goa Ground Water Regulation Act, 2002, for construction of bore wells or utilization of the ground water in the area**.**

The members suggested that the unit should submit their plans for rain water harvesting and re-charge of wells along with designs to the Water Resource Department for scrutiny and approval.

The members approved the proposal of M/s IFB Industries, Plot no. 62, 64 and 66, Corlim Industrial Estate, Corlim, Ilhas for Consent to Establish under the Water Act and the Air Act (additional product) subject to implementation of rain water harvesting and ground water recharge and obtaining approval from Goa Investment Promotion and Facilitation Board.

Agenda item no. 21.
Applications received from shack operators from the State of Goa

Chairman informed that members that the Board receives complaints regarding disposal of sewage by shacks operating on Goan beaches, for which the Board had issued directions to the shack owners. He also informed that the shack owners have now applied for Consent to Operate of the Board, and the Board was issuing Consents to Operate to these shacks, with a condition that the shacks should provide holding tanks of adequate capacity above the ground for collection of sewage and this sewage should then be pumped using

flexible hose of required length into a night soil tankers for disposal at Government Sewage Treatment Plant as a temporary measure.

After deliberations the members noted that the number of shacks have increased on the beaches, which may be more than the carrying capacity of the beach. The members expressed their anguish over such a development. Further the members as a temporary arrangement have proposed to recommend to the State Government to provide common toilets and changing rooms to be provided by the Department of Tourism at strategic locations after obtaining approval of all concerned authorities which could be thereafter utilized by the shack owners for their customers. It was also proposed that the disposal of sewage from these common toilets had to be done by night soil tankers to Government Sewage Treatment Plant.

Chairman informed that Since the Beaches are covered with a large number of shacks, the members proposed that a study needed to be carried out of the carrying capacity of the beaches. It was proposed that National Institute of Oceanography, Dona Paula be entrusted with this responsibility and report be placed before the Board for consideration..

Agenda item no. 22

Creation of posts in the Goa State Pollution Control Board

Chairman informed the members that the Board at its 108th meeting had approved the proposal for creation of the following posts. The Government had approved for creation of the following posts on a contract period of one year, purely on contract basis. The Board was also requested to re-assess the requirements within a period of one year and re-submit the proposal thereafter.

Sr.No.	Name of the post proposed	No. of posts
1	Junior Environmental Engineer (Civil)	09
2	Junior Environmental Engineer (Mechanical)	02
3	System Administrator	01 (New post created)
4	Network Engineer (Software)	01
5	Network Engineer (Hardware)	02
6	Senior Law Officer	01 (New post created)
7	Law Officer	01
8	Assistant Law Officer	01
9	Junior Law Officer	01
10	Drivers	07

On approval of the State Government, the Board proceeded to fill up the posts of Junior Environmental Engineer (Civil) -9 posts , Junior Environmental Engineer (Mechanical) -2 posts , Network Engineer (Software)-1 post, Network Engineer (Hardware)- 2 posts , Junior Law Officer-1 post , Drivers- 7 posts , as required by it, on contract basis for a period of one year purely on contract basis.

Further, a proposal was sent to the State Government for extending the contract period of the staff appointed to the posts as aforestated for a further period of one year as the work load in the Board had increased considerably. The Department of Environment conveyed the approval of the State Government for extension of the contractual period of the aforesaid posts for a further period of one year purely on contract basis. Vide the said letter the Board was also informed to complete the exercise of re- assessment of staff requirements and creation of corpus fund within the next 6 months. However, the State Government did not inform the Board as to whether the proposal for modifications/amendments to the method for recruitment and promotion to various posts in the Board, as submitted to them was approved.

Chairman further informed the members since the workload has increased tremendously and as staff appointed on contract basis tend to leave service for better opportunities, resulting in loss of trained engineers, it was proposed to move a proposal to the State Government for creation of the posts on permanent basis. He also stated that reassessment had been carried out by the Board and it was proposed that the following posts needed to be created.

Sr.	Name of the post	No of post	Pay scale
1.	Junior Environmental Engineer (Civil)	09	Rs. 9300 – 34800 +G.P. Rs. 4200/-
2.	Junior Environmental Engineer (Mechanical)	02	Rs. 9300 – 34800 +G.P. Rs. 4200/-
3.	System Administrator	01	Rs. 15600 -39100 + G.P. Rs. 5400/-
4.	Network Engineer (Software)	01	Rs. 9300 – 34800 +G.P. Rs. 4200/-
5.	Network Engineer (Hardware)	02	Rs. 9300 – 34800 +G.P. Rs. 4200/-
6.	Drivers	07	Rs. 5200 -20200 + G.P. Rs.1900/-

Further, the members approved to fill up the following posts which are presently vacant, in accordance with the laid down procedure.

Sr.	Name of the post	No of post	Pay scale (Rs.)	
1.	Junior Environmental Engineer (Civil)	02	Rs. 9300 - 34800 + G.P Rs. 4200/-	to be filled on regular basis
2.	Junior Environmental Engineer (Civil)	02	9300 + 4200 + (107% DA) 14445 = 27945/-	to be filled on contract basis
3.	Junior Law Officer	01	Rs. 9300 - 34800 + G.P Rs. 4200/-	to be filled on regular basis

The members approved the above proposal for creation of the above posts to the State Government.

The members also decided to request the State Government to convey its approval on the proposal sent by the Board dated 13/08/2013 in respect of modifications/amendments to the method for recruitment and promotion to various posts in the Board.

Table item no. 01

Proposal for carrying out Study to ascertain carrying capacity of rivers in the State of Goa

Chairman informed the members that proposals are received by the Board pertaining to establishing of floating pontoons, marinas, jetties, houseboats etc. in various rivers in the State of Goa.

Chairman further informed that the State does not have any Base line Data on our rivers and it was proposed to carry out a study to ascertain the carrying capacity of such projects of the various rivers in the State of Goa. After deliberations the members decided to request the Department of Environment, Govt. of Goa to carry out such a study and submit its findings to the Board at the earliest.

Table item no. 02

Rectification in the Agenda and Minutes of the 110th Board meeting held on 23rd October, 2013.

Chairman informed the members that the Board in its 110th Board meeting held on 23rd October, 2013 had approved for grant Consent to Establish under the Air Act, Water Act and Authorization under the Hazardous Waste Rules for setting up setting up a Solid waste Management Facility at Calangute / Saligao at Survey no. 112,114, 115 and 116 of Saligao Village, Bardez Taluka.

He further informed that due to oversight survey no. 47/1 of the Village of Calangute was not reflected in the agenda notes as well as the minutes of the meeting. Survey no. 47/1 of the Village Panchayat Calangute is the site identified for the garbage treatment plant in the Regional Plan and the site for setting up the Solid waste Management Facility.

The members agreed to add Survey no. 47/1 of the Village Panchayat Calangute, along with Survey no. 112,114, 115 and 116 of Saligao Village, Bardez Taluka, for setting up setting up a Solid waste Management Facility, in the minutes of the 110th Board meeting held on 23/10/2013.

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, Shri. Jose Manuel Noronha, Chairman of the Board constituted a Technical Committee comprising technically and scientifically qualified professionals which was re-constituted during the year under report vide Order no. 8/11/09-PCB/ Vol.VIII/7150 dated 10/02/2014. The Committee comprises of the following members:-

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. Fraddry D'Souza, Fellow, The Energy and Resource Institute (TERI), Western Rgional Centre, House no. 233/GH-2, Vasudha Housing Colony, Alto Santa Cruz, Bambolim Goa 493202.
3. Prof. Neeraj Bale, Prof (Mechanical Engg.), Agnel Institute of Technology & Design, Assagao, Bardez Goa.
4. Mrs. Jenica Sequeira, Scientist 'C', Goa State Pollution Control Board, Panaji.
5. Mrs. Nandan Prabhudessai, Junior Environmental Engineer, Goa State Pollution Control Board.
6. 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.

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

4.2 PURCHASE COMMITTEE

Shri. Jose Manuel Noronha, Chairman reconstituted the Purchase Committee under the Scientific Section and Administrative Section vide Orders no.1/5/12-PCB/Vol.XV/673 dated 16/01/2013 and no.1/5/12-PCB/Vol.XV/6732 dated 18/01/2013 respectively. The Committee for Scientific Section comprises the following members:-

1. Mrs. Jenica Sequeira, Scientist 'C', Goa State Pollution Control Board.
2. Accounts cun Administrative Officer, Goa State Pollution Control Board
3. Mrs. Lizette D'Souza, Scientist 'F', National Institute of Oceanography.
4. Environmental Engineer, Goa State Pollution Control Board
5. Mrs. Francisca Pereira, Scientist 'B' Goa State Pollution Control Board
6. Mrs. Natalia Dias, Senior Law Officer, Goa State Pollution Control Board
7. Mr. Rajiv Nevgi, Industrialist, Shriram Sadan, Dattawadi, Mapusa, Goa

The Committee for the Administrative Section comprises the following members:-

1. Environmental Engineer, Goa State Pollution Control Board.
2. Accounts cum Administrative Officer, Goa State Pollution Control Board
3. Senior Law Officer, Goa State Pollution Control Board.
4. Office Superintendent, Goa State Pollution Control Board.

4.3 COMPLAINTS COMMITTEE

The present Board Constituted a Complaint Committee to scrutinize and take appropriate action on the complaints received by the Board. The Committee was constituted vide Order no.CH/GSPCB/JMN/12/04 dated 16/10/2013 and comprises the following members:

1. Scientist 'C' ……Member
2. Senior Law Officer/Assistant Law Officer ……Member
3. Assistant Environmental Engineer ……Convenor

The Committee meets every Monday to screen and shortlist the complaints requiring action by the Board. These complaints are monitored by inspections and action deemed fit is initiated if required. Other cases not within the purview of the Board were forwarded to the respective departments for further needful action.

4.4 CONSTITUTION OF COMMITTEE ON PREVENTION OF SEXUAL HARASSMENT OF WOMEN AT WORKPLACE

The Committee re - constituted vide Order no.1/5/13-PCB/Vol.XVII/4610 dated 04/09/2013 under the Chairmanship of Mr. Jose Manuel Noronha was in force during the year under report. The Committee comprises of following members.

a.	Mrs. Jenica Sequeira Scientist 'C', Goa State Pollution Control Board	Chairperson
b.	Dr. Mohan Girap, Scientist 'C', Goa State Pollution Control Board	Member
c.	Mrs Natalia Dias, Senior Law Officer, Goa State Pollution Control Board	Member
d.	Mrs, Swapna Naik, Senior Stenographer, Goa State Pollution Control Board	Member
e	Miss Edma Fernandes, Scientific Assistant, Goa State Pollution Control Board	Member
f.	Representative from the Department of Science, Technology & Environment, Govt. of Goa	Member

4.5 CONSTITUTION OF DEPARTMENTAL PROMOTION COMMITTEE AND DEPARTMENTAL SELECTION COMMIITTEE IN RESPECT OF GROUP 'A' AND 'B' POSTS.

The committee re-constituted vide Order no.1/5/10-PCB/Vol.XVI/3622 dated 25/07/2013 under the Chairmanship of Mr. Jose Manuel Noronha was in force during the year under report. The committee comprises of following members.

a.	Chairman of the Board	Chairman of the Commiittee
b.	Director, Department of Science, Technology & Environment, Govt. of Goa, or his representatiove	Member
c.	Ms. Analia Mesquita, Scientist 'F', National Institute of Oceanography, Dona Paula (in case of Scientific posts)	Member

d.	Prof. A.J.C Afonso, B.E (Met.) M.M.S. (incase of Technical Post)	Member
e.	Director, Department of Industries, Trade and Commerce	Member
f.	Member Secretary, Goa State Pollution Control Board	Member

4.6 CONSTITUTION OF A SUB-COMMITTEE TO SUGGEST THE IMPLEMENTATION OF FLEXIBLE COMPLIMENTING SCHEME AT THE GOA STATE POLLUTION CONTROL BOARD

The sub-committee constituted vide Order no.1/5/10-PCB/Vol.XVI/3622 dated 25/07/2013 under the Chairmanship of Mr. Jose Manuel Noronha was in force during the year under report. The committee comprises of following members.

a.	Dr. Vassudev Dehprabhu	Convenor
b.	Nominee of the Director of the National Institute of Ocenography	Member
c.	Dr. Marconi Correia	Member
d.	Director, Dept. of Mines and Geology or his nominee	Member

Shri Sanjeev Joglekar, Environmental Engineer of the Board shall assist the Sub-Commiittee in providing the necessary information.

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 17 air quality monitoring locations and 52 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)

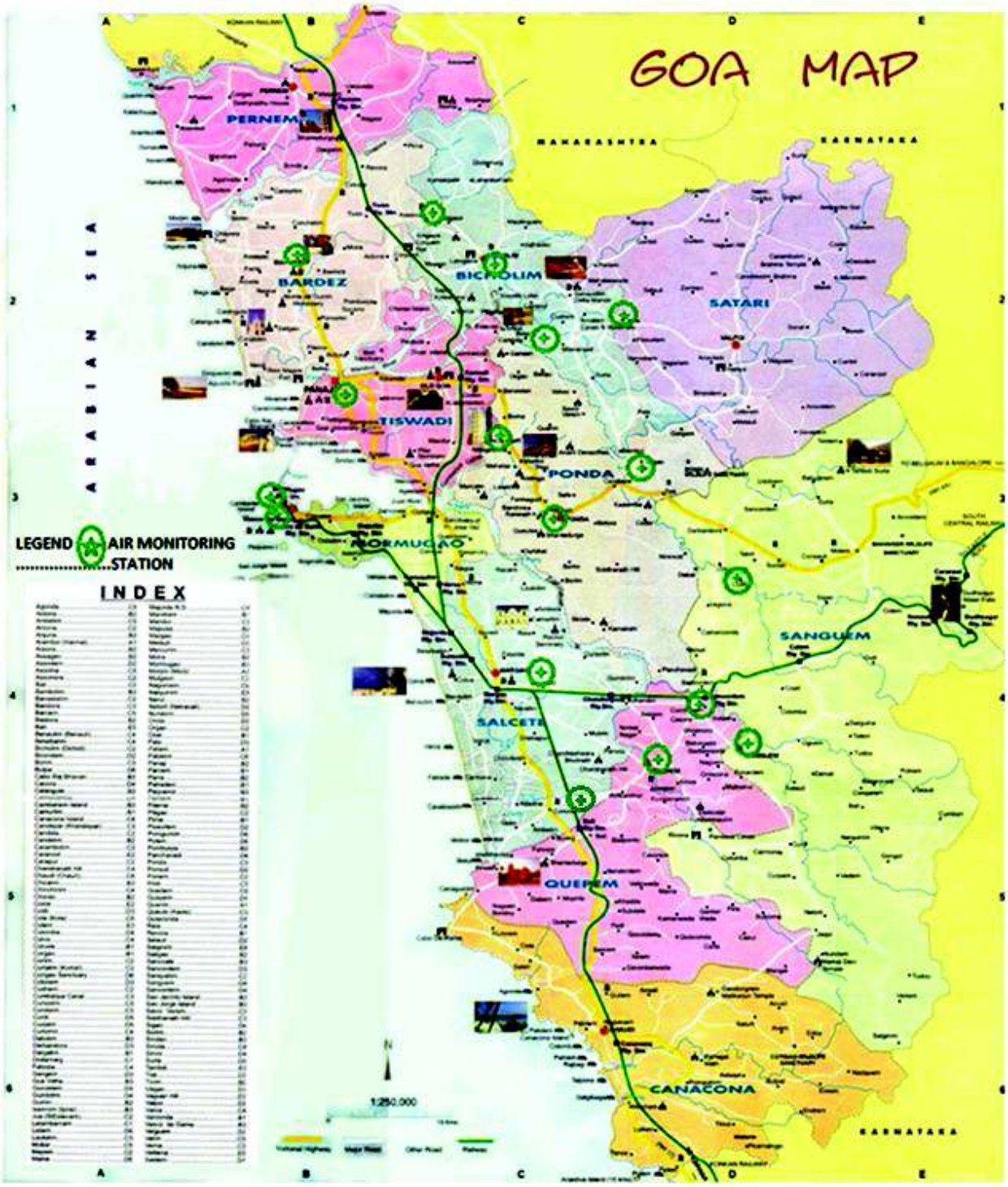
This is an ongoing activity funded by the Central Pollution Control Board, New Delhi under the National Air Monitoring Programme (NAMP). Under this programme the Board continued to monitor the ambient air quality at 17 locations within the state of Goa. The following are the 16 stations under the NAMP 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
11. Sanguem
12. Tilamol-Quepem
13. Margao Town
14. Mapusa Town
15. Ponda Town
16. Kundaim Industrial Estate
17. Cuncolim Industrial Estate

The geographical location of the 17 air quality monitoring stations is shown in the map presented in Figure 5.1. Out of the 17 stations, the Board operates 3 stations on its own, i.e., at Vasco, MPT- Mormugao and Panaji and the remaining 14 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 that all the above parameters are within the limits prescribed for ambient air quality for Vasco, MPT- Mormugao and Panaji.

The remaining 14 stations are operated by outsourcing to MoEF approved laboratories. The parameters monitored at these locations include NO_x, SO_2, PM_{10} and $PM_{2.5}$ 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 $PM_{2.}5$) at some locations, however, the annual averages indicate that the particulate matter levels are within the limits.

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 the Mining Areas of Goa

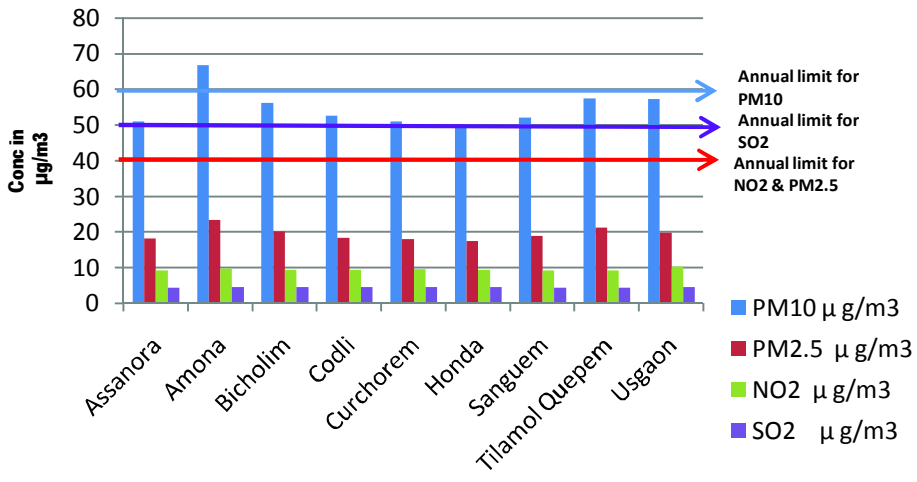
Under the National Air Monitoring programme (NAMP), the Board through the CPCB sponsored project conducts ambient air quality in areas affected due to mining transportation activities. The areas under the NAMP project in mining areas include Assanora, Bicholim, Honda, Codli, Amona, Usgao, Curchorem, Quepem and Sanguem.

During the year under report there were no mining and related transportation activities in the State of Goa as a result of the Supreme Court directions. However, being a continuous study, the air monitoring programme was conducted in the above areas during the year. The data and graphical representation is placed in Table 5.1 and Fig.5.2. The data indicates that the levels of SO2, NO2 andPM2.5 levels are within the permissible limits; where as, PM10 is exceeding the permissible limits at Amona.

Table 5.1 :Trend status of Air Quality in areas which were affected with mining transportation during April 2014 – March 2015

Parameter → / Location ↓	PM10	PM2.5	NO_2	SO_2
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Assanora	51.02	18.20	9.21	4.36
Amona	66.68	23.36	9.60	4.57
Bicholim	56.10	20.05	9.35	4.45
Codli	52.51	18.27	9.39	4.41
Curchorem	50.88	18.00	9.42	4.44
Honda	49.06	17.42	9.34	4.47
Sanguem	51.93	18.84	9.07	4.31
Tilamol Quepem	57.47	21.18	9.20	4.35
Usgaon	57.20	19.80	10.20	4.45

Fig 5.2. : Status of the air quality in areas which were affected with mining transportation



5.2.2 Ambient Air Quality in Other Areas of Goa

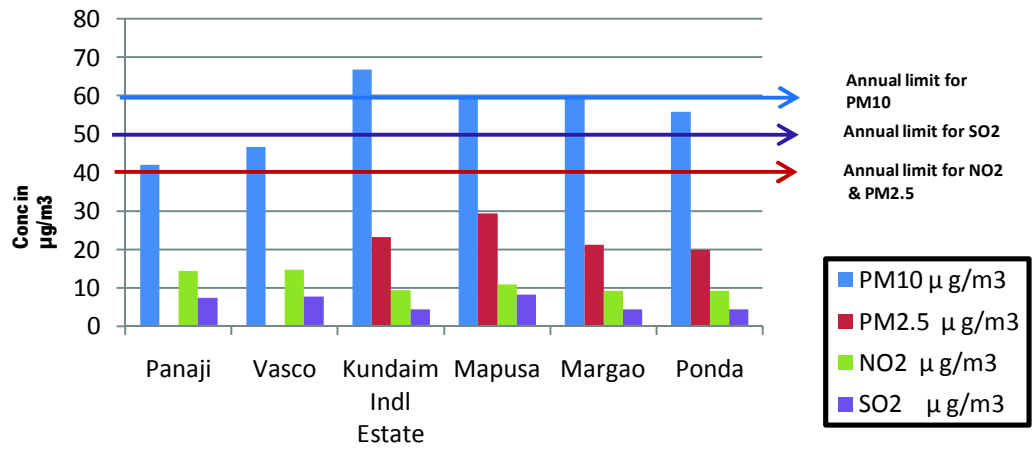
The Board is conducting ambient air quality monitoring at the following locations; viz; Panaji, Vasco, MPT area in Vasco, Mapusa, Margao, Ponda and Kundaim Industrial Estate. The Panaji and Vasco stations are being monitored by the Board staff, where as, monitoring at Mapusa, Margao, Ponda and Kundaim Industrial Estate are monitored through MoEF approved laboratories. The annual averages of PM10, PM2.5, SO2 and NO2 at some of the Towns is shown below in Table 5.2 and Fig 5.3. The data indicates that the levels of SO2, NO2 and PM2.5 levels are within the permissible limits; where as, PM10 is exceeding the permissible limit at Kundaim Industrial Estate.

Table-5.2: Trend status of Air Quality for the period April 2014 – March 2015 at different locations in Goa

Parameter → / Location ↓	PM10	PM2.5	NO_2	SO_2
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Panaji	42.03	-*	14.47	7.47
Vasco	46.78	-*	14.8	7.88
Kundaim Indl Estate	66.84	23.32	9.42	4.48
Mapusa	60.17	29.42	10.99	8.30
Margao	60.22	21.36	9.32	4.48
Ponda	55.84	20.00	9.38	4.45

Note: *At Panaji and Vasco, the process of initiation of monitoring of PM2.5 is under development. At present SPM is being monitored. SPM at Panaji and Vasco are 74.15µg/m³ and 84.20µg/m³ respectively.

Fig 5.3 :Trend status of Air Quality for the period April 2014 – March 2015 in some towns



5.3 National Water Quality Monitoring Programme (NWMP)

The Goa State Pollution Control Board monitors water quality at 52 locations throughout Goa under the Central Pollution Control Board sponsored project NWMP. The water bodies monitored include rivers, wells, canals, lake, reservoir and creek. 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.

The 52 locations covered under this programme are distributed throughout Goa such that 29 stations are located in the North District and 23 are located in the South District

Sr. No.	Type	Rivers/ Lake/Canal/Wells	Classification as per designated best use criteria	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	Saline Water II	1.Tonca, Marcela
13	R		Not classified	2.Amona Bridge
14	R		Saline Water II	3.Mandovi Bridge
15	R		Not classified	4.IFFI Jetty
16			Not classified	5. Ribander - Chodna Ferry Point
17	R		Not classified	6.Near Hotel Marriot
18	R	Rv. Mapusa	Saline Water II	Culvert on Mapusa-Panaji Highway
19	L	Anjunem Lake	Not classified	Anjunem
20	L	Mayem Lake	Class 'C'	Mayem, Bicholim
21	L	Carambolim Lake	Not classified	Carambolim, Old Goa
22	C	Cumbarjua Canal	Saline Water II	Corlim (Discharge Point of Syngeta Ltd.)
23	W	Well - Kudaim I.E.	Class 'A'	M/s Cadila Healthcare Ltd.
24	W	Well - Corlim I.E.	Class 'A'	Corlim Industrial Estate
25	W	Well - Pilerne I.E.	Class 'A'	M/s Unichem
26	W	Borewell - Bethora I.E.	Class 'A'	Bethora Industrial Estate
27	W	Borewell - Madkaim I.E.	Class 'A'	Madkaim Industrial Estate
28	STP	Influent Sample	Not classified	Tonca STP
29	STP	Treated Effluent Sample	Not classified	Tonca STP

Sr. No.	**Type**	**Rivers/ Lake/Canal/Wells**	**Classification as per designated best use criteria**	**Location**
1	R	Rv. Zuari	Saline Water II	1.Panchawadi
2	R		Not classified	2.Borim Bridge
3	R		Not classified	3.Marciam Jetty
4	R		Saline 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		Saline Water II	3.Pazarconi, Cuncolim (Near Culvert Margao- Cancona NH)
8	R		Not classified	4.Orlim Bridge, Orlim
9	R		Saline 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

The total 52 locations are divided into two groups i.e., (i) 46 locations which are being monitored monthly and (ii) 6 locations (i.e. Bore wells) are monitored half yearly.

Five Hundred and Thirty Eight samples were collected from all these water bodies and analyzed during the year (Four Hundred and Seventy Five samples for 27 parameters and Twenty Four samples for 5 parameters during the regular monitoring and Forty Six samples for 55 parameters during annual monitoring).

The analytical results indicate that all the rivers mostly satisfy the quality requirement of the designated best uses as recommended by Central Pollution Control Board. The water quality data for the rivers observed during the year are given in Annexure III.

Figure 5.4 below is a map of Goa showing the water quality monitoring locations under National Water Monitoring Programme; MINARS. The monitoring locations are indicated as stars.

Figure 5.4 : Map of Goa showing the Water Quality Monitoring locations under the National Water Monitoring Programme; MINARS

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 STATUS REPORT ON THE PROJECT REPORT "BIO-REMEDIATION OF RIVER SAL"

In continuation to the Memorandum of Understanding (MoU) executed earlier (*i.e. 1st August 2013*) between the Goa State Pollution Control Board (GSPCB) and M/s Asahi Geo Survey Co. Ltd., Japan and subsequent to the results / findings (*i.e. non-applicability of site for pilot remediation of Chromium-hexavalent (Cr^{+6}) groundwater pollution*) based on the preliminary investigations conducted during first (*8th – 28th February 2014*), second (*15th March – 12th April 2014*), third (*21st May – 15th June 2014*) and fourth visits (*26th July – 2nd August 2014*), said MoU was amended on 11th March 2014 and was re-entitled as "Pilot Survey for Disseminating SME's Technologies for Groundwater Remediation by Bioremediation of Sal River and Bethora Industrial Estate in Goa". In addition, Cuncolim Industrial Estate was also included in the study area, being a part of the Sal river basin, with specific reference to ascertaining impact on groundwater due to dumping of hazardous waste by M/s Sunrise Zinc Industries, Cuncolim.

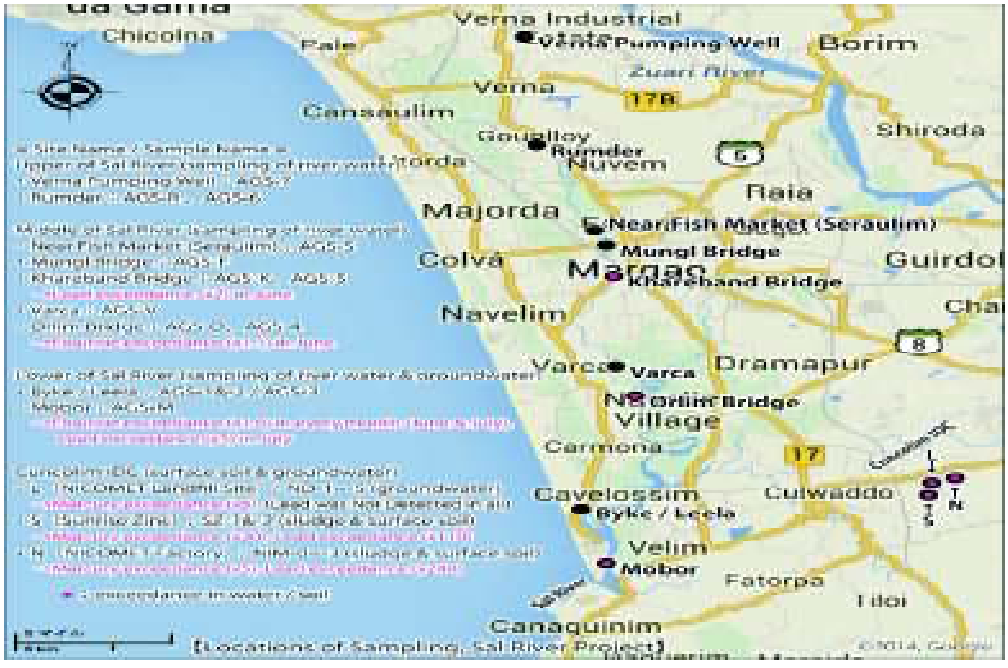


Fig. 6.1. : Sampling locations within Sal river basin

Fig. 6.2: Data analysis and results of the survey conducted along the Sal river basin

Sample Name	AGS-K		AGS-R		Method (water)
Sample Site	Khareband Bridge (Middle of Sal River)		Rumder (Upper of Sal River)		
Sampling Date	5.6.2014	30.7.2014	5.6.2014	30.7.2014	
Arsenic	0.002	0.0002	0.002	0.0003	APHA-3114-B-22nd Edition
Cadmium	BDL	ND	ND	ND	IS 3025: Part 41 : 1992, Reaffirmed 1998
Fluoride	0.32	0.02	0.14	0.02	APHA, 21st Edition 4500-F,B,D
Hexavalent Cr, [Cr(VI)]	0.01	0.01	0.003	0.01	IS 3025: Part 52 : 2003
Trivalent Cr [Cr(III)]	0.01	ND	0.007	ND	IS 3025: Part 52 : 2003
Lead	0.02	ND	ND	ND	IS 3025: Part 47 : 1994, Reaffirmed 2003
Mercury	ND	ND	ND	ND	APHA 3112 B - 22nd Edition
Nickel	-	ND	ND	ND	IS 3025: Part 54 : 2003
Zinc	ND	ND	ND	ND	IS 3025: Part 49 : 1994, Reaffirmed 2003
Iron		1.02	-	0.73	APHA 3125 B
Manganese	0.07	ND	0.1	ND	APHA 3125 B

Table 2 Analytical Results of Heavy Metals in River Water of Sal

Sample Name	AGS-M		AGS-O		Method (water)
Sample Site	Nobor (Lower of Sal River)		Orlim Bridge (Middle of Sal River)		
Sampling Date	5.6.2014	30.7.2014	5.6.2014	30.7.2014	
Arsenic	0.003	0.0003	0.003	0.0004	APHA-3114-B-22nd Edition
Cadmium	ND	ND	0.002	ND	IS 3025: Part 41 : 1992, Reaffirmed 1998
Fluoride	1.38	0.9	0.84	0.06	APHA, 21st Edition 4500-F,B,D
Chromium (VI)	0.003	ND	0.003	0.003	IS 3025: Part 52 : 2003
Chromium (III)	0.01	ND	0.007	0.05	IS 3025: Part 52 : 2003
Lead	ND	0.051	ND	ND	IS 3025: Part 47 : 1994, Reaffirmed 2003
Mercury	ND	0.0005	ND	ND	APHA 3112 B - 22nd Edition
Nickel	ND	ND	ND	ND	IS 3025: Part 54 : 2003
Zinc	ND	ND	ND	ND	IS 3025: Part 49 : 1994, Reaffirmed 2003
Iron	-	ND	-	0.74	APHA 3125 B
Manganese	ND	ND	0.19	ND	APHA 3125 B
Copper	0.004	ND	0.01	ND	APHA 3125 B
Nitrate (NO3-)	0.56	-	0.54	-	APHA-21st Edition 4500 NO3-B
COD	537.6	-	192	-	APHA-21st Edition 5220-B
unit	mg/L	mg/L	mg/L	mg/L	-

Standard of "Fluoride": 0.8 mg/L, Standard of "Lead": 0.01 mg/L, ND: Not Detected

Table 3 Analytical Results of Microbiology along River Sal

Monitoring in April

Sample Name	AGS-1	AGS-2	AGS-3		
Sample Site	Near Byke (Lower of Sal)	Dug Well in Byke (Lower of Sal)	Bore Well in Loola (Lower of Sal)	unit	Method (water)
Sampling Date	24.4.2014	24.4.2014	24.4.2014		
Plate count/ml, 37°C	TNTC	TNTC	TNTC	Number	IS : 1622 . 1981 reaff 2009
MPN/100ml (coliform organisms)	1600	1600	1600	Number	IS : 1622 : 1981 reaff 2009
Fecal Coliforms	Present	Absent	Present	A/P	IS : 1622 : 1981 reaff 2009
E. Coli	Present	Absent	Present	A/P	IS : 1622 : 1981 reaff 2009
Salmonella	Absent	Absent	Absent	A/P	IS 5887 (P-3) : 1999 Reaff 2009
Shigella	Absent	Absent	Absent	A/P	IS 5887 (P-7) : 1999 Reaff 2009
Vibrio parahaemolyticus	Absent	Absent	Absent	A/P	IS 5887 (P-5) 1999 Reaff 2009
Vibrio cholerae	Absent	Absent	Absent	A/P	IS 5887 (P-5) : 1999 Reaff 2009
Pseudomonae aeruginosa	Absent	Absent	Absent	A/P	IS 13428 : 2005 Reaff 2011 D
BOD (Biological Oxygen Demand) (3 days @ 27°C)	80	<3	<3	mg/l	IS 3025 : Part 44 : 1993, Reaff 2009
COD Chemical Oxygen Demand	237.6	15.84	27.72	mg/l	APHA-21st Edition 5220-B
Sulfate (SO4)	796.2	22.8	32.85	mg/l	IS 3025 . Part 24 . 1986, Reaff 2009
Nitrate (NO3)	0.67	3.47	0.3	mg/l	APHA-21st Edition 4500 NO3-B
Organic Nitrogen	3.45	2.45	3.35	mg/l	IS 3025 : Part 34 : 1988, Reaff 2009
Hexavalent Chromium	0.003	0.006	0.01	mg/l	IS 3025 : Part 52 : 2003
Phosphate (PO4)	0.05	0.06	0.11	mg/l	IS 3025 : Part 31 : 1988, Reaff 2009

TNTC : Too Numerous To Count

Monitoring in April (continued)

Sample Name	AGS-4	AGS-5	AGS-6	AGS-7	
Sample Site	Orlim Bridge (Middle of Sal)	Khareband Bridge (Middle of Sal)	Kunder (Upper of Sal)	Verna Spring (Upper of Sal)	
Sampling Date	24.4.2014	24.4.2014	24.4.2014	24.4.2014	unit
Plate count/ml, 37°C	TNTC	TNTC	TNTC	TNTC	Number
MPN/100ml (coliform organisms)	1600	1600	1600	2	Number
Fecal Coliforms	Present	Present	Present	Absent	A/P
E. Coli	Present	Present	Present	Absent	A/P
Salmonella	Absent	Absent	Absent	Absent	A/P
Shigella	Absent	Absent	Absent	Absent	A/P
Vibrio parahaemolyticus	Absent	Absent	Absent	Absent	A/P
Vibrio cholerae	Absent	Absent	Absent	Absent	A/P
Pseudomonas aeruginosa	Absent	Absent	Absent	Absent	A/P
BOD (Biological Oxygen Demand) (3 days @ 27°C)	130	24	140	<3	mg/
COD Chemical Oxygen Demand	435.6	58.64	285.12	7.92	mg/
Sulfate (SO4)	498.6	11.79	2.9	11.79	mg/
Nitrate (NO3)	0.77	0.57	1.07	1.1	mg/
Organic Nitrogen	6.6	7.04	6.85	4.48	mg/
Hexavalent Chromium	0.01	0.02	0.03	0.01	mg/
Phosphate (PO4)	0.12	0.1	1.17	0.05	mg/

TNTC : Too Numerous To Count; analytical method is referred previous table 3

Fig 6.3 Data analysis and results of the survey conducted at M/s Sunrize / Nicomet secured landfill site (*Cuncolim Industrial Estate, Cuncolim*).

Table 4 Analytical Results of Heavy Metals in Well Water, NICOMET Secured Landfill Site

Sample Name	MD-1/MW-1			MD-2/MW-2		
Sample Site	NICOMET Landfill Site (NE site)			NICOMET Landfill Site (SE site)		Method (water)
Sampling Date	8.4.2014	4.6.2014	30.7.2014	8.4.2014	4.6.2014	
Arsenic	ND	ND	0.002	ND	NC	APHA-3114-B-22nd Edition
Cadmium	ND	ND	ND	ND	NC	IS 3025: Part 41 : 1992, Reaffirmed 1998
Fluoride	0.01	0.01	ND	0.05	0.31	APHA, 21st Edition 4500-F,B,D
Chromium (VI)	0.006	ND	ND	0.004	NC	IS 3025: Part 52 : 2003
Chromium (III)	ND	0.01	ND	ND	NC	IS 3025: Part 52 : 2003
Lead	ND	ND	ND	ND	NC	IS 3025: Part 47 : 1994, Reaffirmed 2003
Mercury	0.002	0.002	0.0004	0.004	0.001	APHA 3112 B - 22nd Edition
Nickel	ND	ND	0.011	ND	NC	IS 3025: Part 54 : 2003
Zinc	0.007	ND	0.045	0.05	NC	IS 3025: Part 49 : 1994, Reaffirmed 2003
Iron	-	0.01	ND	-	NC	APHA 3125 B
Manganese	-	ND	ND	-	0.01	APHA 3125 B
Copper	-	0.03	ND	-	NC	APHA 3125 B
unit	mg/L	mg/L	mg/L	mg/L	mg/L	-

Standard of "Mercury": 0.0005 mg/L, ND: Not Detected

Table 4 Continued

Sample Name	ND-3/MW-3			Method (water)
Sample Site	NICOMET Landfill Site (SW site)			
Sampling Date	8.4.2014	4.6.2014	30.7.2014	
Arsenic	ND	ND	0.0004	APHA-3114-B-22nd Edition
Cadmium	ND	ND	-	IS 3025: Part 41 : 1992, Reaffirmed 1998
Fluoride	0.04	0.11	-	APHA, 21st Edition 4500-F,B,D
Chromium (VI)	0.05	0.02	0.003	IS 3025: Part 52 : 2003
Chromium (III)	ND	ND	0.004	IS 3025: Part 52 : 2003
Lead	ND	ND	-	IS 3025: Part 47 : 1994, Reaffirmed 2003
Mercury	0.001	0.001	0.0002	APHA 3112 B - 22nd Edition
Nickel	NU	NU	0.012	IS 3025: Part 54 : 2003
Zinc	0.05	ND	-	IS 3025: Part 49 : 1994, Reaffirmed 2003
Iron	-	0.01	-	APHA 3125 B
Manganese	-	0.05	-	APHA 3125 B
Copper	-	ND	-	APHA 3125 B
unit	mg/L	mg/L	mg/L	-

Standard of "Mercury": 0.0005 mg/L, ND: Not Detected

Table 4 Continued

Sample Name	ND-4/MW-4			ND-5/MW-5		Method (water)
Sample Site	NICOMET Landfill Site (West side)			NICOMET Landfill Site (NW site)		
Sampling Date	8.4.2014	4.6.2014	30.7.2014	12.2.2014	8.4.2014	
Arsenic	ND	ND	0.001	ND	0.001	APHA-3114-B-22nd Edition
Cadmium	ND	ND	ND	ND	ND	IS 3025: Part 41 : 1992, Reaffirmed 1998
Fluoride	0.09	0.19	0.13	0.12	0.04	APHA, 21st Edition 4500-F,B,D
Chromium (VI)	ND	ND	0.003	ND	ND	IS 3025: Part 52 : 2003
Chromium (III)	ND	0.01	0.004	ND	ND	IS 3025: Part 52 : 2003
Lead	ND	ND	ND	ND	ND	IS 3025: Part 47 : 1994, Reaffirmed 2003
Mercury	0.001	0.001	0.0001	ND	ND	APHA 3112 B - 22nd Edition
Nickel	ND	ND	0.005	0.002	0.007	IS 3025: Part 54 : 2003
Zinc	0.012	ND	0.028	ND	0.013	IS 3025: Part 49 : 1994, Reaffirmed 2003
Iron	-	0.06	0.18	ND	0.008	APHA 3125 B
Manganese	-	1.3	1.18	ND	ND	APHA 3125 B
Copper	-	0.01	ND	ND	0.011	APHA 3125 B
unit	mg/L	mg/L	mg/L	mg/L	mg/L	-

Standard of "Mercury": 0.0005 mg/L, ND: Not Detected

Table 5 Analytical Results of Heavy Metals in Sludge & Surface Soil ,

Sunrise Zinc and NICOMET Factory

Sample Name	SZ 1	SZ 2	NIM 0	
Sample Nature	dump sludge	surface soi	ore filter press	
Sample Site	Sunrise Zinc	near Sunrise	NICOMET Factory	Method
Sampling Date	12/02/2014	12/02/2014	12/02/2014	(soil)
Iron	45969.09	51251.95	12566.16	AOAC 990.08: 2005
Magnesium	1769.66	2073.55	2680.1	AOAC 990.08: 2005
Copper	13609.6	136.93	1224.22	AOAC 990.08. 2005
Manganese	28034.26	1480.83	1406.51	AOAC 990.08: 2005
Nitrates	787.9	81.6	12.1	IS 14684: 1999
Fluoride	57.99	0.37	18.99	USEPA 9214
Mercury	32.09	309.66	<10	AOAC 990.08: 2005
Cadmium	86.62	<10	<10	AOAC 990.08: 2005
Selenium	15.75	<10	<10	AOAC 990.08: 2005
Arsenic	47.25	<10	<10	AOAC 990.08: 2005
Cyanide	2.4	<0.1	10	USEPA 9213
Lead	17072.55	95.85	36059.89	AOAC 990.08: 2005
Zinc	25018.604	766.823	602.693	AOAC 990.08: 2005
Hexavalent Chromium (Cr6+)	<10	<10	<10	USEPA 3060 A & 7196 A
Pesticides (total 54 types) *1	<0.05	<0.05	<0.05	USEPA 8081 A by GC-MS, 8141 A by LC MS/MS
Aluminum	14107.59	35639.67	2725.3	AOAC 990.08: 2005
Boron	984.35	<10	<10	AOAC 990.08: 2005
Nickel	618.17	111.5	93304.45	AOAC 990.08: 2005
Cobalt	68.9	37.17	1305.21	AOAC 990.08: 2005
Chromium	279.56	40.9	69.69	AOAC 990.00. 2005
unit	mg/L	mg/L	mg/L	-

*1; here all 54 pesticides showed below detection limit of <0.05mg/kg and unit for soil is mg/kg and for water is mg/L

*2; as for reference, Soil Standard in Japan: Cd 150mg/kg, Cr6+ 250mg/kg, Cyanide (as free cyanide) 50mg/kg, Hg 15mg/kg, Se 150mg/kg, Pb 150mg/kg, As 150mg/kg, F 4000mg/kg, B 4000mg/kg

Table 5 Continued

Sample Name	NIM-1	NIM-2	NIM-3	
Sample Nature	old dump residue	old dump residue	surface soil	
Sample Site	NICOMET Factory	NICOMET Factory	NICOMET Factory	Method
Sampling Date	12/02/2014	12/02/2014	12/02/2014	(soil)
Iron	32517.62	37925.81	79292.98	AOAC 990.08: 2005
Magnesium	3035.04	3017.17	3811.7	AOAC 990.08: 2005
Copper	2053.91	2739.38	2077.11	AOAC 990.08: 2005
Manganese	2233.31	2704.39	479.9	AOAC 990.08: 2005
Nitrates	676.5	<10	<10	IS 14684: 1999
Fluoride	7	7.3	2.3	USEPA 9214
Mercury	11.73	23.93	81.83	AOAC 990.08: 2005
Cadmium	52.13	80.8	20.15	AOAC 990.08: 2005
Selenium	<10	<10	<10	AOAC 990.08: 2005
Arsenic	90.74	214.66	60.45	AOAC 990.08: 2005
Cyanide	<0.1	<0.1	<0.1	USEPA 9213
Lead	509.7	429.71	210.64	AOAC 990.08: 2005
Zinc	293.455	775.738	93.415	AOAC 990.08: 2005
Hexavalent Chromium (Cr6+)	<10	<10	<10	USEPA 3060 A & 7196 A
Pesticides (total 54 types) *1	<0.05	<0.05	<0.05	USEPA 8081 A by GC-MS, 8141 A by LC-MS/MS
Aluminum	20204.65	17021.21	14700.98	AOAC 990.08: 2005
Boron	<10	<10	<10	AOAC 990.08: 2005
Nickel	6178.2	1535.31	1060.54	AOAC 990.08: 2005
Cobalt	2874.79	2761.91	1109.99	AOAC 990.08: 2005
Chromium	225.69	137.73	87.92	AOAC 990.08: 2005
unit	mg/L	mg/L	mg/L	-

*1; here all 54 pesticides showed below detection limit of <0.05mg/kg and unit for soil is mg/kg and for water is mg/L

*2; as for reference, Soil Standard in Japan: Cd 150mg/kg, Cr6+ 250mg/kg, Cyanide (as free cyanide) 50mg/kg, Hg 15mg/kg, Se 150mg/kg, Pb 150mg/kg, As 150mg/kg, F 4000mg/kg, B 4000mg/kg

Fig 6.4: Data analysis and results of the survey conducted at Bethora Industrial Estate, Bethora, Ponda.

Table 6 Analytical Results of Photocatalyst Devices Treated Water

Metal	ES140528 Electroshine	MG140528 Sanenath	Original Solution (26 of May)	
Material	raw water (nullah water in Bethora IDC)	raw water (nullah water in Bethora IDC)	experimental material (diluted/calibrated water)	Test Method
Chromium (VI)	1.39	1.36	1.2	IS 3025 Part 52 : 2003
Chromium (III)	0.17	0.56	027	IS 3025 Part 52 : 2003
Nitrates	1.74	-	018	APHA 21st Edition 4500, NO3-B
Total Hardness	460.34	-	909	IS 3025 Part 21: 2009
unit	mg/L	mg/L	mg/L	

Continued

Metal	UV-Photo/UVC (Test-#1)	R-Photo/UVC (Test-#2)	
Material	UV Response Photocatalyst with UVC lamp (14h treated)	Only UVC lamp (10h treated)	Test Method
Chromium (VI)	0.23	0.32	IS 3025 Part 52 : 2003
Chromium (III)	0.31	0.32	IS 3025 Part 52 : 2003
Nitrates	0.14	0.14	APHA 21st Edition 4500, NO3-B
Total Hardness	14	7.03	IS 3025 Part 21: 2009
unit	mg/L	mg/L	-

Continued

Metal	Vis-(no UVC) (Test-#3)	UV-only (Test-#7)	
Material	Visible light response photocatalyst plate without UVC (7h treated)	Only UV irradiation (4.5h treated)	Test Method
Chromium (VI)	0.31	0.2	IS 3025 Part 52 : 2003
Chromium (III)	0.33	0.21	IS 3025 Part 52 : 2003
Nitrates	-	0.21	APHA 21stEdition 4500, NO3-B
Total Hardness	-	7.03	IS 3025 Part 21: 2009
unit	mg/L	mg/L	-

6.1.2 Findings from the Assessment Survey (2014 – 2015)

6.1.2.1 Sal river basin including Cuncolim Industrial Estate

Based on the on-site analysis of basic water parameters, there was no abnormal water quality data observed in and around the Sal river basin. Further, there was no abnormal concentration of toxic heavy metals from groundwater analysed from Cuncolim Industrial Estate. However, sludge and surface soil collected from M/s Nicomet Industries Ltd., showed relatively higher concentrations of Mercury (Hg), Lead (Pb) and Arsenic (As). Further, from the on-site analysis of irrigational canal water collected in-front of M/s Nicomet Industries Ltd., showed acidic pH especially in monsoon season.

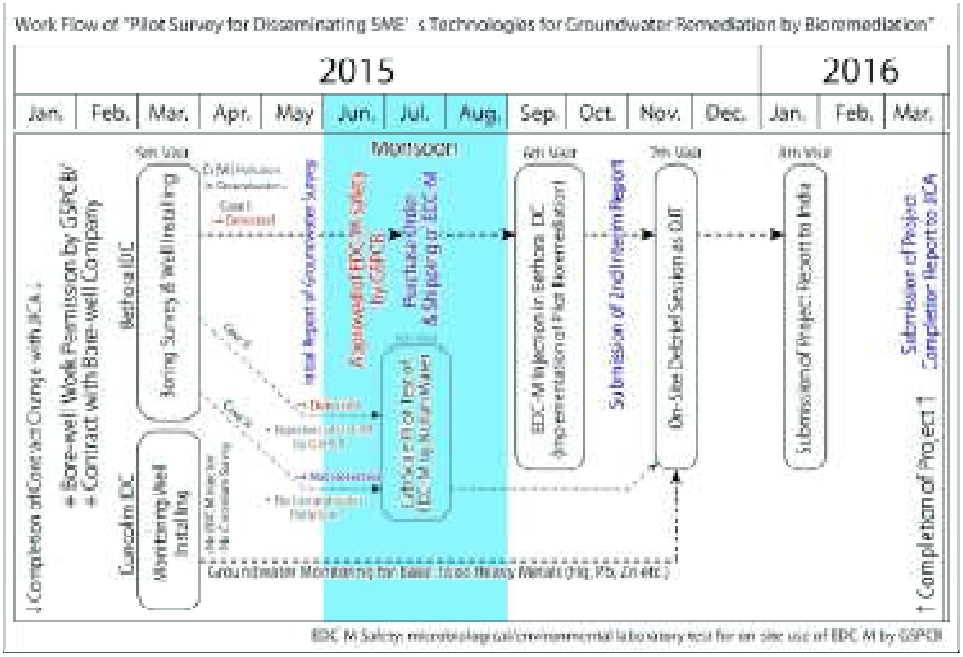
6.1.2.2 Bethora Industrial Estate

Based on the on-site inspection as well as on-site analysis of basic water parameters (*i.e. low pH – 2-3, presence of* Cr^{+6}) vis-a-vis based on the fact that there are some electroplating factories using Chromium hexavalent (Cr^{+6}) solutions for their industrial processes for metal plating, it was observed that some of the units have impacted the nullah water at several occasions within the industrial estate.

Based on the above findings (*i.e. analysis of surface water, soils, etc.*,), soil and groundwater survey was conducted, by outsourcing the job-contract, during the recent visit it the month of February 2015 so as to install monitoring and injection wells in Bethora and Cuncolim industrial estates. Accordingly, seven (07) site-specific locations in Bethora industrial estate and seven (07) site-specific locations were shortlisted for on-site drilling of bore-wells. Actual on-site drilling of these bore-wells is scheduled to commence in the month of March - April 2015.

In the meantime, The Board has engaged the services of **Dr. Joe D'Souza** as Microbiology Expert to oversee the project execution and provide subject-specific expertise for effective implementation of the said pilot project. Accordingly and as per his advice, the EDC-M and pH-buffer samples (*i. e. Nutrient-rich bioremediation media*) provided by M/s Asahi Geo Survey Ltd., Japan is being lab-tested in the Board laboratory to ascertain its microbial safety vis-a-vis post-utility time-series degradation efficiency prior to its on-site application. Further, on-site application / injection of these nutrient-media will be entertained only after (i) confirming to its environmental safety through ongoing laboratory testing and (ii) ascertaining the detectable presence of Cr^{+6} , if any, in bore-well water.

Accordingly, the schedule for this pilot-scale project execution has been revised as under.



6.2 STATUS REPORT OF THE PROJECT STUDY ENTITLED "STATUS STUDY OF ST. INEZ CREEK TO CHECK THE EXTENT OF ENVIRONMENTAL DEGRADATION AS A RESULT OF ANTHROPOGENIC ACTIVITIES, CIVIC INFRASTRUCTURE AND NATURAL CAUSES".

Introduction: St Inez creek which runs from the foot hills of Dona Paula is approx. 5.5 – 6.0 kilometres in length and originates at the Altinho hill; the paddy fields of Taleigao, Caranzalem and the Nagahali hills of Dona Paula from where it passes through St. Inez, finally emptying out into the River Mandovi. One of the armof the creek passes through Miramar to empty into River Mandovi near the swimming pool of the Sports Authority of Goa (SAG).

Background The St. Inez Creek in its present state is found contaminated with wastes such as construction debris, plastic garbage, organic garbage, tyres, sewage, etc. The creek is heavily silted especially near the Fire Brigade Station, Tonca near STP, near the Ford Show room, etc. so much so that there is no free movement of water.

Study Initiated by the Board: The Goa state Pollution Control Board initiated a study entitled "Status Study of St. Inez Creek to check the Extent of Environmental Degradation as a Result of Anthropogenic Activities, Civic Infrastructure and Natural Causes" during November 2013 in order to study the prevailing conditions in the Creek and to come out with possible scientific assessment and suggestions for remediation keeping in mind the following objectives.

1. To make an attempt to explore and establish the sources responsible for degradation of the Creek.
2. To determine the extent of environmental degradation of the Creek as a result of reported indiscriminate disposal of wastes and natural runoffs.

Scope of the Study: The scope of the study is to cover the entire stretch of the Creek and the sources discharging into it. The study is a one year study initiated in November 2013 for determining seasonal variation.

Background: The Board commenced the project study by selecting 22 locations along the entire stretch of the creek which were subsequently reduced. Creek water sample collection was carried out for six months during the one year study period. Also water samples of wells from residences within the proximity of the creek were collected twice during the study period, i.e., July and October 2014 in order to check the quality of well water which could be influenced by the creek water quality or the activities in the surrounding areas of the wells which may be the common source of contamination for both wells as well as the creek.

An initial survey of the entire creek was carried out and mapping of the entire length of the creek on the google map. During the surveys, the following observations were made:

1. The Creek appeared to be heavily silted.
2. Raw sewage discharge was seen at many locations along the entire stretch of the Creek.
3. Heavy hyacinth growth was observed at a number of places including Kamara Bhat pond and near the Tonca STP.

Photographs of some of the locations of St. Inez Creek identified for the study are shown below:

Fig. 6.5 (1) & (2) : St. Inez Creek near Landscape shire and at Kamara Bhatt St. Inez

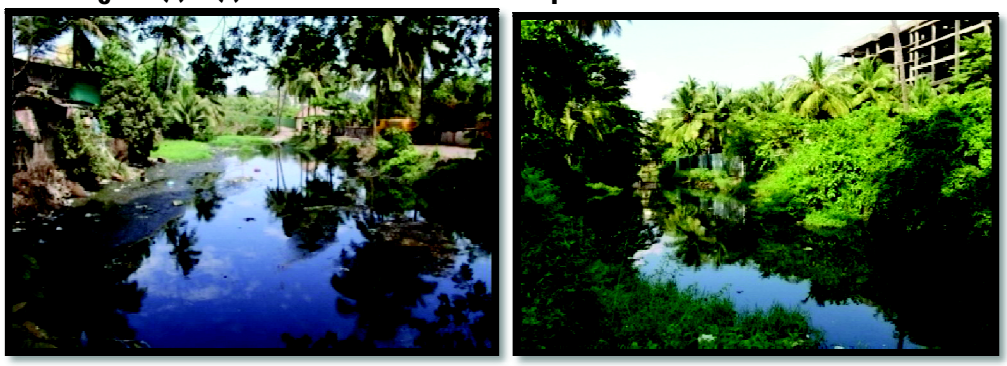


Fig. 6.5 (3) & (4) : St. Inez Creek opposite STP Tonca and at Naguendra Hospital

Samples were collected at the above locations for the following months: November 2013 (low tide), December 2013, January 2014 (high tide), April 2014, July 2014 and October 2014. Well water samples were collected during July 2014 and October 2014. Samples were analysed in the Board

laboratory for various physico-chemical, bacteriological and toxicological (Heavy metals & pesticides) parameters. The details of some of the parameters are presented in the following table. The parameters presented in the table indicate the concentration range over the entire stretch of the creek. Generally, the minimum value of the range indicates the concentration at the upstream and the maximum value indicates the concentration at the extreme downstream.

Table 6.1: Parameters indicating concentration range over the entire stretch of the St. Inez Creek

Month of Monitoring	pH	Alkalinity mg/l	Conductivity µS/cm	TDS mg/l	Chlorides mg/l	DO Mg/l	BOD Mg/l	Total Coliform MPN/100ml	Faecal Coliform MPN/100ml	E. Coli
04-11-2013	6.41-7.23	60-315	123.08 - 7160	73 - 2146.0	10 - 300	BDL - 4.1	2.6 -50	5400 - 9200000	2200 - 3500000	Present
06-12-2013	6.0 - 7.52	105-350	139.27 - 34420	78.0 - 15248.0	22.0 - 11741.0	BDL-2.7	3.2 - 26.0	13000 - 3500000	7800 - 1700000	Present
01-01-2014	6.87-7.77	30-70	-	326 - 37312.0	10.0 - 15473.3	BDL-4.3	3.2 - 96.0	170000 - 3500000	78000 - 1700000	Present
01-04-2014	6.8 - 7.61	76-6600	1036 - 50700	603.0 - 32958.0	229.6 - 20669.0	3.6 - 5.0	2.9 - 58.0	3300 - 920000	2300 -240000	Present
01-07-2014	5.32 - 7.14	4-76	193.11 - 682.81	131.0 - 390.0	16.5 - 145.0	BDL - 4.0	<3.0 - 7.0	7000 - 920000	1700 -240000	Present
01-10-2014	6.02 - 7.52	76-210	12.12 - 513.46	7.0 -275	15.0 - 63.0	<1.0 - 2.3	<3.0 - 11.0	9400 - 9200	4900 - 3500	Present

NOTE: TDS - (Total Dissolved Solids); DO - (Dissolved Oxygen); BOD- (Biological Oxygen Demand)
***BDL for DO is 1mg/l**

Observations:

1. **pH**: Water with pH <4.8 and > 9.2 is harmful to aquatic life. In St. Inez Creek, pH measured at most of the points is between 5.32 to 7.77 which indicate that the pH is acidic at some of the points show any significant variation.
2. **Alkalinity:** Alkalinity is a measure of all the substances in water that can resist a change in pH when acid is added to the water. Sufficient alkalinity in water protects aquatic life against rapid changes in pH and makes water less vulnerable to acid. Alkalinity of 100 – 200 mg/l sufficiently neutralises the pH in a stream.
3. **Conductivity**: The electrical conductivity of water is directly related to the concentration of dissolved solids in the water. The conductivity values indicate presence of seawater up to the central point of the Creek during high tide. During low tide conductivity goes down indicating receding tide.
4. **Dissolved Oxygen**: The Dissolved Oxygen (DO) is essential for maintaining healthy lakes and rivers. Most aquatic plants and animals need certain amount of oxygen in water for survival; the accumulation of organic wastes depletes DO.
   In the St. Inez Creek, Dissolved Oxygen is NIL or BDL at most of the sampling points probably because of high organic load from sewage and decomposed garbage. This can also be seen from BOD which ranges from <3g/l to 96 mg/l.
5. **Coliform**: Presence of faecal coliform in water indicates that water might contain microorganisms harmful to human health. Very high levels of fecal bacteria can give water a cloudy appearance, cause unpleasant odors and increase oxygen demand. In St. Inez creek, all the sampling points show the presence of extremely high Total Coliform and Faecal Coliform and all indicate positive E-coli. This indicates discharge of raw sewage and stagnation of water due to decomposition of organic matter.

Table 6.2: Analysis results of some of the parameters analyzed for the well water samples

Location	Common well opp to STP (Kamara Bhat), St. Inez	Well water sample of Hotel Vivanta Panaji	Well water sample behind Nagendra Hospital, St. Inez	Well water sample of Periegrino D'costa, campal Panaji	Well water sample of Beatriz D'costa, Campal Panaji	Spring water sample from Sateri Temple	Well water sample of Clenal Monteiro at Kevada, Taleigao

Date of sampling	21.07.2014	21.07.2014	21.07.2014	21.07.2014	21.07.2014	16.07.2014	16.07.2014
pH	7.20	7.15	7.5	6.9	7.14	6.29	6.88
TDS (mg/l)	-	-	249.0	164.0	232	51.0	60.0
Conductivity (µs/cm)	1254.0	404.0	352.62	317.5	380.67	84.73	97.3
DO (mg/l)	3.8	2.8	1.4	2.4	5.0	4.4	4.1
Chloride as cl-(mg/l)	186.9	28.9	14.0	34.97	14.5	13.0	15.0
BOD (mg/l)	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Alkalinity(mg/l)	178.0	128.0	76.0	58.0	90	28.0	18.0
Total Coliform (MPN/100ml)	920	350	540	350	920	330	230
Fecal Coliform(MPN/100ml)	540	130	240	240	250	230	130
E. Coli	Present	Present	Present	Present	Present	Present	Present
Date of sampling	**31.10.2014**	**31.10.2014**	**31.10.2014**	**31.10.2014**	**31.10.2014**	**31.10.2014**	**31.10.2014**
pH	7.50	7.80	7.96	7.27	6.9	6.65	6.7
TDS (mg/l)	822.0	360.0	212.0	161.0	274.0	48.0	62.0
Conductivity(µs/cm)	1328.0	605.76	327.30	254.56	458.0	85.66	94.2
DO (mg/l)	2.2	4.3	1.3	1.6	3.1	4.3	4.5
Chloride as cl-(mg/l)	103.0	24.0	19.08	19.08	9.0	11.7	12.0
BOD (mg/l)	1.1	<0.5	0.5	<0.5	2.1	BDL	0.5
Alkalinity(mg/l)	308.0	228.0	132.0	100.0	208.0	10.0	12.0
Total Coliform(MPN/100ml)	920	540	920	920	540	170	170
Fecal Coliform(MPN/100ml)	240	240	240	240	130	78	79
E. Coli	Present	Present	Present	Present	Present	Present	Present

NOTE: TDS - (Total Dissolved Solids); DO - (Dissolved Oxygen); BOD- (Biological Oxygen Demand)

Observations:

1. **pH**: The IS Drinking water standard specifies a limit ranging from 6.5 to 8.5 pH for drinking water. The pH of the wells range between 6.29 and 7.5 and between 6.65 and 7.96 during the months of July 2014 and October 2014 respectively indicating that the pH of well water is suitable for drinking purpose.
2. **Alkalinity:** Alkalinity ranges between18mg/l and 178mg/l and between 10mg/l and 308mg/l during July and October.
3. **Total Dissolved Solids**: The well at Kamara Bhat, opposite Tonca STP indicates dissolved solids on the higher range contributed by the high levels of Sulphate and Calcium, where as, for the remaining wells the TDS ranges between 51mg/l and 249mg/l and between 48mg/l to 360mg/l.
4. Dissolved Oxygen and BOD are low in all the wells. Chlorides are comparatively high for the well at Kamara Bhat, opposite Tonca STP then the rest of the wells.
5. **Coliform**: Coliform is present in all the wells indicating that the well water has to be treated before consumption.

6.3 STATUS REPORT OF THE PROJECT ENTITLED "STUDY OF WATER QUALITY USING PHYSICO-CHEMICAL PARAMETERS AT SURROUNDING AREA OF VERNA INDUSTRIAL STATE"

Background: Verna Industrial Estate (*hereinafter referred as VIE*) is located in Verna village in Salcete Taluka of South Goa District. There are a number of industries of different categories and capacities operating in the industrial estate. The present study is aimed to estimate current status of physico-chemical characteristics of water quality in and around VIE with specific reference to permanent water sources. Spatial and temporal variations with emphasis on monthly trend in physico-chemical parameters has been attempted for a period of 12 months (*i.e. November 2013 to October 2014*). The interim progress report for a period of four months (November 2013 to February 2014) has already been presented in the previous Annual Report – 2014.

Abstract: The present study is aimed at understanding annual variation or trend, if any, of physico-chemical characteristic of water quality in and around VIE. Monthly changes in physico- chemical parameters such as temperature, pH, turbidity, total dissolved solids(TDS), total hardness, dissolved oxygen(DO) and biological oxygen demand(BOD), chlorides, phosphate, nitrates, metals has been

analyzed and accordingly interpreted during a study period of one year. The results, has indicated that physico-chemical parameters of water are within the permissible limits, except few parameters at selected locations.

Introduction: Water resources are of critical importance to both natural ecosystem and human development. It is essential for agriculture, industry and human existence. The healthy aquatic ecosystem is depended on the physico-chemical and biological characteristics. The quality of water in any ecosystem provides significant information about the available resources for supporting life in that ecosystem. Good quality of water resources depends on a large number of physico-chemical parameters and biological characteristics. To asses and monitor these parameters, it is essential to identify its magnitude and source of any pollution load. The characteristics can identify certain condition(s) for the ecology of living organisms and suggest appropriate conservation and management strategies to minimize the same.

In order to assess water quality index, the Board has carried out the physicochemical analysis of water of selective open due wells and spring water surrounding the area of Verna industrial area.

Objective: The aim of the study is to understand pollution status of wells and springs in terms of their physico-chemical characteristics, if any surrounding the VIE.

Materials and method: *Collection of sample:* Nine representative sampling stations are selected for water collection from open wells (*refer Fig. 6.6 (a & b) & Fig 6.7)* and analysed on monthly basis for a period from November 2013 to October 2014 on monthly basis and accordingly, the data has been presented in the following discussions.

Fig. 6.6 (a) – Location of well-water collection within the lower-reaches of Verna Industrial Estate surrounding (*Lined well)*

(b) Unlined-well

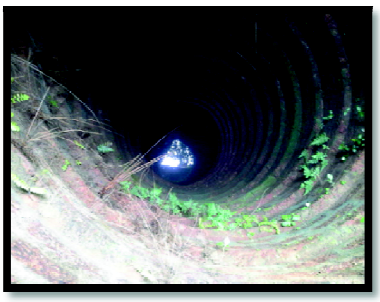


Fig. 6.7: Location of well-water collection within the mid-reaches of Verna Industrial Estate surrounding.(Lined wells)

Results and Discussion: Monthly variation in various physico-chemical parameter are presented graphically (*refer Fig 1,2,3,4,5,& 6*). The higher concentration of some parameters is probably due to some anthropogenic activity. The pH and hardness levels indicate moderate quality of water. The average value of DO and COD levels indicate the absence of organic pollutant. As there are no major polluted industries located in Verna ind.est, the major source of organic pollutants appears to be only the domestic source. Population density spread over sparsely located villages may be contributing towards faecal coliform and E-coli presence. The transportation of faecal coliform and E-coli very often takes place due to indiscriminate sewage disposal, improper location ofseptic tank.

Physico chemical parameters / Nutrients / Metal content –

1. **pH**. The National Drinking Water Quality Standard for pH ranges between 6.5 to 8.5. Stream water usually ranges from pH 6.5 (*slightly acidic*) to a pH of 8.5. In study area, pH varied from 5.17 to 6.15). However, its average (pH 5.91) indicates that the water is good quality and can be used for irrigation and drinking purposes. (*Fig 1a*)
2. **Alkalinity**: A range of 100 to 250 ppm for river water is considered normal. If the alkalinity of water is too high, the water can be turbid, which inhibits the growth of underwater plants. In study area, the average value of alkalinity levels ranges from (35.0–70.0 mg/l) in the month of November to October 2014 indicating a good water quality. (*Fig 1b*)
3. **Biological Oxygen Demand (BOD):** Natural water with low BOD have low nutrient levels therefore, much of the oxygen remains in the water. Unpolluted, natural waters will have a BOD of 5 mg/l or less. Within the study area, BOD values ranges from 0.4 to 2.0 mg/l. Indicating good well-water quality. (*Fig 3a*)
4. **Chloride**: The presence of chloride, where it does not occur naturally, indicates possible water pollution. High levels of chloride kill plants and wildlife. The average value of chlorides (2.0-15.0 mg/l) observed within the study area analysed for a period from November to October indicates the absence of pollutants in the study area. (*Fig. 3b*)
5. **COD**: In the study area, COD value is observed to be in ranging from 3.0 to 12.0 mg/l. This value indicates traces of organic matter present in wells, probably as a result of natural decomposition of leaves or other decomposed matter. (*Fig. 4a*)
6. **Dissolved Oxygen (DO**): Dissolved oxygen is a measure of the amount of oxygen freely available in water. Dissolved oxygen values ranged from 4.8 -6.7 mg/l and are within the permissible limits. High values of DO are observed in the surface layer and is due to more dissolution of atmospheric oxygen due to its direct contact with the surface layer. All the observed DO value are normal and indicate well oxygenated water. (*Fig. 4b*)

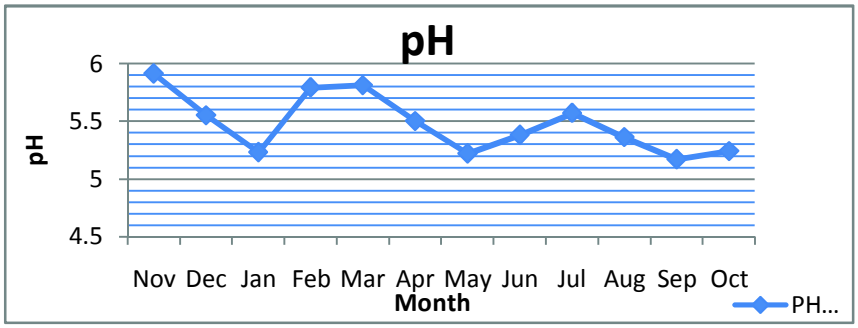
7. **Metals:** The normal range for iron in freshwaters is 0.1-0.5 ppm or mg/l. In the study area, concentration of iron ranges from 0.05-0.65 mg/l. Mn varies from 0.03 – 0.1 mg/l. Most of the metals like Cu,Co, Ni, Zn ranges from (0.01- 0.19 ppm) and are present at very trace levels. Other metals like Cd, Cr, Pb are below the detection limits thereby indicating good quality water. (*Fig. 5*)
8. **Nitrite and Nitrates**: Nitrogen is required by all organisms for the basic process of life to make proteins required for growth and reproduction. In the study area, average value observed for Nitrates ranges from (0.04 – 3.50 mg/l) and indicates good quality of water. (*Fig. 2a*)
9. **Sulphate:** Sulphates in the watershed are primarily related to the occurrence of different types of minerals in the soil and bedrock. In the study area, Sulphate content ranges between 2.0 mg/l to 13.0 mg/l. The average value of sulphate (12.0 mg/l) indicates the absence of organic pollutants. (*Fig. 2b*)
10. *Microbiological quality* - presence of parameters like Fecal coliform, total coliform, *E-coli*, although marginally *(Fig. 6*), in well waters indicate that water requires pre-treatment prior to its usage, specifically for drinking purpose.

Accordingly, it could be concluded that ground water quality surrounding the VIE is within the presented CPCB limits. However, the presence of coliform suggests contamination probably due to sewage disposal / porosity to soak pit or septic tank. Accordingly this advisable that water is pre-treated prior to its usage for drinking purpose.

Future Scope of Study: Based on the results obtained on the annual study of well/spring water surrounding the Verna industrial estate it issue be advisable to monitor existing and operational selective Bore wells located within the Verna industrial estate to ascertain the ground water quality parameter of the Verna Plateau region.

pH

Months	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
pH values	5.91	5.55	5.23	5.79	5.81	5.5	5.22	5.38	5.57	5.36	5.17	5.24



Total Alkalinity

Months	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
PH values	34.28	70.71	35	33.57	52.86	50	52.14	47.86

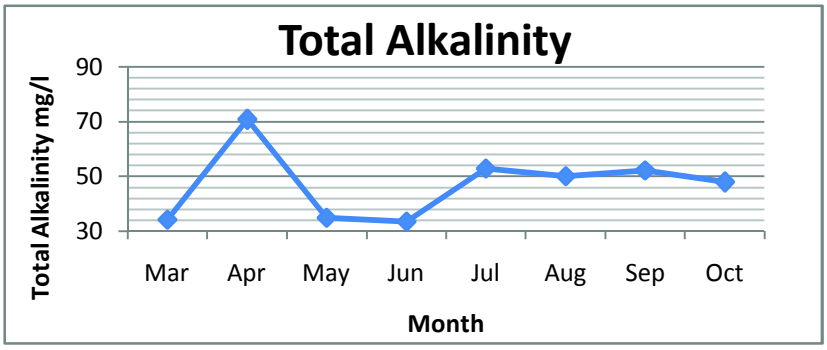
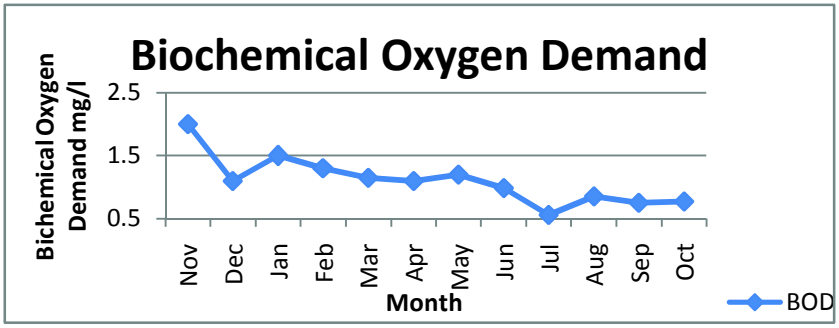


Figure 1 : Monthly variation in pH and Total Alkalinity

Biochemical Oxygen Demand												
Months	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
BOD	2	1.1	1.5	1.3	1.15	1.1	1.2	0.99	0.56	0.86	0.76	0.78



Chloride as Cl								
Months	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
chloride	13.6	15.4	1.2	0.99	0.56	0.86	0.76	0.78

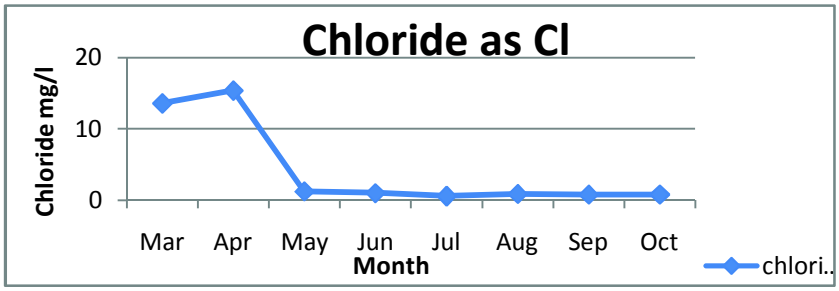
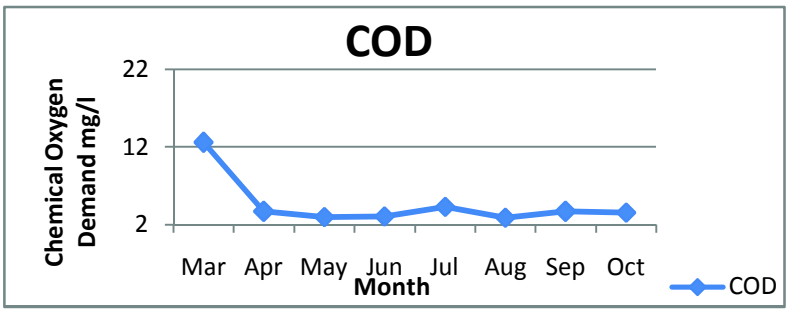


Figure 3: Monthly variation in BOD and Chloride

Chemical Oxygen Demand								
Months	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
COD	12.6	3.7	3	3.1	4.3	2.9	3.7	3.6



Dissolved Oxygen								
Months	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
DO	4.9	4.81	5	5.26	5.04	5.66	6.31	6.75

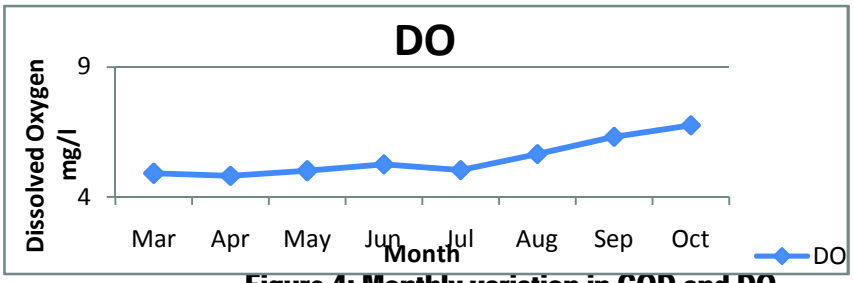
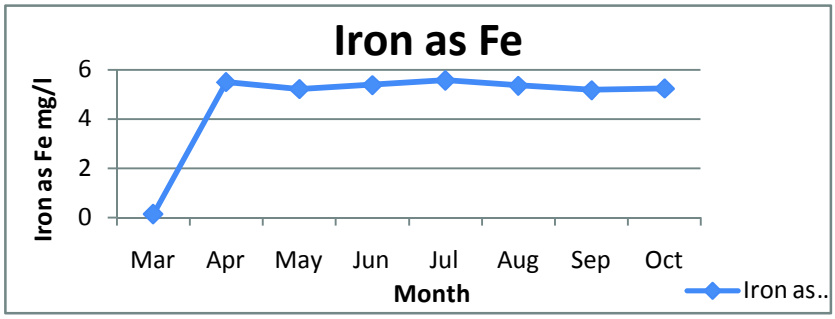


Figure 4: Monthly variation in COD and DO

Iron as Fe								
Months	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
Iron as Fe	0.14	5.5	5.22	5.38	5.57	5.36	5.17	5.24



Manganese as Mn												
Months	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
Mn	0.03	0.03	0.07	0.01	0.09	0.09	0.1	0.03	0.06	0.06	0.01	0.05

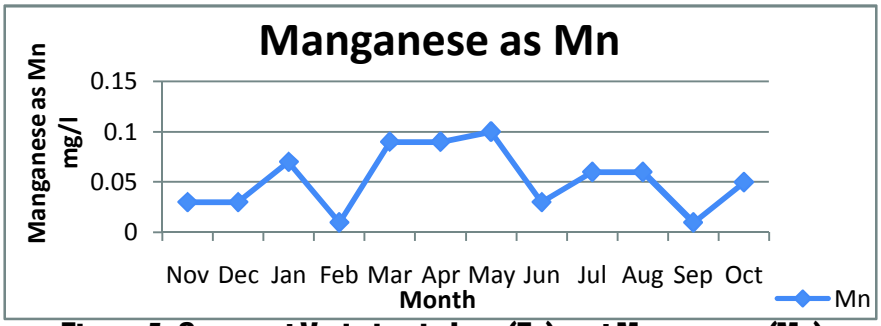
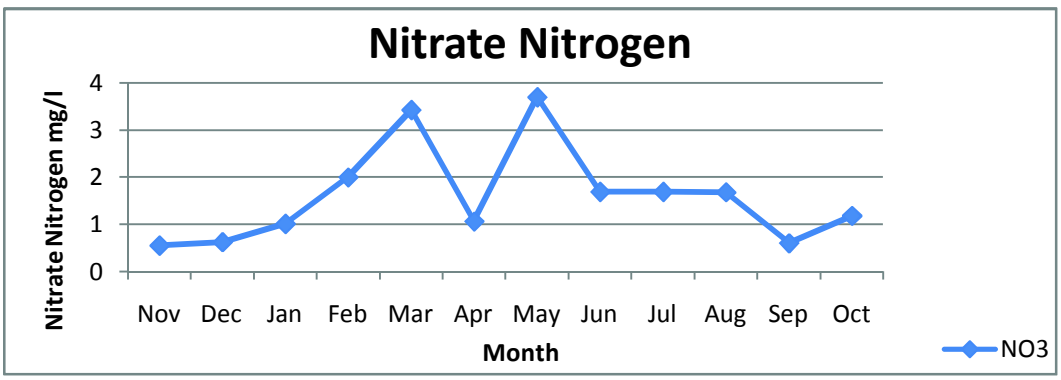


Figure 5: Seasonal Variation in Iron (Fe) and Manganese (Mn)

Nitrate Nitrogen												
Months	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**
NO3	0.55	0.62	1.01	2	3.43	1.06	3.7	1.69	1.69	1.68	0.6	1.18



Sulphate

Months	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
SO4	10.56	12.78	9.66	4	5.25	11.75	3.75	2.5	1.96	4.93	4	5.2

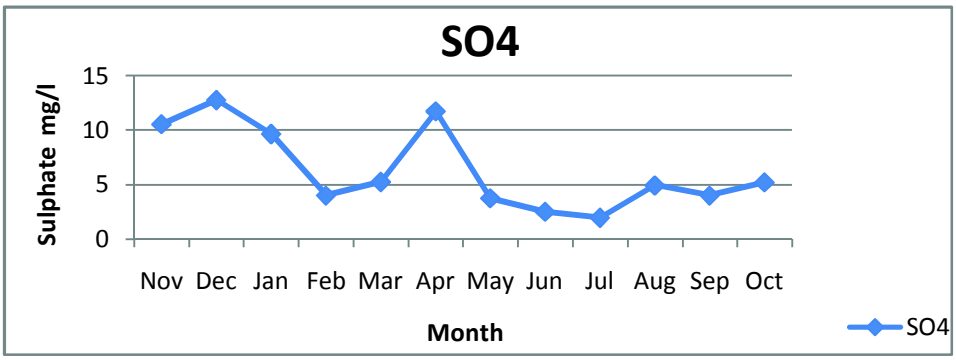
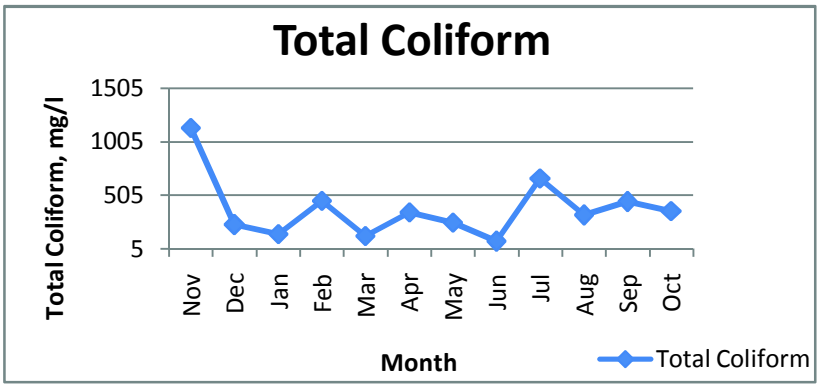


Figure 2 : Seasonal variation in Nitrate/Nitrogen and Sulphate

Total Coliform

Months	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Total Coliform	1131.3	228.2	143.8	450.4	125.1	343.1	251.4	72.9	659.1	318	443	356.1



Fecal Coliform

Months	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Fecal Coliform	491.3	27	27.25	51	17.13	18.8	106.9	23.1	149.3	165.6	48.33	108.5

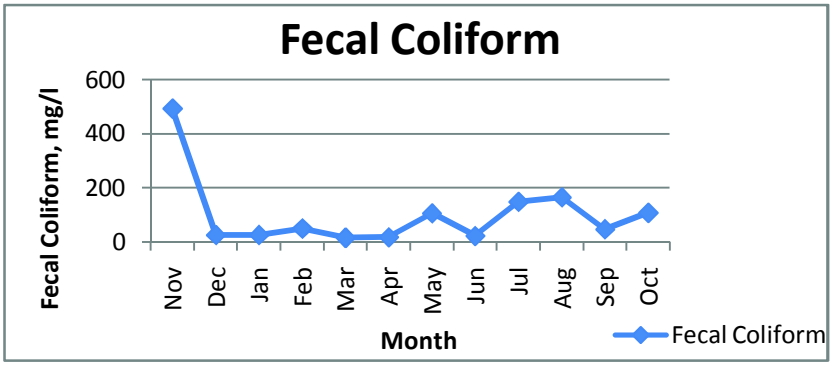


Figure 6: Seasonal Variation in Total Coliform and Fecal Coliform

6.4 STATUS REPORT W.R.T. "ENVIRONMENTAL STATUS OF THE CUNCOLIM INDUSTRIAL ESTATE"

6.4.1 Introduction:

Cuncolim Industrial Estate is located in the Southern District of Goa (Longitude $74^0$1'51.43''E and Latitude $15^0$10'59.09''N). It is bordering the Salcette Taluka. An Irrigation canal is located on the Northern side of the Industrial Estate. The Industrial Estate comprises of 128 units out of which 11 units are non – functioning and 20 units are closed. Of the operating units 79 nos. of units are registered with the Board of which approx. 13-14 nos. of units are induction furnaces and rolling mills engaged in the production of steel ingots and rolled products. These units generate steel slag as by-product. Two nos. of units i.e. M/s Nicomet Industries Ltd. and M/s Sunrise Zinc Ltd. (M/s Sunrise Zinc Ltd. is presently shutdown and purchased by M/s The Axis) are engaged in the production of trace metals such as copper, zinc, cobalt, nickel and lead using processes such as leaching/ solvent extraction/ electrolysis. The raw material used as stated by the unit is imported ore. The by-product of these two industries generated large quantities of solid hazardous. There is one fish meal unit and 4 nos. of fish processing units.

6.4.2 Existing relevant literature on the subject:

The Goa State Pollution Control Board (GSPCB), Panaji had entrusted National Environmental Engineering Research Institute (NEERI), Nehru Marg, Nagpur a study on assessment of ground water, soil and surface water due to past and present activities of M/s Sunrise Zinc Ltd.,, Plot No. L-2 and M/s Nicomet Industries Ltd., Plot No. L-15, 19 & 20, Cuncolim Industrial Estate. The final report submitted by NEERI suggested delineation of remediation action plan for contaminated soil, ground water and surface water. The report indicated that the quantum of filter cake generated amounts to about 15 metric tonnes per day (MTPD) as reported by M/s Nicomet Industries Limited (NIL) and M/s Sunrise Zinc Ltd (SZL) and the major constituents of the filter cake from NIL are arsenic (447 mg/kg), cobalt (5026 mg/kg) and copper (5848 mg/kg). The filter cake is amenable to leach cobalt, copper and manganese under worst case scenario. There is however no stipulated limit for cobalt, copper and manganese in the leachate. Based on leachability of filter cake as per the CPCB requirements (water leach test), the filter cake is not amenable to leaching hazardous elements under natural environmental conditions. However the possibility of leaching of copper, manganese and cobalt in significant concentrations as determined by the TCLP tests, cannot be ruled out due to earlier dumping of filter cake.

Presently, M/s Nicomet Industries Ltd. has constructed captive secured landfill site for storing the filter cake. It is necessary to periodically monitor the ground water quality and soil status around captive secured landfill site for which 5 nos. of test wells have been provided around the captive secured landfill site.

In view of the above, the Board officials, Ms. Jenica Sequeira, Scientist C and Mr. Nilesh S. Parsekar, Scientist B has initiated the project on **Environmental Status of the Cuncolim Industrial Estate'** in the core zone followed by the buffer zone of the Cuncloim Ind. Est. within approximately 500m radius since October 2013. Part of this report was published in the annual report 2013-14 published by GSPCB which represented the ground water quality and surface water quality results sampled on 14th October 2013, 29th November 2013 and 27th January 2014 at different locations. In continuation to the same, the samples were collected on 25th April, 26th May, 30th May, 23rd June, 24th June, 22nd July, 23rd July, 18th August, 19th August, 22nd September, 23rd September, 10th November, 11th November of 2014 and 28th January and 29th January 2015.

6.4.3 Sampling locations:

Sampling locations were identified in and around Cuncolim Industrial Estate for ground water and surface water like test wells (5 nos.), open dug wells (8 nos.), bore wells (8 nos.), Spring water (2 nos.), Irrigation canal (3 locations- Upstream IC1, Midpoint IC2 and Downstream IC3), Lateriate stone quarries (2 nos. at 3 locations).

6.4.4 Methods:

All the samples were collected and analysed in the Board Laboratory using Approved Methods like APHA & IS. The metals like Cu, Cd, Zn, Pb, Co, Fe, Mn, Ni and Cr were analysed using Atomic Absorption Spectrophotometer and Nutrients like Nitrite, Nitrate and Sulphate were analysed using UV – Visible Spectrophotometer with Certified Reference Materials.

6.4.5 Results and Discussion:

Drinking water standards as per BIS 10500 (2004) are applied for **test well samples**, **open dug well samples, spring water** and **bore well samples** and the CPCB Standards (Scheme for Zoning and Classification of Indian Rivers, Estuaries and Coastal Waters –ADSORBS/3/78-79) **are applied for irrigation canal.**

6.4.6 Graphical representation of the data monitored is presented below;

Graph 1 to 9 below indicates that Cu & Zn concentrations in all the test wells are within the permissible limit where as Cd, Pb, Ni, Fe & Mn concentrations exceeds the permissible limits at some of the test wells.

Graph 10 to 18 below indicates that Zn concentration in all the Open dug wells is within the permissible limit where as Cu, Cd, Pb, Ni, Fe & Mn concentrations exceeds the permissible limits at some of the open dug wells.

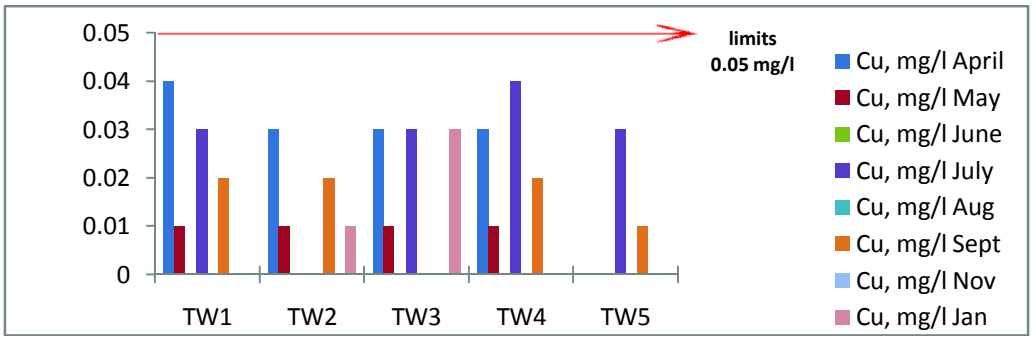
Graph 19 to 27 below indicates that Cu, Ni & Zn concentrations in all the bore wells is within the permissible limit where as Cd, Pb, Fe & Mn concentrations exceeds the permissible limits at some of the bore wells.

Graph 28 to 36 below indicates that Cu, Cd, Pb, Ni & Zn concentrations in both the Springs are within the permissible limit where as Fe concentration exceeds the permissible limit at both the springs.

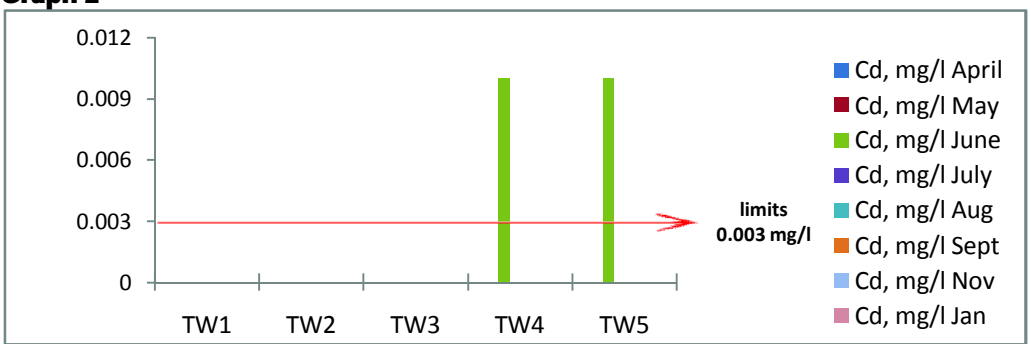
Graph 37 below indicates that the pH values in Irrigation Canal shows below permissible limit (6.0 - 8.5) for irrigation canal water from June to September 2014 (during monsoon) i.e. the irrigation canal water is acidic in monsoon, probably due to the seepage from the earlier dump site (dumped waste already recovered and disposed in the secured landfill site) within the premises of M/s Nicomet Industries Ltd. which is adjacent to the said irrigation canal.

Samples were also collected and analysed from Laterite stone quarry within Cuncolim Industrial Estate during monsoon.

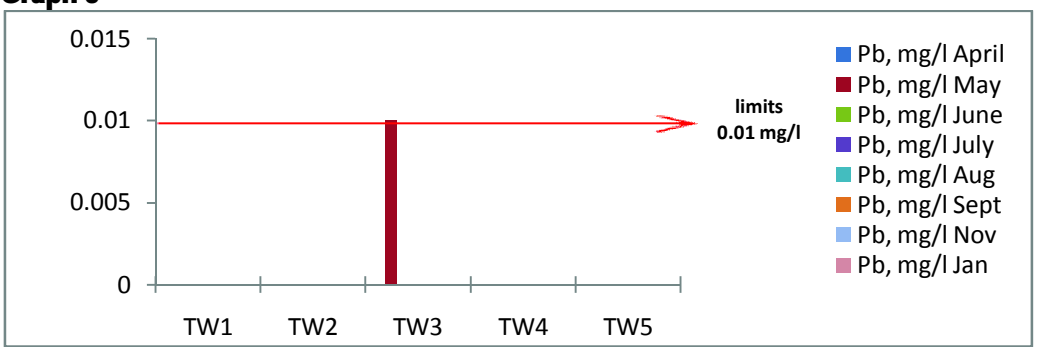
Graph 1



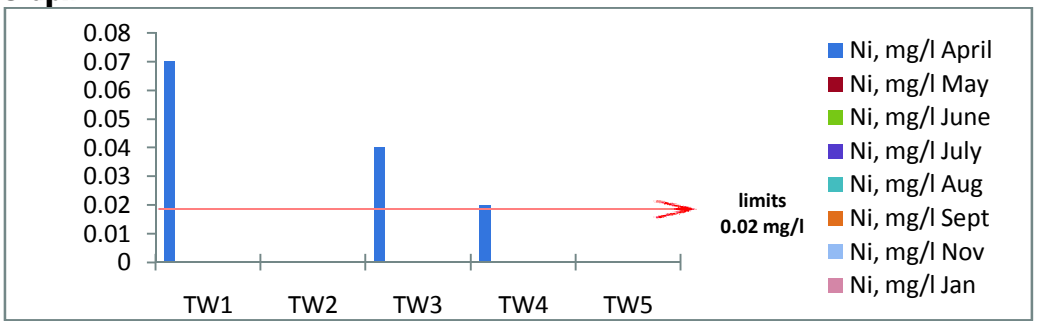
Graph 2



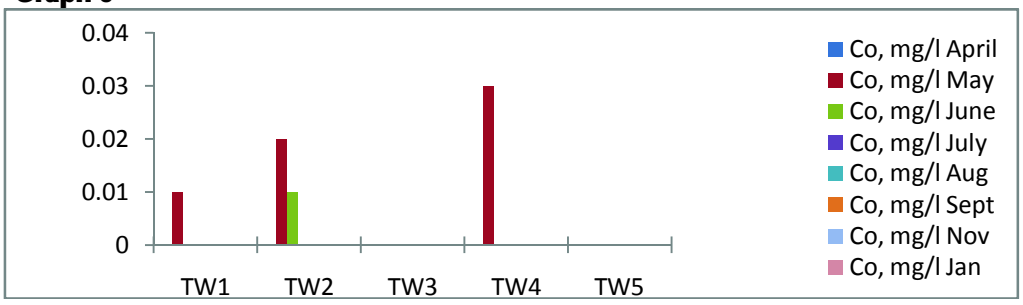
Graph 3



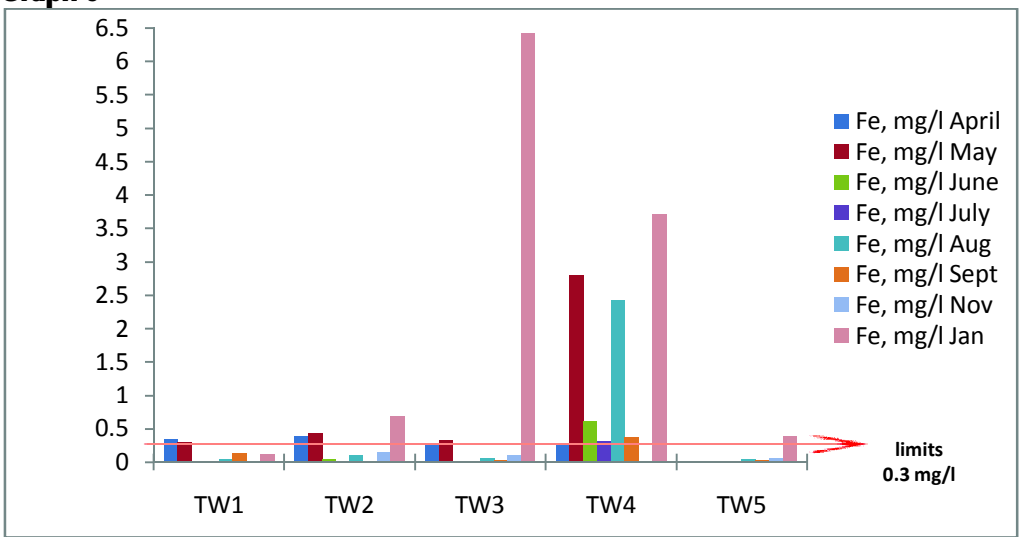
Graph 4



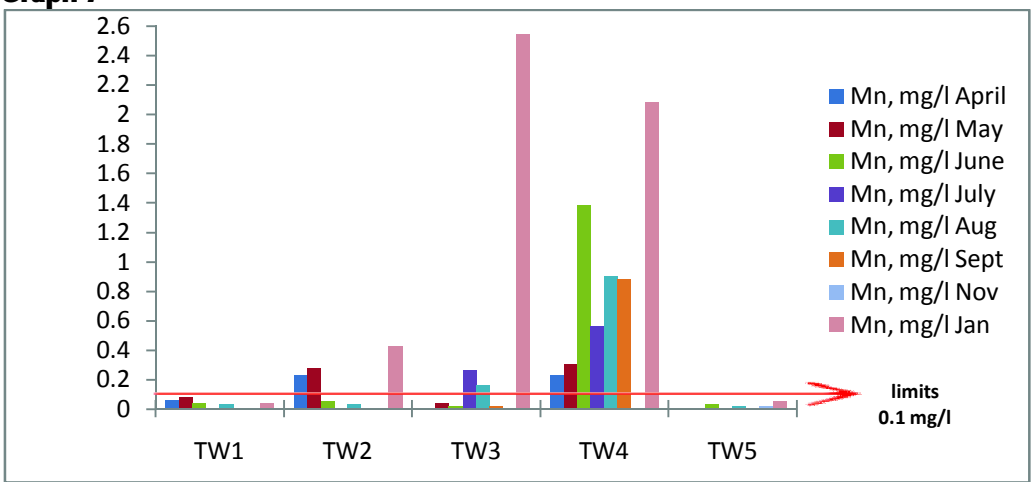
Graph 5



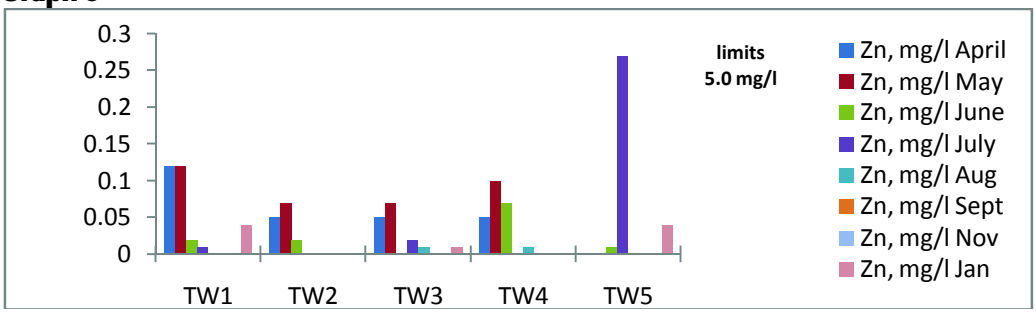
Graph 6



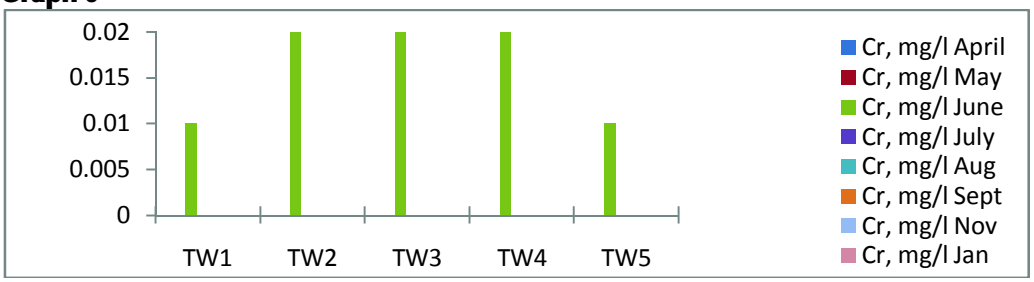
Graph 7



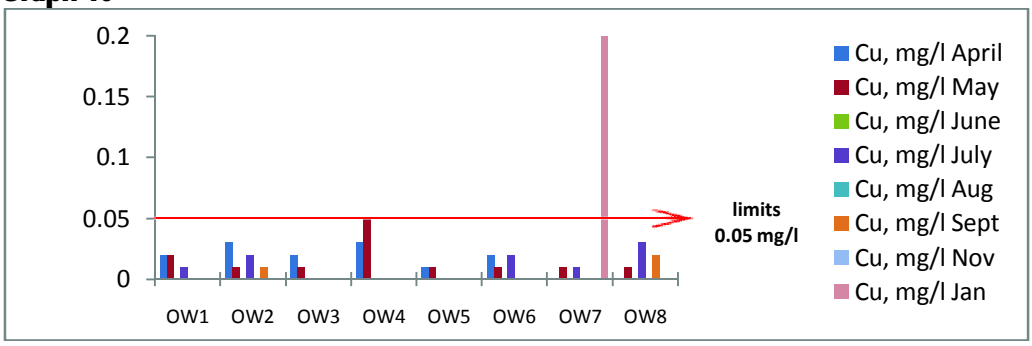
Graph 8



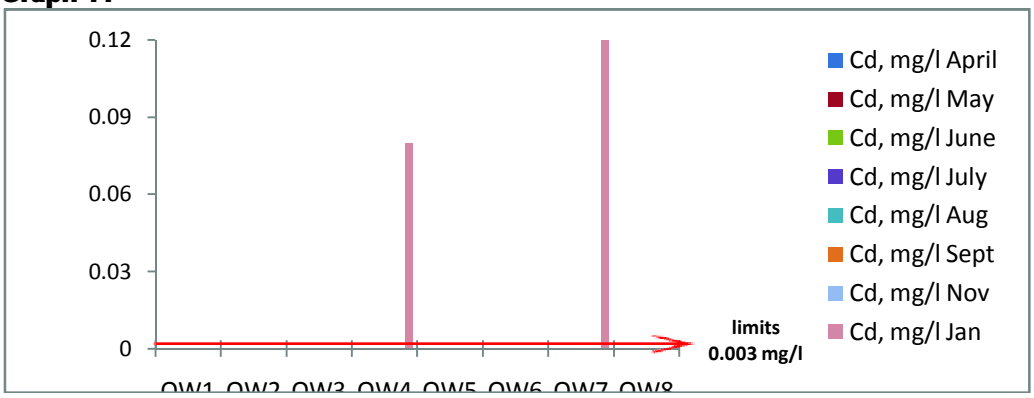
Graph 9



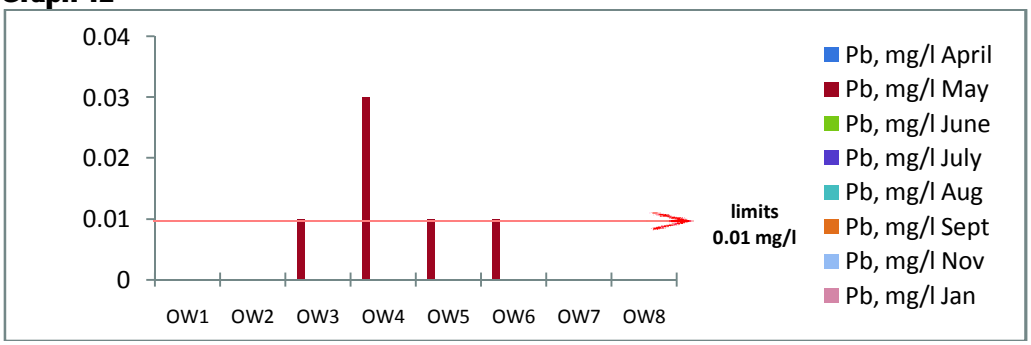
Graph 10



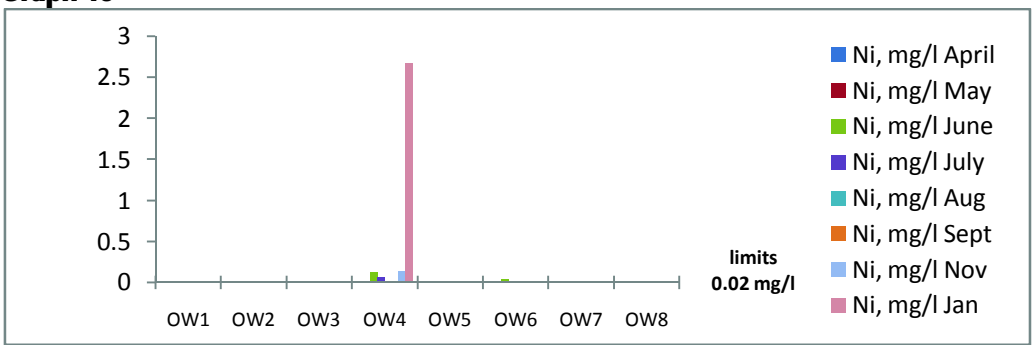
Graph 11



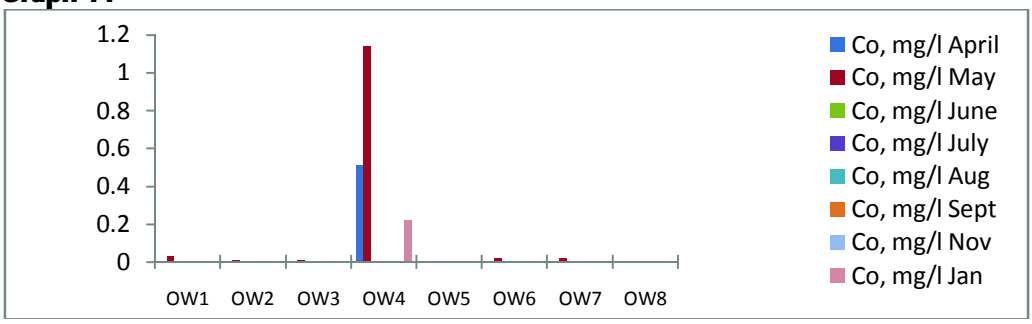
Graph 12



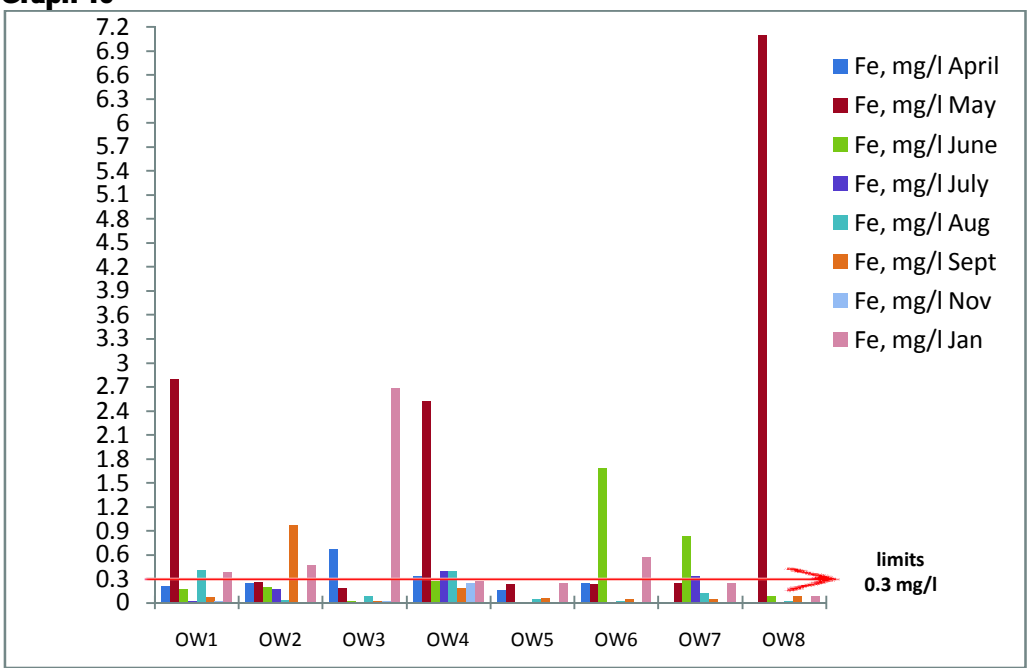
Graph 13



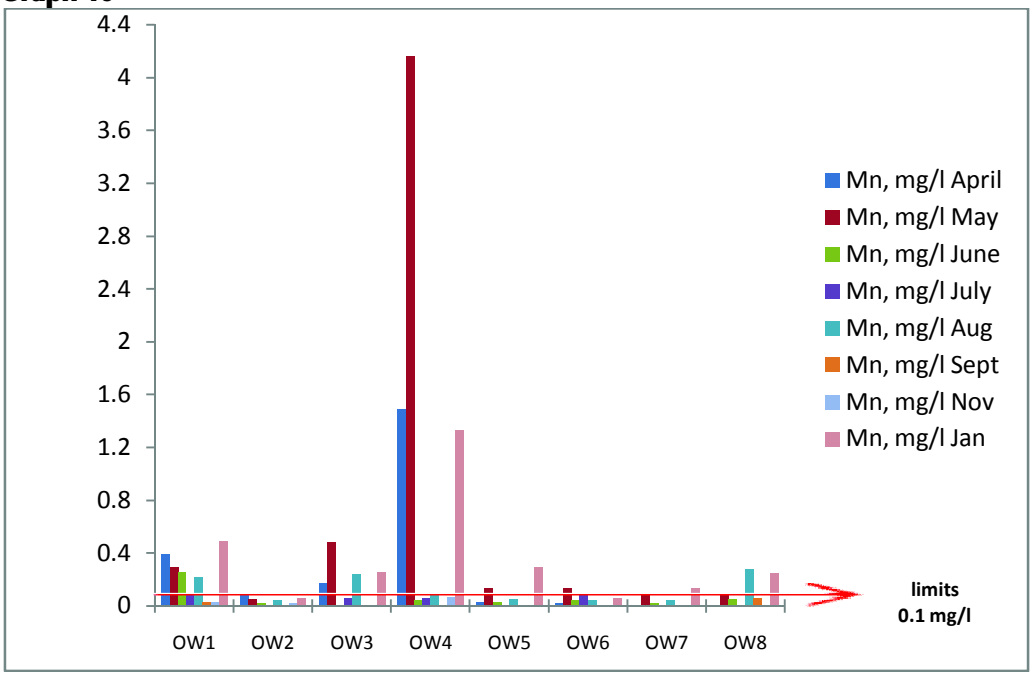
Graph 14



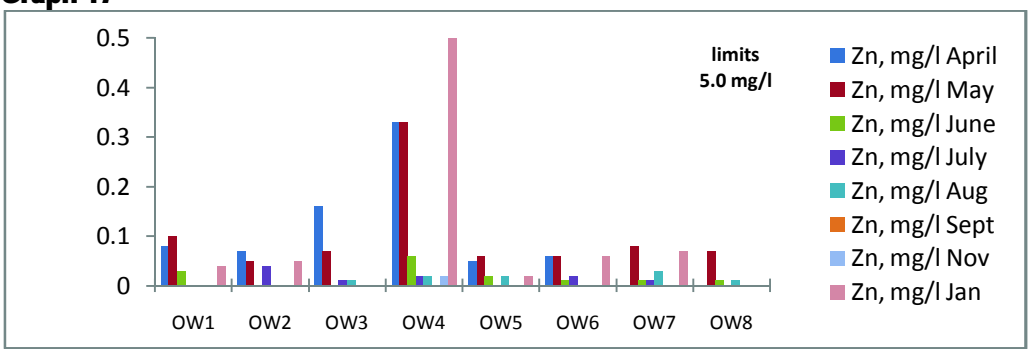
Graph 15



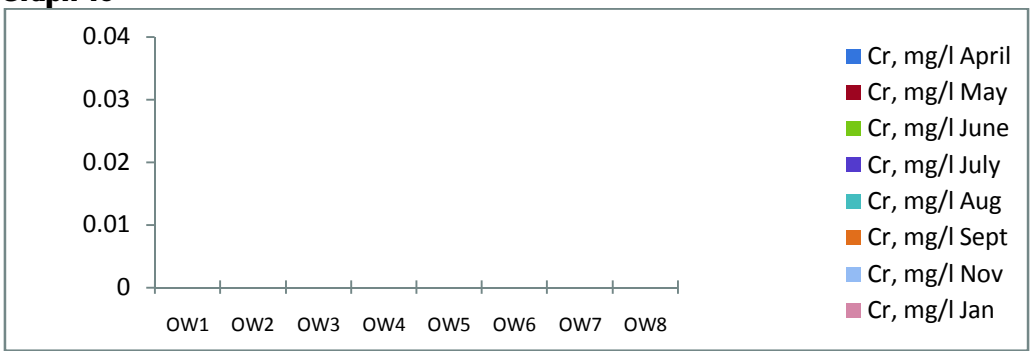
Graph 16



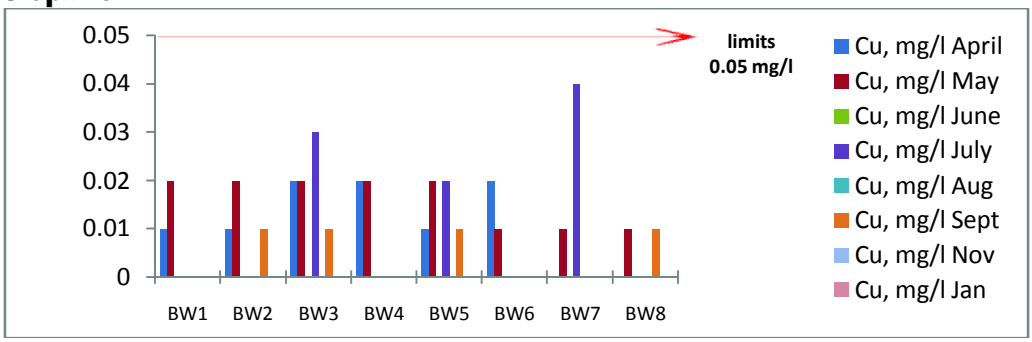
Graph 17



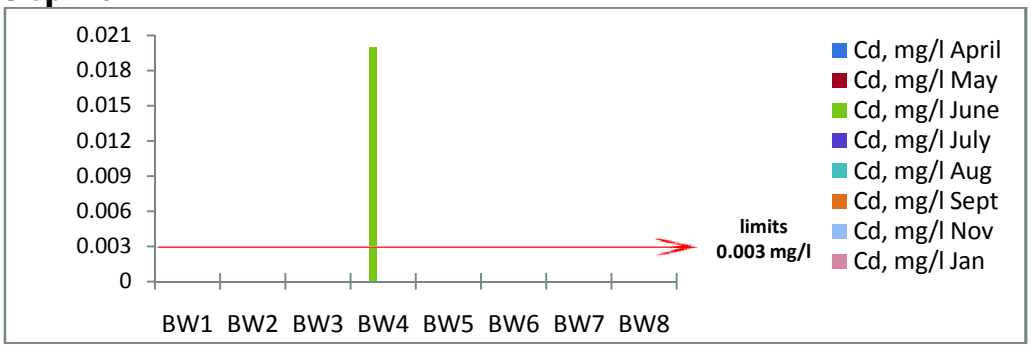
Graph 18



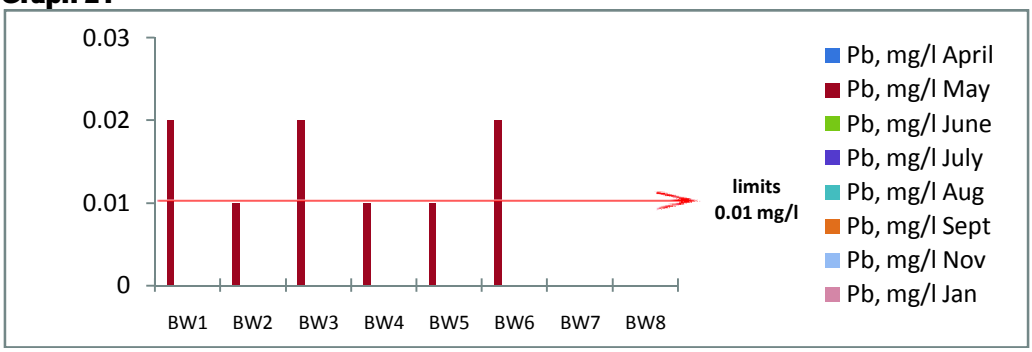
Graph 19



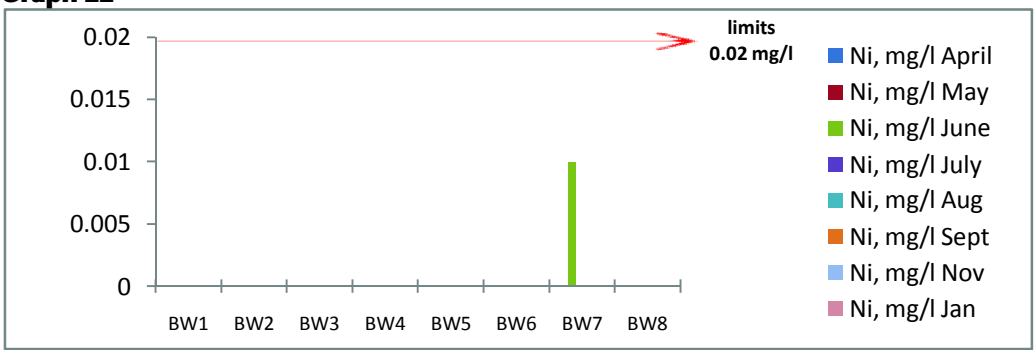
Graph 20



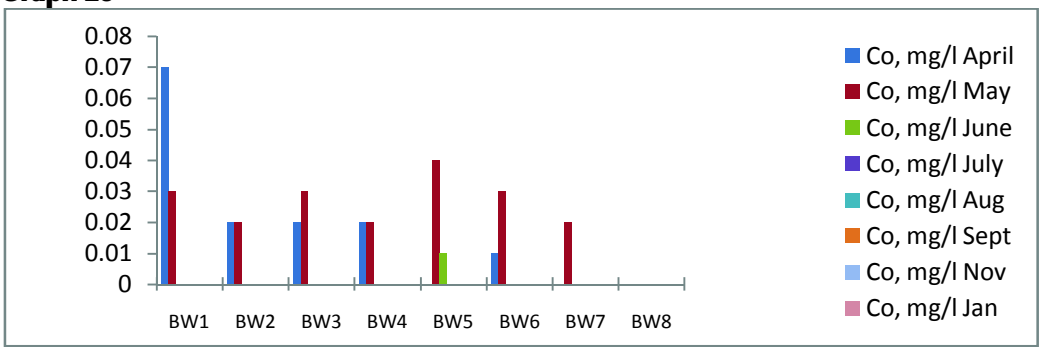
Graph 21



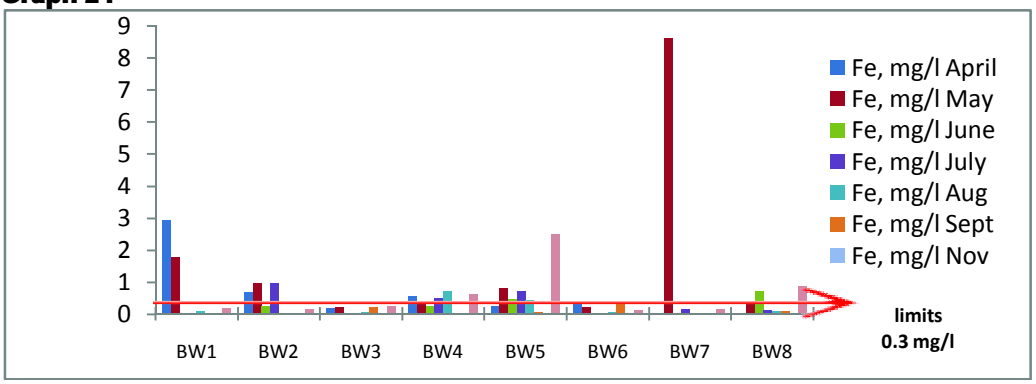
Graph 22



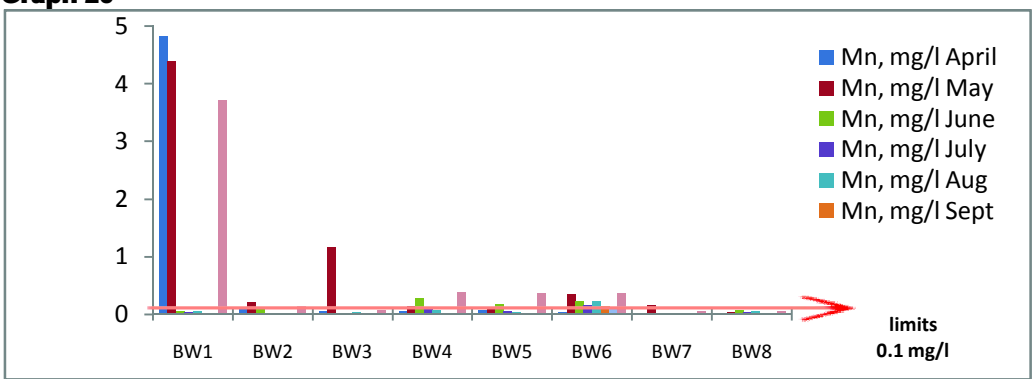
Graph 23



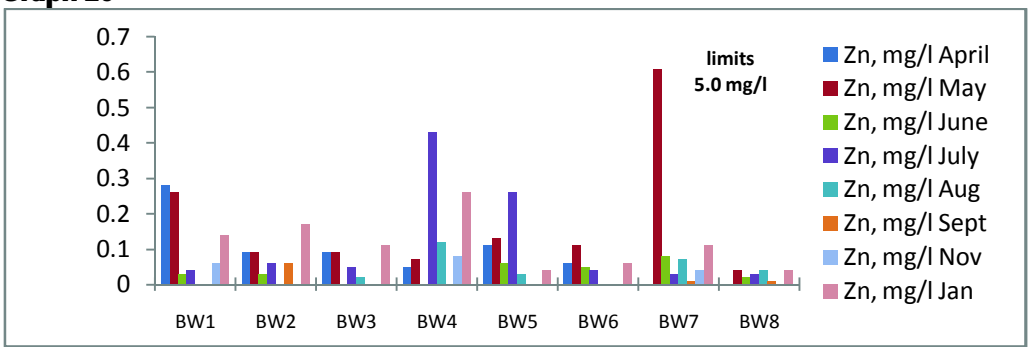
Graph 24



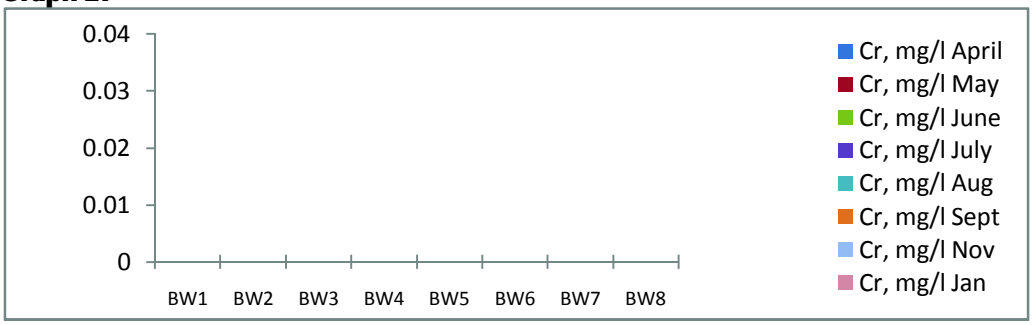
Graph 25



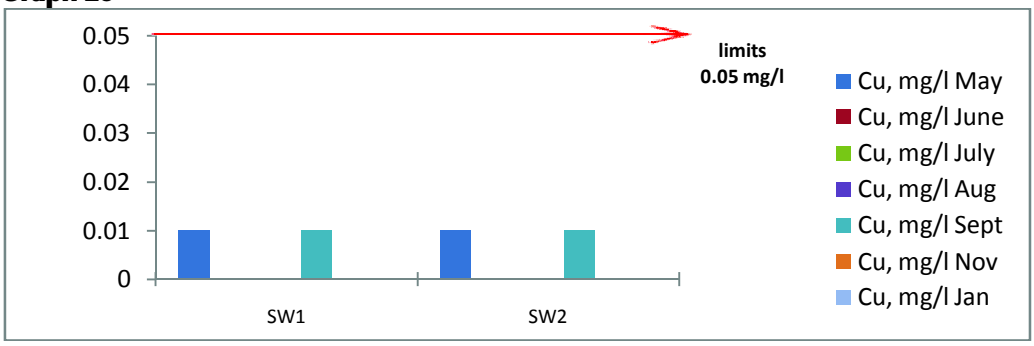
Graph 26



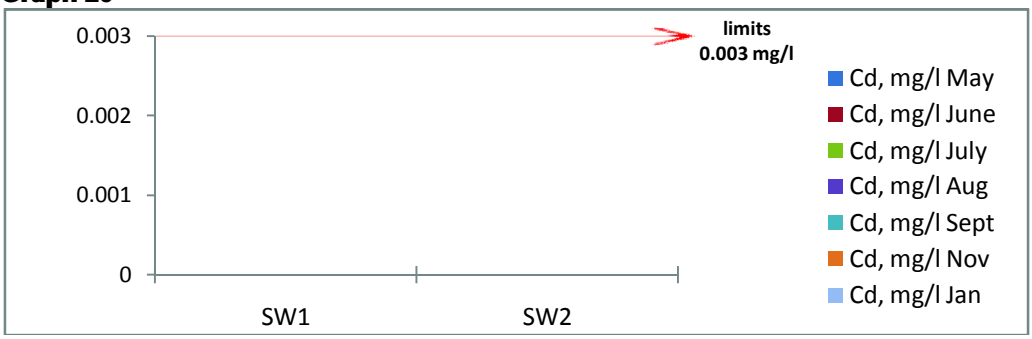
Graph 27



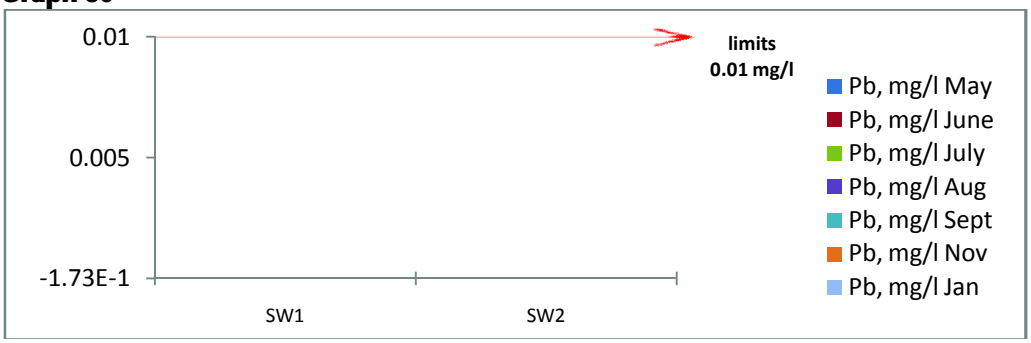
Graph 28



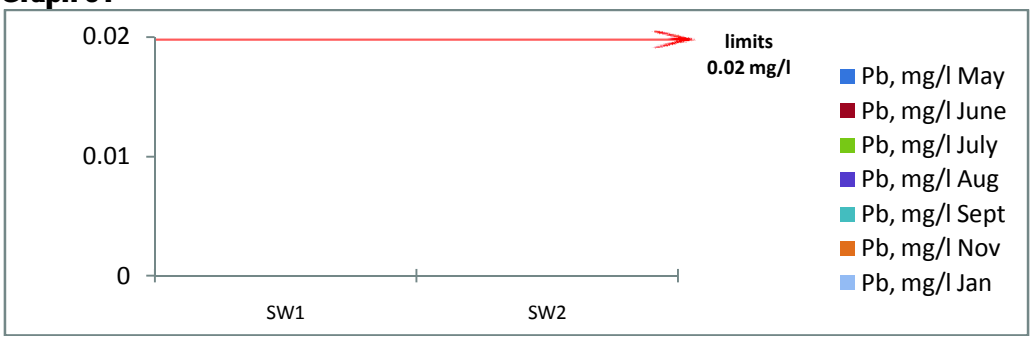
Graph 29



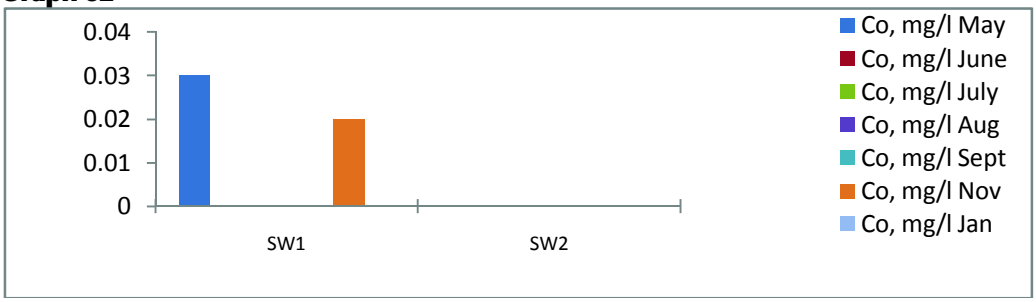
Graph 30



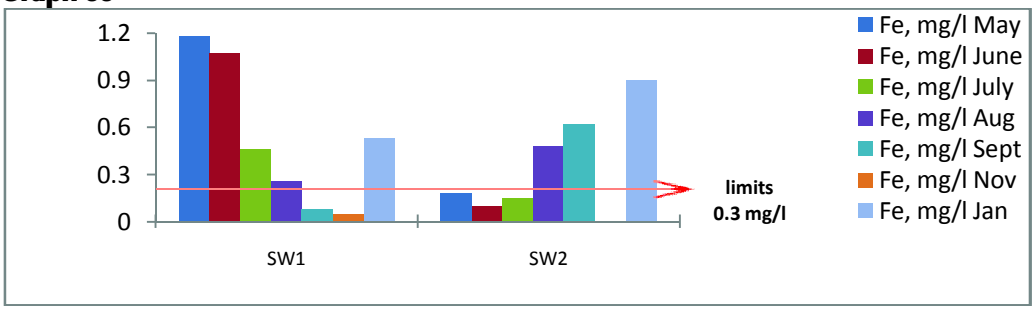
Graph 31



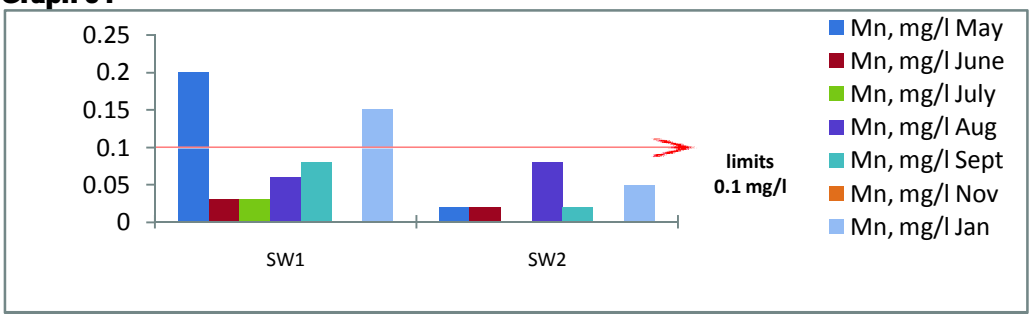
Graph 32



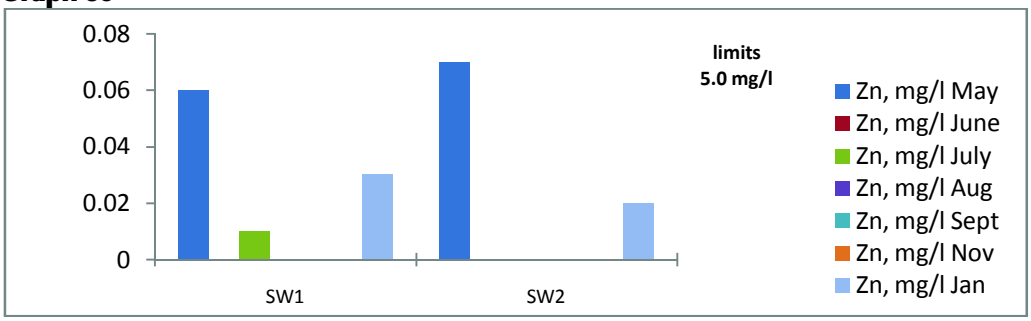
Graph 33



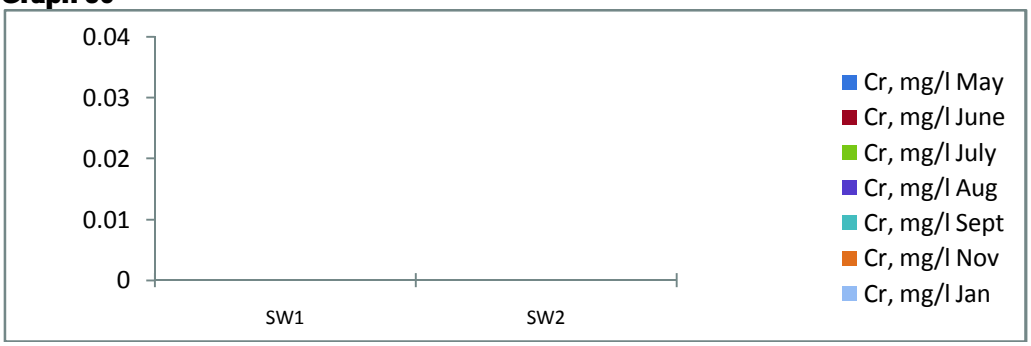
Graph 34



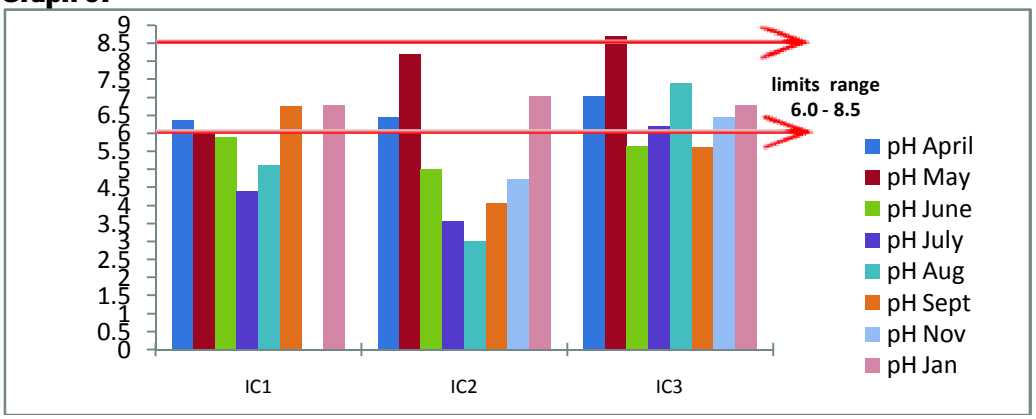
Graph 35



Graph 36



Graph 37



6.5 STATE LEVEL MONITORING CUM WORKING COMMITTEE FOR SOLID WASTE MANAGEMENT AND HIGH LEVEL TASK FORCE TO RESOLVE THE SOLID WASTE MANAGEMENT PROBLEMS IN THE STATE OF GOA

- The Government of Goa has constituted a **Monitoring Cum Working Committee** to support, consolidate and assist in the activities of various Government Departments, Local Panchayati Raj Institutions, NGO's / VGO's; who are working in the field of Solid Waste Management and monitoring the enforcement of the Goa Non Bio-degradable Garbage (Control) Act 1996 & Rules 1997 and the Plastic Waste (Management and Handling) Rules, 2011 under the Chairmanship of Hon. Minister for Environment and the **High level Task Force (HLTF)** to provide directions and implement various measures as announced in the Budget Speech, 2012-13, towards resolving the solid waste management problems affecting the State of Goa.

- The decisions taken by the Committee as well as the HLTF are implemented through the Goa State Pollution Control Board. The records and the accounts are also maintained by the Goa State Pollution Control Board.

- The following tasks were undertaken by the Committee / HLTF

1. The committee has signed a MoU with M/s. ACC Wadi Ltd. through Department of Science, Technology & Environment for disposal of baled non-recyclable combustible waste generated in the State in its cement kiln. Approx. 120 MT of the baled waste from Corporation of City of Panaji (CCP) has been transported and disposed at M/s. ACC Wadi Ltd. The cost of transportation was borne by the State Government.
2. The Committee subsequently has signed a MoU with M/s. Vasavadatta Cements as M/s. ACC Wadi had stopped accepting waste due to maintenance.
3. The Committee also had discussion with M/s. J. K. Cement and M/s. Bagalkot Cements regarding signing a MoU for disposal of the combustible waste. The waste was also sent to M/s. J. K. Cements for conducting trials. But so far no communication has been received in favor of the agreement for disposal of the waste.
4. The Monitoring Cum Working Committee for Solid Waste Management has thereafter continued the activity of the collection of the Highway waste along the National Highway by appointing contractors for collection and transportation through the Goa State Infrastructure Development Corporation Limited.
5. The Government through Monitoring cum Working Committee conducted awareness programme for 100 selected schools regarding segregation of the waste at source. In this training programme teachers were selected from the respective schools that were then trained regarding the segregation of waste at source. Set of four different bins were given to the 94 selected schools all over Goa for collection and segregation of the household / domestic waste. The same is already being implemented in these schools.
6. The non biodegradable waste collected by the Schools, Village Panchayats, Municipalities, NGOs, Housing Colonies, etc. are transported to the Civil Supplies Godown at Karapur Sarvan / and GHRSSIDC shed at Kakoda by the Contractor appointed by the Committee.
7. The collected waste at Kakoda is segregated and baled by the contractor appointed by M/s. Vasavadatta Cements. The cost of baling is borne by M/s. Vasavadatta whereas the cost of electricity and other infrastructure is borne by the Committee. The baled waste is then sent to the Cement kiln of M/s. Vasavadatta Cements, Sedam for co-incineration. The cost of the transportation is borne by the Committee.
8. The waste collected at Karapur Sarvan is presently being segregated by the Contractor appointed by the Committee, which will be soon baled and transported to M/s. Vasavadatta Cements for co-incineration at the cost of Committee.
9. The non biodegradable combustible waste collected by the Corporation of the City of Panaji is also transported by the Committee to M/s. Vasavadatta Cements for co incineration.
10. Approx. 750 MT of the baled non biodegradable non recyclable combustible baled waste has been transported and disposed at M/s. Vasavadatta Cements, Sedam

11. The Committee through local TV channels is also telecasting video clip for creating awareness regarding segregation of waste at source and prevention of littering in public places.
12. Accordingly the drives for this purpose were held and further the drive was extended vigorously from 22nd April 2013 on the occasion of Earth Day all over Goa and around the beaches of Goa.
13. The decision was taken in the meeting of High Level Task Force (HLTF) to ban the sale of plastic less 40 micron thickness and impose fine on the violators. The fines collected were approximately Rs.1,20,000/-.
14. The decision was also taken to make the major producers who are selling their goods in plastic bags to pay the plastic cess. The committee decided to increase VAT or impose 2 % cess on the products. The money received would be utilized for garbage management.

Fig 6.8 (1)Baling Machine

Fig 6.8 (2) Baling of Plastic Waste in progress

Fig 6.8 (3)Bales ready for further process

6..5.1 CO-PROCESSING OF PLASTIC WASTE

The collected, baled plastic waste is transported to M/s. Vasavadatta Cement for co-processing. The co-processing of waste is done in hot disc reactor. The temperature is maintained at 1050- 1150Deg C. The alternative fuel like plastic waste is used for co-processing which has a minimum calorific value of 2500Kcal/Kg. The alternative fuel will be able to attain up to 19% of total coal substitution. The use of alternative fuel will reduce use of fossil fuel.

Fig. 6.8 (4): Co-Processing of Plastic Waste

6.6 ANNUAL REPORT OF STACK MONITORING FOR THE YEAR APRIL 2014 TO MARCH 2015

During the year under report, the Goa State Pollution Control Board conducted Stack Emission Monitoring programmes for 30 stacks in 11 different industries within the State of Goa. The units mostly comprise of induction furnaces, reheating furnaces and sponge iron units. The stacks within the Met

Coke and Pig Iron plants of M/s Sesa Goa Ltd. were also monitored during the year. 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	Navelim – Amona Village	-	M/S. Sesa Goa Ltd	Hot Blast Stove - Blast Furnace (Expansion)	02.04.14
2	-	Cuncolim Ind. Estate	M/S. Shraddha Ispat Pvt Ltd	Induction Furnace	04.04.14
3	Navelim – Amona Village	-	M/S. Sesa Goa Ltd	Waste Heat Recovery Boiler No. 2 (Expansion)	07.04.14
4	-	Cuncolim Ind. Estate	M/S. Rukminirama Steel Rollings Pvt Ltd, Plot No. L-17	Induction Furnace (Hood Suction)	10.04.14
5.	Navelim – Amona Village	-	M/S. Sesa Goa Ltd	Pig Casting Machine Cast House Dedusting (Expansion)	16.04.14
6.	-	Cuncolim Ind. Estate	M/S. Shirdi Steel Re-Rollers Pvt Ltd	Reheating Furnace Rolling Mill (12-15T)	22.04.14
7.	-	Cuncolim Ind. Estate	M/S. Shirdi Steel Re-Rollers Pvt Ltd	Reheating Furnace Rolling Mill (6-8T)	25.04.14
8.	-	Cuncolim Ind. Estate	M/S. Rukminirama Steel Rollings Pvt Ltd, Plot No. L-26,	Reheating Furnace Rolling Mill 6-7T)	29.04.14
9.	Navelim – Amona Village	-	M/S. Sesa Goa Ltd	Waste Heat Recovery Boiler No. 1 (Expansion)	06.05.14
10.	Navelim – Amona Village	-	M/S. Sesa Goa Ltd	Waste Heat Recovery Boiler No. 2 (Expansion)	08.05.14
11.	Navelim – Amona Village	-	M/S. Sesa Goa Ltd	Hot Blast Stove - Blast Furnace (Expansion)	15.05.14
12.	Navelim – Amona Village	-	M/S. Sesa Goa Ltd	Pig Casting Machine Cast House Dedusting (Expansion)	21.05.14
13.	Ponda – Goa	-	M/s MRF LTD. (Unit – **I**)	Boiler (25T/hr)	14.11.14
14.	Ponda – Goa	-	M/s MRF LTD. (Unit – **I**)	Boiler (20T/hr)	18.11.14
15.	Ponda – Goa	-	M/s MRF LTD. (Unit – **I**)	Thermic Fluid Heater (15 Lakh kcal/hr)	21.11.14
16	Ponda – Goa	-	M/s MRF LTD. (Unit – **II**)	Thermic Fluid Heater - **I** (15 Lakh kcal/hr)	26.11.14
17.	Ponda – Goa	-	M/s MRF LTD. (Unit – **II**)	Thermic Fluid Heater - **II** (15 Lakh kcal/hr)	28.11.14
18.	-	Cuncolim Ind. Estate	M/S. Shraddha Ispat Pvt Ltd, Plot No. M-1,	Induction Furnace (12MT)	24.12.14
19.	-	Kundaim Ind. Estate	M/S. Cadila Healthcare Ltd, Plot No. 203-213,	Boiler (6T/ hr)	07.01.15
20.	-	Kundaim Ind. Estate	M/S. Cadila Healthcare Ltd, Plot No. 203-213,	Boiler (2T/ hr)	14.01.15
21.	Bethora – Ponda, Goa	-	M/S. United Breweries Ltd, Survey No.164,166,167	Boiler (8T/ hr)	21.01.15
22.	Marvasado, Usgaon , Ponda, Goa	-	M/S.Merck Limited, Survey No.11/1,	Boiler (6T/ hr)	28.01.15

23.	Marvasado, Usgaon , Ponda, Goa	-	M/S.Merck Limited, Survey No.11/1,	Boiler (4T/ hr)	30.01.15
24.	-	Pisurlem Ind. Estate	M/S. Ambey Metallic Ltd, Plot No. 69 to 75 & 143 to 160,	Rotary Kiln	16.02.15
25.	Zuari Nagar , Sancoale, Mormugao - Goa	-	M/s. Zuari Agro Chemicals Ltd , Survey No 110-252,	NPK – B (O5-5D 101)	18.02.15
26	Zuari Nagar , Sancoale, Mormugao - Goa	-	M/s. Zuari Agro Chemicals Ltd , Survey No 110-252,	NPK – A (N-CB 301)	23.02.15
27.	Zuari Nagar , Sancoale, Mormugao - Goa	-	M/s. Zuari Agro Chemicals Ltd , Survey No 110-252,	NPK – A (N-CB 201)	25.02.15
28.	Zuari Nagar , Sancoale, Mormugao - Goa	-	M/s. Zuari Agro Chemicals Ltd , Survey No 110-252,	U-IA (Urea Plant Prilling Tower)	04.03.15
29.	Zuari Nagar , Sancoale, Mormugao - Goa	-	M/s. Zuari Agro Chemicals Ltd , Survey No 110-252,	U-FD (Urea Plant Dust Seperator)	17.03.15
30	Santa Monica Works, Corlim , Ilhas ,Goa	-	M/s. Syngenta India Ltd, Survey No 28,	Boiler (10T/ hr)	30.03.15

The results of the stack emission monitoring indicate that the emissions from the flue gases are within the permissible limits except for five stacks for which the emissions exceeded the permissible limits. Necessary directions have been issued to four units and for one the process in on.

6.7 DETAILS ON AMBIENT AIR QUALITY MONITORING CONDUCTED BY THE BOARD DURING THE YEAR

In pursuance of the complaint received, the Goa State Pollution Control Board conducted ambient air quality monitoring programmes at the following complaint sites: (1) Municipal Solid Waste Site, Sada, Vasco, (2) Vicinity of Mormugao Port Trust at Sada and (3) Surrounding of Umia Habitat, Zuarinagar. The ambient air quality data is presented in the tables below

Table 6.4: Ambient air quality monitoring at MSW site, Sada, Vasco, w.r.t. complaince to judgement of Honourable NGT.

AAQM DATA FOR SADA								
	SO2 µg/m3		NO2 µg/m3		NH3 µg/m3		PM10 µg/m3	
DATE	Station 1	Station 2	Station 1	Station 2	Station 1	Station 2	Station 1	Station 2
05.11.14	BDL	11.82	19.44	17.22	39.95	31.06	146.01	113.61
07.11.14	42	27.31	22.15	28.73	53.73	16.67	144.82	90.65

Table 6.5: Ambient air quality monitoring in the vicinity of MPT port area, St-1 Residence of Mr. Arjun Toraskar, Bogda, St-2 Residence of Mr. Shabbir Bichanwar, Jetty Mangor

AAQM DATA FOR SADA						
	SO2 µg/m3		NO2 µg/m3		PM10 µg/m3	
DATE	Station 1	Station 2	Station 1	Station 2	Station 1	Station 2
22.01.15	BDL	BDL	20.39	24.86	55.33	63.05
27.01.15	6.94	8.53	24.16	28.29	118.53	76.49
29.01.15	BDL	BDL	27.08	19.4	49.02	90.99
03.02.15	6.59	6.24	8.89	33.2	108.72	102.17
05.02.15	4.07	4.07	18.24	23.57	62.31	66.64
10.02.15	BDL	BDL	23.48	29.4	93.37	94.37
12.02.15	BDL	BDL	16.8	15.64	130.86	190.56
17.02.15	11.22	7.41	BDL	9.1	82.27	91.85

Table 6.6 Ambient air quality monitoring in the vicinity of MPT port area, St-1 Near Residence of Mr. Milind Naik, Sada, Vasco.

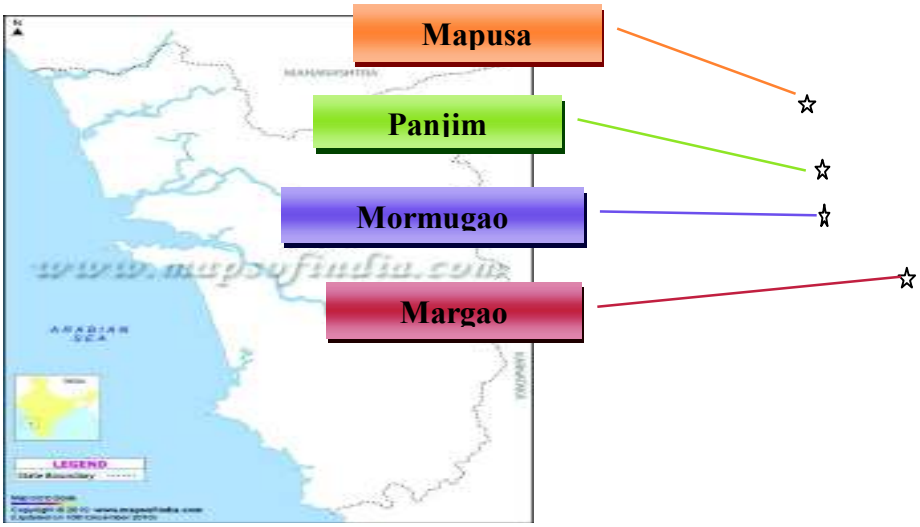
AAQM DATA FOR SADA			
	SO2 µg/m3	NO2 µg/m3	PM10 µg/m3
DATE	Station 1	Station 1	Station 1
17.03.15	BDL	18.26	84.93
20.03.15	4.51	11.02	92.52
24.03.15	BDL	BDL	90.82
26.03.15	BDL	13.05	89.08
31.03.15	BDL	15.63	76.93

Table 6.7 Ambient air quality monitoring w.r.t ammonia pollution at Umia Habitat, Zuarinagar.St-1 & St-2 within the building premises.

AAQM DATA FOR ZUARINAGAR				
	NH3 µg/m3		PM10 µg/m3	
DATE	Station 1	Station 2	Station 1	Station 2
08.10.14	43.47	27.71	151.88	139.33
10.10.14	BDL	26.19	179.17	137.74
13.10.14	22.71	22.35	108.49	106.48
15.10.14	BDL	BDL	116.89	121.02
20.10.14	26.24	BDL	83.55	88.71
24.10.14	BDL	BDL	39.06	37.87
27.10.14	BDL	BDL	17.66	22.45
29.10.14	BDL	BDL	50.91	50.4

The 24 hourly ambient air quality standards for Sulphur Dioxide, Nitrogen Dioxide Ammonia and Particulate Matter (PM10) are 80µg/m^3, 80µg/m^3 , 400µg/m^3 and 100µg/m^3.

6.8 REPORT ON AMBIENT AIR QUALITY AND NOISE LEVEL MONITORING DURING DEEPAWALI FESTIVAL, 2014



Ambient air quality and Noise level monitoring was conducted at four locations, i.e., Mapusa, Panaji, Mormugao and Margao towns. The monitoring data and results are as follows:

6.8.1 AMBIENT AIR QUALITY MONITORING DURING DEEPAWALI FESTIVAL, 2014

The data generated for ambient air quality monitoring conducted during Deepawali Festival at Mapusa, Panaji, Vasco and Margao is presented in the table below.

Table: 6. 8 Ambient Air Quality during Dipawali Festival, 2013

Parameter	SO_2			NO_2			PM_{10}		
Monitoring Day	Pre-	Deepawali	Post-	Pre-	Deepawali	Post-	Pre-	Deepawali	Post-
Date → / Location ↓	29/10/13	03/11/13		29/10/13	03/11/13		29/10/13	03/11/13	
Mapusa	9.66	11.11	9.78	11.86	13.85	12.22	57.18	74.97	78.23
Panaji	3.81	2	3.93	7.7	5.36	4.5	31.37	34.13	74.0
Vasco	4.8	2	3.1	11.6	4.5	6.5	35.6	32	43.6
Margao	5.7	10.5	5.9	9.6	12.5	8.9	63.2	72.6	48.4
Ponda	5.1	10.3	5.6	10.0	12.3	9.3	30.9	56.4	48.2
Concentration Range	4-10			9-20			40-80		
National Ambient Air Quality Standards	80			80			100		
All Values of concentrations are in $\mu g/m^3$ of air									

Remarks: **Panaji Pre-Deepawali monitoring was conducted on 28/10/13.**
Post Deepawali monitoring days are as follows: Panaji- 06/11/13, Vasco-07/11/13, Margao & Ponda- 05/11/13, Mapusa-07/11/13

The pollutant concentration is observed to be within the concentration range which is applicable to these areas.

6.8.2 NOISE LEVEL MONITORING DURING DEEPAWALI FESTIVAL, 2014

The data generated for the noise level monitoring during the Deepawali Festival at Mapusa, Panaji, Vasco and Margao is presented in the tables below.

City : Mapusa

- Latitude & Longitude : 15.60 ^{0}N, 73.82 ^{0}E
- Climate/Meteorology: Tropical Climate
- Population: 40,122 as per 2001 census
- Major land use: Urban

Monitoring Location: Mapusa High Court
Description of monitoring site: Silence
Activities around the monitoring location: Vehicle Movement

Table: 6.9: Data/Observations:Noise level during Deepavali festival, 2014:

Location A: Mapusa	Normal Day (15-10-2014)			Deepavali Day (23-10-2014)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	47.3	92.0	**64.5**	48.8	84.3	**68.3**
19:00 to 20:00 Hr	45.1	81.6	**65.7**	48.8	97.2	**68.8**
20:00 to 21:00 Hr	51.7	82.3	**63.1**	47.5	84.7	**64.1**
21:00 to 22:00 Hr	31.8	80.0	**63.8**	42.9	90.3	**63.5**
22:00 to 23:00 Hr	*	*	**63.8**	40.4	83.6	**59.3**
23:00 to 24:00 Hr	*	*	**60.0**	40.1	80.9	**56.3**

*** Data could not be retrieved due to software problem.**

Results: On normal day i.e on 15th October, considering the day time and night time noise level limits for Silence Zone i.e 50 dB for monitoring conducted between 18:00 to 22:00 Hrs and 40 dB for monitoring conducted between 22:00 to 24:00 Hrs, the noise levels were found to be exceeding the permissible limit due to vehicular movement.
On Deepawali day i.e on 23rd October, the noise levels exceeded the permissible limits due to bursting of fire crackers and continuous vehicular movement. Whereas from 22:00 to 24:00 Hr there was less vehicular movement.

City : Panjim

- Latitude & Longitude : $15^0$29'56' N, $73^0$49'40'E
- Climate/Meteorology: Tropical Monsoon Climate
- Population: 1,14,405 as per 2011 census
- Major land use: Urban

Monitoring Location: Patto-Panjim
Description of monitoring site: Commercial
Activities around the monitoring location: Vehicle Movement

Table 6.10: Data/Observations:Noise level during Deepavali festival, 2014:

Location B : Panjim	Normal Day (15-10-2014)			Deepavali Day (23-10-2014)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	52.8	79.7	60.7	*	*	63.0
19:00 to 20:00 Hr	51.4	81.7	59.5	*	*	64.3
20:00 to 21:00 Hr	50.1	82.2	58.1	*	*	61.1
21:00 to 22:00 Hr	50.0	81.5	55.0	*	*	55.2
22:00 to 23:00 Hr	46.4	77.7	53.3	59.0	90.2	**69.3**
23:00 to 24:00 Hr	48.6	77.3	53.4	59.5	69.0	**60.8**

*** Data could not be retrieved due to software problem**

Results: During normal day monitoring i.e on 15th October, considering day time and night time noise level limit for commercial zone i.e 65 dB for monitoring conducted between 18:00 to 22:00 Hrs and 55 dB for monitoring conducted between 22:00 to 24:00 Hrs, the noise levels were found to be within permissible limits.
Similarly on Deepawali day i.e on 23rd October, the noise level between 18:00 to 22:00 Hrs are within permissible limit, however the noise level between 22:00 to 24:00 Hrs showed slight increase due to bursting of fire fire crackers and vehicular movement.

.

City : Vasco

- Latitude & Longitude : $15^0$23'53'N, $73^0$48'40'E
- Climate/Meteorology: Tropical Climate
- Population: -
- Major land use: Urban

Monitoring Location: Fuse Call-Office, Vasco
Description of monitoring site: Commercial
Activities around the monitoring location: Vehicle Movement

Table: 6.11 Data/Observations:Noise level during Deepavali festival, 2014:

Location C : Vasco	Normal Day (16-10-2014)			Deepavali Day (23-10-2014)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	58.3	85.1	64.6	57.6	98.3	**73.1**
19:00 to 20:00 Hr	59.9	85.9	**67.4**	55.8	99.2	**78.4**
20:00 to 21:00 Hr	81.2	57.5	**71.5**	49.3	105.9	**95.5**
21:00 to 22:00 Hr	56.5	79.2	**69.8**	55.7	79.2	**70.2**
22:00 to 23:00 Hr	50.0	79.5	50.0	54.7	88.8	**69.6**
23:00 to 24:00 Hr	48.3	79.7	**55.6**	47.4	87.1	**67.2**

Results: On normal day monitoring i.e on 16th October, considering the day time and night time noise level limit i.e 65 dB for monitoring conducted between 18:00 to 22:00 Hrs and 55 dB for monitoring conducted between 22:00 to 24:00 Hrs, the noise levels were found to be exceeding the permissible limits except from 18:00 to 19:00 Hrs and from 22:00 to 23:00 Hr due to vehicular movement.
On Deepawali day i.e on 23rd October, the noise levels exceed the permissible limits due to bursting of fire crackers nearby and vehicular movement.

City : Margao

- Latitude & Longitude : $15^0$16'25'N, $73^0$57'29'E
- Climate/Meteorology: Tropical Monsoon Climate
- Population: 1,06,528 as per 2011 census
- Major land use: Urban

Monitoring Location: Municipality Garden
Description of Monitoring Site: Commercial
Activities around the monitoring location: Vehicle Movement

Table: 6.12. Data/Observations:Noise level during Deepavali festival, 2014:

Location D : Margao	Normal Day (16-10-2014)			Deepavali Day (23-10-2014)		
Time duration	Lmin	Lmax	Leq dB(A)	Lmin	Lmax	Leq dB(A)
18:00 to 19:00 Hr	*	*	**68.1**	58.1	84.8	**67.6**
19:00 to 20:00 Hr	*	*	**66.1**	56.2	83.2	63.4
20:00 to 21:00 Hr	*	*	62.9	54.5	82.3	62.3
21:00 to 22:00 Hr	48.4	79.4	60.4	53.1	81.3	62.4
22:00 to 23:00 Hr	45.8	76.4	**58.5**	47.4	76.6	**58.5**
23:00 to 24:00 Hr	45.9	81.6	**57.1**	44.9	81.7	**57.7**

*** Data could not be retrieved due to software problem.**

Results: On normal day monitoring i.e on 16th October, considering the day time and night time noise level limits i.e 65 dB for monitoring conducted between 18:00 to 22:00 Hrs and 55 dB for monitoring conducted between 22:00 to 24:00 Hrs, the noise levels were found to be exceeding the permissible limit except from 20:00 to 22:00 Hrs due to continuous vehicular movement.

On Deepavali day i.e on 23rd October, the noise level between 18:00 to 19:00 Hr and 22:00 to 24:00 Hrs exceeds the permissible limit due to continuous vehicular movement and occasional fire crackers. Where as, from 22:00 to 24:00 Hr there was less vehicular movement.

6.9 CONTINUOUS ONLINE MONITORING SYSTEMS

During the year under report, the following industries have installed Continuous Online Monitoring Systems in compliance to the directions issued by the Board.

1. M/s. Merck (India) Ltd., Usgao
2. M/s. Reliance Energy Ltd., Sancoale
3. M/s. Sesa Goa Ltd., PIP Division, Bicholim
4. M/s. Syngenta India Ltd., Corlim
5. M/s. Zuari Industries Ltd., Zuarinagar
6. M/s. Goa Sponge & Power Ltd., Santona-stack provided
7. M/s. Shraddha Ispat Ltd., Santona-stack provided
8. M/s. Srithik Ispat, Sanguem--stack provided
9. M/s. Ambey Metallic, Pissurlem--stack provided
10. M/s. United Breweries, Bethora
11. M/s. United Spirits, Bethora
12. M/s. MRF Ltd., Ponda
13. M/s. John Distilleries, Cuncolim

6.10 PERFORMANCE EVALUATION OF EFFLUENT TREATMENT PLANTS OPERATING IN GOA

The Board conducted the performance evaluation study of the following 11 treatment plants.

SEWAGE TREATMENT PLANT – BLUE COAST HOTELS AND RESORTS LTD; (PARK HYATT) AT AROSSIM BEACH, CANSAULIM-GOA Monitored on 18-06-2014 TO 19-06-2014 (24hrs)

The following are the observations and Conclusions.

a. The Sewage Treatment Plant was designed capacity to treat 350 KLD waste water generated from the premises of hotel. The STP received 250.0 KLD waste water from the resort during the monitoring period from 18th June 2014 to 19th June 2014 for treatment. The dissolved oxygen value at Aeration Tank is 1.8 mg/l. Analysis of samples collected for 24 hours during operation of plant indicates that BOD value has exceeded the consent limits ie. **52** mg/l. All other parameters are within the consent limits.

b. SUMMARY AND CONCLUSIONS

a. The performance study was conducted during operation of resort ie. 47.7% occupancy.
b. The Sewage Treatment Plant was designed for treatment of 350 M^3/day; however, during 24 hrs monitoring period resort generated 250.0 KLD of waste water.
c. The mixed liquor suspended solids (MLSS) value Aeration Tank is 2500.0 mg/l and it shows that sludge development is good for maintaining MLSS
d. The waste water generated (Raw Sewage) is collected in collection sumps (7 Nos) at different locations within the resorts premises and the same is pumped for treatment.
e. The bottom untreated sludge is collected in collection sumps and sent for treatment and disposal at PWD-STP, Vasco.
f. The dissolved oxygen value at Aeration Tank is 1.8 mg/l. It indicates that DO is maintained properly as per the requirements.
g. The Sewage Treatment plant was operating at F/M ratio of 0.57 per day.
h. The laundry waste water ie. 40 -45 KLD is also diverted in the said treatment plant and is treated combined.
i. Analysis of samples collected for 24 hours during operation of plant indicates that BOD value has exceeded the consent limits ie. **52** mg/l. All other parameters are within the consent limits .

j. During the time of STP monitoring, it was observed that the raw effluent was flowing over the bar screens due to blocked bar screens on to the ground and same is collected in collection tank and further it is pumped back for the treatment.

k. The Oil & Grease chambers were full of oil from the kitchen waste and needs immediate clearance of the waste oil accumulated in the chambers.

C. RECOMMENDATIONS

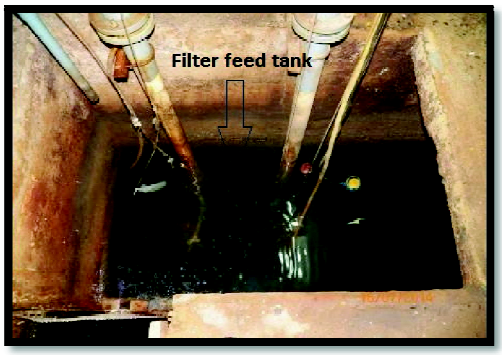
a. The Sewage Treatment Plant is required to be operated and maintained at regular interval to bring down the consent parameters within the limits.

b. The flow meters should be installed at the STP ie. Intake point, for measuring the intake quantity.

c. Register/records should be maintained of the sludge generated and disposed.

d. The Oil and Grease Chambers should be cleaned at regular interval so as to avoid overflow from oil & grease trap.

e. Bar Screens should be cleaned at regular interval also the size of bar screen chamber should be increased in order to control overflow of raw sewage.



2. **SEWAGE TREATMENT PLANT – P.G HOLIDAY INN PVT LTD (SILVER SAND BEACH RESORT) COLVA BEACH , COLVA SALCETE –GOA MONITORING CONDUCTED ON 12-05-2014 TO 13-05-2014 (24hrs)**

The following are the observations and Conclusions.

A. The Sewage Treatment Plant was designed capacity to treat 40.0 KLD waste water generated from the premises of hotel. The STP received 6.0 KLD waste water from the resort during the monitoring period from 12th May 2014 to 13th May 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits due to excess aeration.

B SUMMARY AND CONCLUSIONS

a. The Sewage Treatment Plant was designed for treatment of 40 M^3/D from the hotel unit; however, only 6.0 KLD (15%) of waste water was received during monitoring period.
b. The mixed liquor suspended solids (MLSS) value at the Aeration Tank is 2690 mg/l.
c. The waste water generated is sent for Aeration tank. After 2 hrs. the waste water is directly pumped in to clarifier, overflow from clarifier goes to holding tank and from holding tank to sand filter and carbon filter and collected in Treated Water Collection Tank (5000lts cap) for disposal at PWD STP at Margao..
d. Sludge from the aeration tank is pumped into Sludge Holding tank for storage.
e. The activated sludge plant was operating at F/M ratio at 0.0194 per day respectively(below the standard)
f. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits due to excess aeration.

C. RECOMMENDATIONS

1. All Raw Sewage collection tanks should be directly connected to Aeration Tank by gravity flow so that the sludge will be treated properly and it will facilitate in developing the MLSS in the Aeration Tank. The aeration tanks should be preferably open tanks to enhance the aeration.
2. The sludge generation process should have return sludge pump to sent back to aeration tank in order to maintain the MLSS.
3. All records should be maintained of the sludge generated at all tanks (Collection Tanks, Aeration Tank, Clarifier etc),waste water generated & disposed after treatment and flow meter should be install for inlet to the treatment plant.
5. Consent has to be amended for mode of disposal as the hotel disposed the treated waste water to the PWD STP at Margao and does not use for gardening due to unavailability of land for same.
6. The performance study should be repeated during 75% capacity operation of the hotel.

Aeration Tank

Filtration Units

3. EFFLUENT TREATMENT PLANT – SYNGENTA INDIA LTD; AT SANTA MONICA WORKS , CORLIM, ILHAS-GOA MONITORING CONDUCTED ON 09-07-2014 TO 10-07-2014 (24hrs)

The following are the observations and Conclusions.

A. The Effluent Treatment Plant was designed capacity to treat 4000 KLD waste water generated from the premises of Industry. The ETP received 2808 KLD waste water from the industry during the monitoring period from 09th July 2014 to 10th July 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

B. SUMMARY AND CONCLUSIONS

a. The performance study was conducted during operation of industry.
b. During the time of monitoring the industry was in production of following Product
   i. Prelitachor :- 40 MT
   ii. Thimethoxam :- 52 MT
   iii. Formulation :- 26.5 MT

1. Actara :- 13.8 MT
2. Topic 15 WP :- 12.7 MT

c. The ETP Treatment Plant was designed for treatment of 5000 M^3/day; however, during 24 hrs monitoring period industry generated 3200 KLD of waste water.

d. The mixed liquor suspended solids (MLSS) values to Aeration Tank is 2714.0 mg/l (Aeration Tank 3) and 1845 mg/l (Aeration Tank-1) and it shows that sludge development is good for maintaining MLSS

e. The waste water generated (Raw Sewage) is collected in collection sumps and pumped in to Equalisation cum Neutralization tank for further treatment.

f. The bottom sludge after primary treatment is collected in to collection sumps and subjected to mechanical dewatering. Moist sludge is further sent for surface drying and filled in bags within the premises and further disposal by co-processing at ACC Ltd; Wadi, Gulbarga.

g. The dissolved oxygen values at Aeration Tanks are 6.1 mg/l and 4.9 mg/l It indicates that DO is maintained properly as per the requirements.

h. The Effluent Treatment plant was operating at F/M ratio of 0.052 & 0.035 per day.

i. The Incinerator liquid waste water ie. 1391 KLD is also treated separately and final it is mixed with final effluent of main ETP plant and disposed in the cumbarjua canal through diffusers.

j. Analysis of samples collected for 24 hours during operation of plant indicates that Nickel value has exceeded the consent limits ie. **0.18** mg/l. All other parameters are within the consent limits.

C. RECOMMENDATIONS

a. The Effluent Treatment Plant is required to be operated and maintained at regular interval to bring down the consent parameters within the limits.

b. The flow meters should be installed at the ETP ie. Intake point, for measuring the intake quantity.

c. Register/records should be maintained of the ETP sludge generated and disposed.

d. The Heavy Metals should be treated to bring down the parameters within the permissible limits as per the consent order.

e. The hazardous sludge generated from ETP should be disposed off as per the Hazardous rules.

PICTURES SHOWING THE EFFLUENT TREATMENT PLANT – SYNGENTA INDIA LTD; AT SANTA MONICA WORKS , CORLIM, ILHAS-GOA

Neutralization Tank

Clari-floculator

4. **EFFLUENT TREATMENT PLANT – PERFECT LAUNDRY & DRY CLEANER VERNA INDUSTRIAL ESTATE, VERNA, SALCETE -GOA MONITORING CONDUCTED 12-08-2014 TO 13-08-2014 (24hrs)**

The following are the observations and Conclusions.

A. The Effluent Treatment Plant was designed capacity to treat 30.0 KLD waste water generated from the premises of Industry. The ETP received 4.5 KLD waste water from the industry during the monitoring period from 12th Aug. 2014 to 13th Aug. 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

B. SUMMARY AND CONCLUSIONS

a. The Industry has designed an Effluent Treatment Plant to treat 30 M^3/D, however, only 4.5 KLD of waste water was generated during monitoring period.

b. The analysis reports indicate that the final treated effluent ie. BOD is exceeding the standards laid down in the consent order.

c. The waste water generated is collected in collection tank, from this tank it is pumped in to Reaction/settling tank, in this tank pH correction is done by adding sodium Hydroxide. Alum is also added for coagulation and sedimentation. Then after Poly Electrolyte solution and after settling the bottom sludge is removed and sent to sludge drying beds. The liquid supernatant water is collected in Primary Treated collection tank, further water is sent to sand filter and carbon filter. The filtered effluent is directly collected in tanker for transportation and disposal for gardening in the premises of M/s. Cipla Ltd; Verna Industrial Estate.

d. The sludge generated from the reaction tank is removed and disposed in the sludge drying beds. The quantum of the same was not recorded.

e. Analysis reports of Final effluent(Composite Samples) collected during 24 hours operation of plant indicates that B.O.D. parameter **(60 mg/l)** does not comply with the prescribed standard limits laid down in the consent order ie**. 30 mg/l.**

f. The industry is operating the treatment system to treat the laundry waste water by physico-Chemical treatment facilities. No Biological treatment provided to reduce the BOD from the waste water and hence F/M ratio, MLSS test has not been conducted.

C. RECOMMENDATIONS

a. The BOD parameter is exceeding the permissible limits it indicates that Biological Treatment is required to bring down the BOD within limits ie. 30 mg/l.

b. The Sand filter and Carbon filter should be cleaned at regular interval so as to bring down the suspended solids in the final effluent below that of preliminary treated water.

c. The flow meters should be installed for influent and treated waste water with daily records maintained.

d. Records should be maintained of the sludge generated and disposed.

e. Tree plantation should be continued during monsoon period within the premises in order to develop green belt in the surrounding areas.

Photograph showing the Effluent Treatment Plant at M/s. Perfect Laundry & Dry Cleaner; Verna Industrial Estate, Verna, Salcete-Goa,

Clarification

Filtration

5. **SEWAGE TREATMENT PLANT OF PUBLIC WORKS DEPARTMENT – TONCA, PANAJI - GOA MONITORING CONDUCTED 08-09-2014 TO 09-09-2014 (24hrs)**

The following are the observations and Conclusions.

A. The Sewage Treatment Plant was designed capacity to treat The Sewage Treatment Plant is designed for peak flow of 28.125 MLD. The ETP received 15.822 MLD waste water from the city during the monitoring period from 08th Sept. 2014 to 09h Sept. 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

B. SUMMARY AND CONCLUSIONS

a. The sewage treatment plant of Public Works Department at Tonca is operational and Analysis of samples collected for a period of 24 hours during operation of plant indicates that parameters are within the prescribed limits of the consent issued by the Board.
b. On perusal of the log sheets for the past one year it is observed that the rate of sewage received at the sewage treatment plant is well within the designed flow ie. Peak flow 28.125 MLD.
c. The mixed liquor suspended solids (MLSS) value C-Tech basin No1 is 2077 mg/l and C-Tech basin No. 2 is 2253 mg/l respectively.
d. The dissolved oxygen values at C-Tech basin No1 and C-Tech basin No. 2 are 3.95mg/l and 3.1mg/l respectively.
e. The activated sludge plant was operating at F/M ratio at C-Tech basin No1 and C-Tech basin No 2 at 0.38 per day and 0.35 per day respectively.
f. The excess sludge generated is centrifuged and disposed in sludge drying beds. However, no records have been maintained.
g. Incoming flow of raw effluent at STP is around 15.822 MLD during monitoring period.
h. The treated effluent is discharged in to river Mandovi and partly flowing into the St. Inez Creek.
i. The sludge generated at the STP is approximately 5.0 M^3 per day as per the records maintained at the site.
j. The STP has installed 5 pumps to discharge the treated water in to river Mandovi. Records of pumping are maintained at the site.

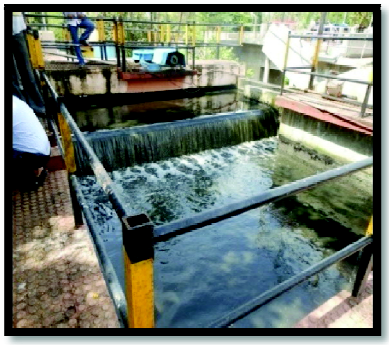
C. RECOMMENDATIONS

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

PHOTOGRAPHS SHOWING DIFFERENT STAGES OF TREATMENT

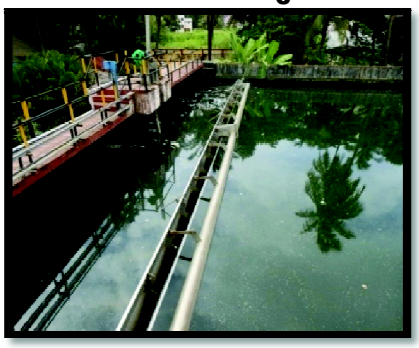
Inlet well (Raw sewage)

Core screen for removal of grits, plastics, metals etc. from the sewage



Grit Removal Chamber

Oil and Grease chamber



C-TECH basin with decanter

Chlorination Tanks

6. **SEWAGE TREATMENT PLANT OF PUBLIC WORKS DEPARTMENT – TONCA,PANAJI -GOA MONITORING CONDUCTED 22-12-2014 TO 23-12-2014 (24hrs)**

The following are the observations and Conclusions.

A. The Sewage Treatment Plant was designed capacity to treat The Sewage Treatment Plant is designed for peak flow of 28.125 MLD. The ETP received 9.5 MLD waste water from the city during the monitoring period from 22nd December. 2014 to 23rd December 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

B. SUMMARY AND CONCLUSIONS

a. The sewage treatment plant of Public Works Department at Tonca is operational and Analysis of samples collected for a period of 24 hours during operation of plant indicates that parameters are within the prescribed limits of the consent issued by the Board.
b. On perusal of the log sheets for the past one year it is observed that the rate of sewage received at the sewage treatment plant is well within the designed flow ie. Peak flow 28.125 MLD.
c. The mixed liquor suspended solids (MLSS) value C-Tech basin is 1645 mg/l.
d. The dissolved oxygen values at C-Tech basin is 1.7mg/l.
e. The activated sludge plant was operating at F/M ratio at C-Tech basin 0.58 per day.
f. The excess sludge generated is centrifuged and disposed in sludge drying beds. However, no records have been maintained.
g. Incoming flow of raw effluent at STP is around 9.5 MLD during monitoring period.
h. The treated effluent is discharged in to river Mandovi.
i. The sludge generated at the STP is approximately 5.0 M^3 per day as per the records maintained at the site.

j. The STP has installed 5 pumps to discharge the treated water in to river Mandovi. Records of pumping are maintained at the site.

C. RECOMMENDATIONS

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

7. EFFLUENT TREATMENT PLANT – M/S.SEAHATH CANNING COMPANY MARGAO INDUSTRIAL ESTATE, ST.JOSE DE AREAL, SALCETE -GOA MONITORING CONDUCTED 15-05-2014 TO 16-08-2014 (24hrs)

The following are the observations and Conclusions.

A. The Effluent Treatment Plant was designed capacity to treat 30.0 KLD waste water generated from the premises of Industry. The ETP received 6.4 KLD waste water from the industry during the monitoring period from 15th May 2014 to 16th May 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

B. SUMMARY AND CONCLUSIONS

a. The Industry has designed an Effluent Treatment Plant to treat 30 M^3/D, however, only 6.4 KLD of waste water were generated during monitoring period.
b. The analysis reports indicate that the final treated effluent is meeting the standards laid down in the consent order.
c. The waste water generated is sent for An-Aerobic tank after 24 hrs the said waste water is collected in collection tank from this tank it is pumped in to aeration tank, After aeration the overflow is sent for clarifier and from clarifier the overflow water is collected in holding tank from holding tank is it pumped & sent for Sand Filter and Carbon filter and treated water is used for tree plantation within the premises.
d. The analysis reports indicate that MLSS & DO in the aeration tank is to low due to partly openings of Aeration Tank. The mixed liquor suspended solids (MLSS) value in **Aeration Tank is 505.0 mg/l** and **DO is 0 mg/l** and it shows that sludge development is much below the required quantity ie. **3000 mg/l-3500mg/l.,** and **DO 1.0 to 2.0 mg/l**. as per (**activated sludge process**) indicating that Aeration is not sufficient to develop the MLSS and DO.
e. The activated sludge plant was operating at F/M ratio at 1.59 per day respectively.
f. The sludge generated from the Clarifier tank is removed and disposed in the sludge drying beds. The quantum of the same was not recorded.
g. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

C. RECOMMENDATIONS

1. The MLSS & DO in the aeration tank is to low due to lack of aeration and partially opening of aeration tank at the top. The Aeration tank should be designed properly so as to develop the MLSS and DO in the aeration tank.
2. The sludge generation process should have return sludge pump to send back to aeration tank in order to maintain the MLSS.
3. The flow meters should be installed for influent and treated waste water generated and disposal.
4. Records should be maintained of the sludge generated and disposed.
5. Tree plantation should be continued during monsoon period within the premises in order to develop green belt in the surrounding areas.

Photograph showing the Effluent Treatment Plant at M/s. Seahath Canning Company

Raw water collection Chamber

Aeration Tank & Clarifier

Carbon and sand filter

Final Effluent Collection Tank

8. **EFFLUENT TREATMENT PLANT – M/S.SEAHATH CANNING COMPANY MARGAO INDUSTRIAL ESTATE, ST.JOSE DE AREAL, SALCETE -GOA MONITORING CONDUCTED 15-01-2015 TO 16-01-2015 (24hrs)**

The following are the observations and Conclusions.

A. The Effluent Treatment Plant was designed capacity to treat 30.0 KLD waste water generated from the premises of Industry. The ETP received 6.0 KLD waste water from the industry during the monitoring period from 15th January 2015 to 16th January 2015 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

B. SUMMARY AND CONCLUSIONS

a. The Industry has designed an Effluent Treatment Plant to treat 30 M^3/D, however, only 6.0 KLD of waste water were generated during monitoring period.
b. The analysis reports indicate that the final treated effluent is meeting the standards laid down in the consent order.
c. The waste water generated is sent for An-Aerobic tank after 24 hrs the said waste water is collected in collection tank from this tank it is pumped in to aeration tank, After aeration the overflow is sent for clarifier and from clarifier the overflow water is collected in holding tank from holding tank is it pumped & sent for Sand Filter and Carbon filter and treated water collected in overhead Tank (2000 Lits Capacity) is used for tree plantation within the premises.
d. The analysis reports indicate that MLSS & DO in the aeration tank value in **Aeration Tank is 1875.0 mg/l** and **DO is 3.0 mg/l** .
e. The activated sludge plant was operating at F/M ratio at 0.16 per day respectively.
f. The sludge generated from the Clarifier tank is removed and disposed in the sludge drying beds. The quantum of the same was not recorded.
g. Analysis reports of Final effluent collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

C. RECOMMENDATIONS

1. The flow meters should be installed for influent and treated waste water generated and disposal.
2. Records should be maintained of the sludge generated and disposed.
3. Tree plantation should be continued during monsoon period within the premises in order to develop green belt in the surrounding areas.

9. SEWAGE TREATMENT PLANT – HOTEL COLVA KINAR , COLVA SALCETE –GOA MONITORING CONDUCTED ON 25-11-2014 TO 26-11-2014 (24hrs)

The following are the observations and Conclusions.

A. The Sewage Treatment Plant was designed capacity to treat 30.0 KLD waste water generated from the premises of hotel. The STP received 15.0 KLD waste water from the resort during the monitoring period from 25th November 2014 to 26th November 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters does not comply with the prescribed standard limits due to excess aeration.

B SUMMARY AND CONCLUSIONS

a. The Sewage Treatment Plant was designed for treatment of 30 M^3/D from the hotel unit; however, only 15.0 KLD (50%) of waste water was received during monitoring period.
b. The mixed liquor suspended solids (MLSS) value at the Aeration Tank is 1605 mg/l.
c. The waste water generated from the hotel rooms, Kitchen, Laundry etc. is collected in collection Tanks (PVC and Concrete) with partition in the collection tank. The waste water from the collection Tank is pumped in to Aeration tank (Bio-reactor) for aeration. The Aeration overflow is sent for Tube settler (Settling Tank) and from settling tank it is taken for send filter and carbon filter. From SF/CF the treated water is directly pumped in to Treated Water Collection Tank (5000lts cap) for gardening within hotel premises.
d. Sludge from the collection tanks is pumped and taken for PWD Sewage Treatment Plant for disposal.
e. The activated sludge plant was operating at F/M ratio at 0.129 per day respectively
f. Analysis of data collected from 24 hours during operation of Sewage Treatment plant indicates that the consent parameters does not comply with the prescribed standard limits due to lack of operational Knowledge and experience in operation of Sewage Treatment Plant.

C. RECOMMENDATIONS

1. The Sewage Treatment Plant should be operated properly so as to meet the required standard prescribed in the consent order issued by this board.
2. Raw Sewage from collection tanks should be pumped fully in order to attain the stability of MLSS and Food to Micro organisms ratio
3. The sludge generation process should have return sludge pump to sent back to aeration tank in order to maintain the MLSS.
4. All records should be maintained of the sludge generated at all tanks (Collection Tanks, Aeration Tank, Settling/Tube Settler etc),waste water generated & disposed after treatment and flow meter should be install for inlet to the treatment plant.
5. The performance study should be repeated once the STP stabilize/upgraded by the hotel unit.

PHOTOGRAPHS SHOWING DIFFERENT STAGES OF TREATMENT.

Aeration Tank, Tube Settler

Filtration units: Sand filter and Carbon Filter

10. **SEWAGE TREATMENT PLANT – HOTEL VICTOR EXOTICA BEACH RESORT BAMON VADO, CANDOLIM, BARDEZ –GOA MONITORING CONDUCTED ON 09-12-2014 TO 10-12-2014 (24hrs)**

The following are the observations and Conclusions.

A. The Sewage Treatment Plant was designed capacity to treat 40.0 KLD waste water generated from the premises of hotel. The STP received 30.0 KLD waste water from the resort during the monitoring period from 09th December 2014 to 10th November 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits due to excess aeration.

B SUMMARY AND CONCLUSIONS

a. The Sewage Treatment Plant was designed for treatment of 40 M^3/D from the hotel unit; however, only 30.0 KLD (75%) of waste water was received during monitoring period.

b. **The mixed liquor suspended solids (MLSS) from the Aeration Tank was not collected due to very low settleable solids ie almost NIL In Imoff Cone**.

c. The waste water generated from the hotel rooms, Kitchen, Laundry etc. is collected in collection Tanks via Oil & Grease Trap. The waste water from the collection Tank is pumped in to Aeration tank for aeration. The Aeration overflow is sent for (Settling Tank) and from settling tank it is taken for send filter and carbon filter. From SF/CF the treated water is directly pumped in to Treated Water Collection Tank (5000lts cap) for gardening within hotel premises.

d. Hotel has installed a flow meter for treated water disposal used for gardening.

e. Sludge from the collection tanks is pumped and taken for PWD Sewage Treatment Plant for disposal.

f. Analysis of data collected from 24 hours during operation of Sewage Treatment plant indicates that the consent parameters comply with the prescribed standard limits as per consent order However due to lack of operational Knowledge and experience in operation of Sewage Treatment Plant low sludge has been observed.

C. RECOMMENDATIONS

1. The Sewage Treatment Plant should be operated properly so as to meet the operational standards ie MLSS, SVI Settleable solids etc. as per the STP operation procedure.

2. Raw Sewage from collection tanks should be pumped fully/Partly in order to attain the stability of MLSS and Food to Micro organisms ratio.

3. The sludge generation process should have return sludge pump to sent back to aeration tank in order to maintain the MLSS.

4. All records should be maintained of the sludge generated at all tanks (Collection Tanks, Aeration Tank, Settling Tank etc),waste water generated & disposed after treatment and flow meter should be install for inlet to the treatment plant.

5. The performance study should be repeated once the STP stabilize/upgraded by the hotel unit.

PHOTOGRAPHS SHOWING DIFFERENT STAGES OF TREATMENT.

Oil & Grease Trap

Aeration Tank

Treated water Collection Tank

Final Effluent Used for Gardening within Premises

11. **EFFLUENT TREATMENT PLANT - M/S. JOHN DISTILLERIES PVT. LTD CUNCOLIM INDUSTRIAL ESTATE, CUNCOLIM, SALCETE -GOA MONITORING CONDUCTED 16-12-2014 TO 17-12-2014 (24hrs)**

The following are the observations and Conclusions.

A. The Effluent Treatment Plant was designed capacity to treat 60.0 KLD waste water generated from the premises of Industry. The ETP received 20.0 KLD waste water from the industry during the monitoring period from 16th December 2014 to 17th December 2014 for treatment. Analysis of data collected from 24 hours during operation of plant indicates that the consent parameters comply with the prescribed standard limits.

B. SUMMARY AND CONCLUSIONS

a. The Industry has designed an Effluent Treatment Plant to treat 60 M^3/D; however, only 20.0 KLD of waste water was generated during monitoring period.
b. The analysis reports indicate that the final treated effluent is meeting the standards laid down in the consent order.
c. The waste water generated is from Distillery Winery and IMFL unit is collected in collection tank, the detail of ETP flow diagram is attached. The final treated waste water is partly used for cooling purpose after RO treatment and partly used for green belt development within the factory premises.
d. The sludge generated from the ETP is removed and disposed in the sludge drying beds. The quantum of the same was not recorded.
e. The activated sludge plant was operating at F/M ratio at C-Tech basin 2.15 per day.
f. The dissolved oxygen values at Aeration tank is 4.7mg/l.
g. The mixed liquor suspended solids (MLSS) value in the aeration tank is 2340 mg/l.
h. The ETP was in operation during monitoring, However Spent wash generated from the distillery process was 10. 0KLD and same are pumped in to Bio-Digester- Vol. 1293 M^3.
i. There was no overflow from Bio-Digester in to aeration Tank for further treatment; hence assessment/monitoring of distillery waste water were not possible during the time of sampling.

j. ETP was operated only on waste water generated from IMFL and Winery process.

C. RECOMMENDATIONS

1. All parameter are within the permissible limits. However due to no waste water flow from Distillery process it was not possible to comment on the compliance of operation of ETP.
2. The flow meters should be installed for influent and treated waste water with daily records maintained.
3. Records should be maintained of the sludge generated and disposed.
4. Tree plantation should be continued during monsoon period within the premises in order to develop green belt in the surrounding areas.
5. It is recommended to repeat the ETP performance evaluation only after all the processes are fully put in to operational and flow of waste water regularise from distillery process in to further ETP treatment.

Photograph showing the Effluent Treatment Plant at M/s. JOHN DISTILLERIES PVT. LTD; Cuncolim Industrial Estate, Cuncolim, Salcete-Goa,

Raw Effluent Collection Tank from Distillery and Breweries

TUBE SETTLER view

UASB DIGESTER view

Bio Tower and Secondary Clarifier view

6.11 THE GOA STATE OIL SPILL DISASTER CONTIGENCY PLAN (SOS-DCP)

Oil spills are a major concern the world over because of its harmful nature. Oil spills pollute groundwater, on which many living things depend for drinking water. The spills seep into streams, lakes, and reservoirs, which are drinking water sources as well as habitat where fish, birds, and other wildlife can be harmed or killed. Vapours from spills enter indoor environments where people live and work. Goa is blessed to have not experienced a major oil spill till date, however, the constant appearance of tar ball, during the onset of the SW Monsoons, is a bane in itself. These tar balls could be attributed to illegal discharges by errant tankers or natural seepages from oil reservoirs. Oil spills can also have a serious economic impact on coastal activities like tourism, fisheries, and aquaculture. About 70% of the world oil demand is ferried along the Indian coastline which subjects the Indian coast to significant oil spill risk.

Goa is India's smallest State w.r.t area and the fourth smallest based on its population. Located along the mid-west Indian coast known as the Konkan, it is bounded by the State of Maharashtra to the north, by Karnataka to the east and south, while the Arabian Sea is towards its west.

Goa encompasses an area of 3,702 km^2 (1,429 sq mi). It lies between the latitudes 14°53'54" N and 15°40'00" N and longitudes 73°40'33" E and 74°20'13" E. Most of Goa is an escarpment rising up to the Western Ghats range of mountains, which separate it from the Deccan Plateau, known as the konkan region. The highest point is Sonsogor, with an altitude of 1,167 meters (3,827 feet) above MSL.

Goa is a well known tourist destination because of its inherent beautiful beaches.

The coast of Goa is about 105 kilometres in length. There is one main port in Goa, i.e., Marmugao Port Trust which has contributed immensely to the growth of maritime trade in India. It is a leading iron ore exporting port of India with an annual throughput of around 11.74 million tonnes of traffic for 2013-14 of which 0.52 million tonnes is POL (Petroleum Oil Lubricants).

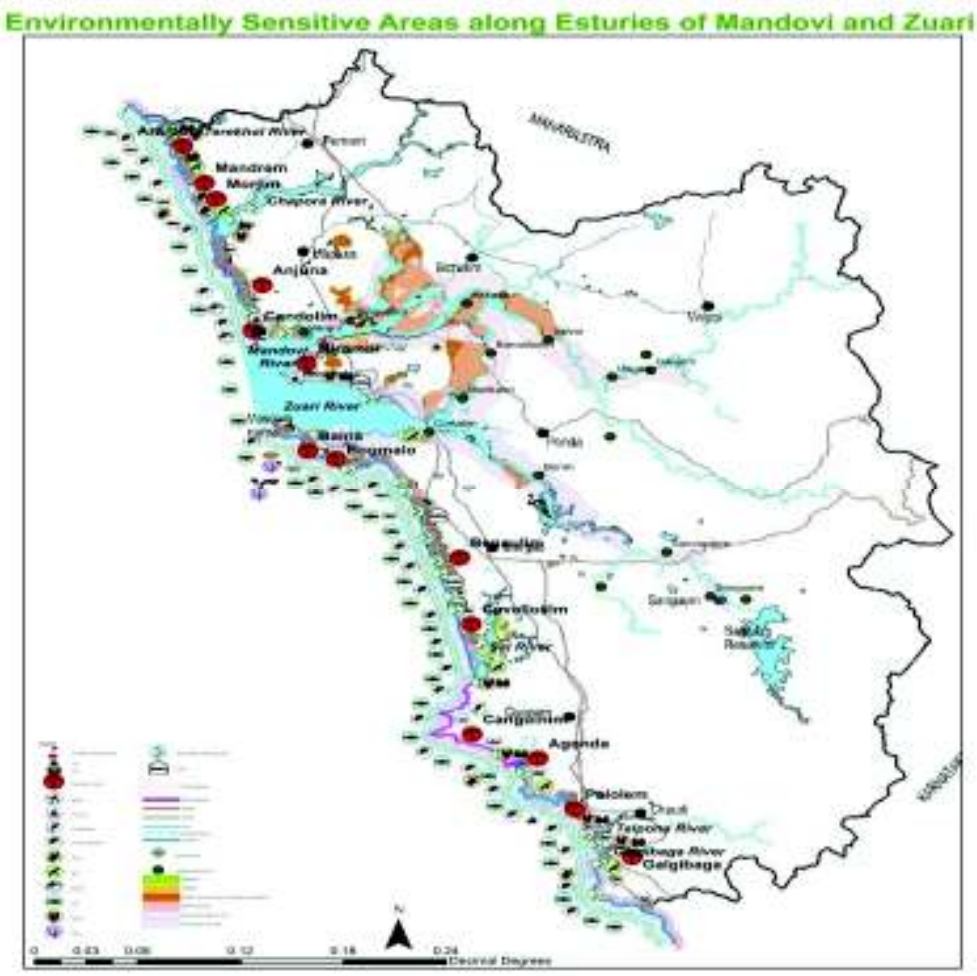
Goa has nine minor ports and the commercial jetties in Goa include 19 in the North & 13 in the South.

Goa is also considering installing Vessel Traffic and Port Management System (VTPMS), which is mandatory for all seaports to enable safe navigation to monitor international vessels carrying hazardous cargo transiting its waters, terrorist landings and suspicious movements undersea. The VTPMS is designed to improve security and navigational safety at sea and river ports. The system has been proposed by the Captain of Ports and forwarded to the State Government for consideration.

When installed, the VTPMS will advise, monitor shipping lanes and separation scheme to enforce compliance of safe navigation regulations, assistance to coast guards and other authorities, detection of oil spill and improve overall port efficiency.

The coast of Goa is rich in diverse eco-systems and accordingly, its preservation and protection is a pre-requisite for sustainable development. It comprises of bays, estuaries, rocky headlands, sandy beaches, creeks, cliffs, saltpans, khazan lands. The estuarine ecology constitutes swamps, mangroves, mudflats, river terraces and island. These eco-systems have large varieties of flora and fauna and provides habitat for various wildlife and plants. These ecosystems shelter many species and migratory birds, which are at risk during oil spills, if it coincides with the high tides, as data (Shetye et.al 2007) suggests that during high tide sea water reaches up to 40 km upstream thereby temporally altering fresh water marshes.

GSPCB has initiated the process of carrying out a micro level study on the Ecological Sensitivity Index (ESI) mapping of Goa's coast line as well as its riverine banks up to a distance of approx. 40 kms, through NIO, with assistance from the Director (Environment)-GCZMA. An ESI map along with the details is presented below.



ESI 10 :	Highest vulnerable areas like Mangrove cover, Swamps, Freshwater marshes along Cumbarjua canal the Mandovi
ESI 9 :	Sheltered tidal flats, Vegetated low banks along Mandovi estuary/ in the two islands within the Mandovi estuary.
ESI 8 :	Sheltered rocky shore, Sheltered, solid man-made structures(Marmugoa port)
ESI 6 :	Gravel beaches in which oil oil has a more tendency to percolate,
ESI 5 :	Mixed sand and gravel beaches in which oil has tendency to percolate
ESI 4 :	Coarse grain sandy beaches (Miramar, Bambolim, Bogmalo, Velsao, Agonda, Palolem, Talpona, Galgibaga beach)
ESI 3 :	Fine to medium grained sandy beaches (Coastal stretch along Velaso to Canaguinim.)[This entire stretch is of almost 31 km. This shore line type is ranked low because of less penetration of oil into it and the accumulated oil can be driven back from shore by the action of tides and waves.]
ESI 2 :	Exposed scarps and steep hill slopes
ESI 1 :	Exposed rocky shores, and solid man-made structures. (Marmugoa head land, Cape Rama and Agonda). [Along such rocky shores oil cannot accumulate and it will be reflected back by wave action].

Source: National Informatics Centre

Goa's 105 km long coastline with mostly white sandy beaches attracts nearly 20 to 22 Lakh tourists annually. About 10 to 15 per cent of them are foreign tourists. The coast of Goa faces an increased threat

from oil spill from passing ships, port activities, petro chemical exploration and exploitation activities, navigational accident etc. The need of the hour is the establishment of institutional arrangement through a contingency plan to address oil spill that may affect the coastline and take necessary preventive measures to the highly sensitive areas and other shorelines of the State of Goa. The Contingency Plan provides the necessary instructions to the State Environment Ministry, District Collectors, Revenue authorities, Goa State Pollution Control Board, State Maritime Boards, Fisheries Department, Forest Department, Ports and other various stake holders regarding their involvement during an oil spill that washes ashore in the coastal areas. The document envisages that all the agencies would interact as per the plan so that the oil spill is mitigated at the earliest causing minimum disruption and damage to local population, flora, fauna, the fishermen and other economic activities in the affected coastal area.

In an effort to address all the above issues, the GSPCB played an instrumental role in the formation of the Local Contingency Plan (LCP) titled "Goa-State Oil Spill Disaster Contingency Plan or GOA-SOS-DCP" in interaction with the Stakeholders.

The Contingency planning is based on the internationally recognized tiered approach that classifies oil spills into three categories as follow:-

(a) Tier – 1 is connected with preparedness and response to a small spill within the capabilities of individual facility or harbour authority. 700 tons is often cited as the upper limit of 'Tier – 1'however, the circumstances of the spill and the surrounding environment will determine the actual level of response.
(b) Tier – 2 is concerned with preparedness and response to a spill that requires co-ordination of more than one source of equipment and personnel. Thus, assistance can come from a number of entities within the port area or from other sources outside the immediate geographic area. Tier – 2 describes a wide range of potential spill scenarios and deals with operational spills of upto 10,000 tons.
(c) Tier – 3 is concerned with a major spill requiring the mobilization of all department concerned and depending upon the circumstances which way involve mobilization at regional and international level. It deals with the spills of more than 10,000 tons.

The Local Contingency Plan (LCP) titled "Goa-State Oil Spill Disaster Contingency Plan or GOA-SOS-DCP" is in the final stages of preparation and is scheduled for release in April 2015.

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

Name & Designation of the Official	Title of the Seminar	Place	Duration
Mrs. Jenica Sequeria, Scientist 'C'	9th IMO OPRC Level 2 course	AMET University, Chennai	18th to 22nd Aug 2014
	Oil spill India 2014, Goa International Conference and Exhibition on Oil spill	Holiday Inn Resort, Goa	18th-20th Sept 2014
	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
Miss. Connie Fernandes, Scientist 'C'	One day Workshop on 'Real ime Data Collection from Continuous Montiroing Systems'	New Delhi	6th August 2014
	Oil spill India 2014, Goa International Conference and Exhibition on Oil spill	Holiday Inn Resort, Goa	18th to 20th Sept
	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
Mrs. Francisca Pereira, Scientist 'B'	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
	Training workshop on Urban Climatic Change resilience i India	Hotel Taj Vivanta Panaji	23rd January 2015
	Workshop on stakeholder consultation workshop on National Programme for Rehabilitation of Pollutes sites (NPRPS) under the World Bank assisted CBIPMP	Ahmedabad-Gujarat	3rd February, 2015
Mr. Sanjay Kankonkar, Scientist 'B'	Residential Training Progarmme on Monitoring and Analysis of Non Point Source of Pollution (NPS)- Agriculture in Riverine System	Roorkee	15th to 17th September, 2014
	Training programme organised by City Corporation of Panaji	Hotel Fidalgo, Panaji	24th September, 2014
	Monitoring and analysis of non point source of pollution (NPS)- agriculture in a Riverine System	Roorkee (Uttarkand)	13th to 15th Oct 2014
	Meeting on Installation of Real Time Continuous Industrial Effluent/ Emission monitoring devices in compliance with direction issued by CPCB to SPCB's	Galib Hall , New Delhi	16th October 2014
	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
	Training programme on Sustainable Development & Management of Ground Water Resources	Conference hall Directorate of Agriculture	2nd February to 6th February 2015
Mr. Nilesh Parsekar, Scientist 'B'	Training programme organised by City Corporation of Panaji	Hotel Fidalgo, Panaji	24th September, 2014
	Residential Training Progarmme on Monitoring and Analysis of Non Point Source of Pollution (NPS)- Agriculture in Riverine System	Roorkee	15th to 17th Sept, 2014
	Monitoring and analysis of non point source of pollution (NPS)- agriculture in a Riverine System	Roorkee (Uttarkand)	13th to 15th Oct 2014
	Meeting on Installation of Real Time Continuous Industrial Effluent/ Emission monitoring devices in compliance with direction issued by CPCB to SPCB's	Galib Hall , New Delhi	16th October 2014

	ICPMS workshop	Delhi	16th December 2014
	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
	Workshop on demonstrable technologies for water purifcation, water treatmentt, desalination and solid waste Management	Gujarat Technical University at Ahmadabad	19th January, 2015
	Two day Chinttan Shivir of officers from Indian Forest Service and Scientists from Environment Field	Bengaluru	08-to 09-Feb 2015
Mrs. Anny Dias, Scientific Assistant	Training programme organised by City Corporation of Panaji	Hotel Taj Vivanta, Panaji	26-09-2014
	Round Table meeting on developing a road map for state urban climate resilience policy organized by TERI and GSUDA	Hotel Taj Vivanta, Panaji	15th January 2015
Mrs. Livia D'Silva, Scientific Assistant	Training programme organised by City Corporation of Panaji	Hotel Taj Vivanta, Panaji	24th September, 2014
	Round Table meeting on developing a road map for state urban climate resilience policy organized by TERI and GSUDA	Hotel Taj Vivanta, Panaji	15th January 2015
Mr. Ganpat Naik, Scientific Assistant	Training programme -Interactive meet with respect to Ambient Air Quality Monitoring and related Instrumentation	Goa	13th December 2014
	Training Programme on Vehicular Emission Modeling (Receptor and Dispersion Modeling)	NIOH, Ahmedabad	9th to 13th February, 2015
Mrs. Joshna Mahale, Scientific Assistant	Oil spill India 2014, Goa International Conference and Exhibition on Oil spill	Holiday Inn Resort, Goa	18th to 20th September, 2014
	Best Practices in Environmental Governance	Delhi / Stockholm, Sweden and Oslo, Norway	3rd to 17th Oct 2014
	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
Mrs. Avina Pereira, Scientific Assistant	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
Mr. Chaitanya Salgoankar, Scientific Assistant	Training programme organised by City Corporation of Panaji	City Corporation, Panaji	24th September, 2014
Mr. Ravi Naik, Scientific Assistant	Training programme -Interactive meet with respect to Ambient Air Quality Monitoring and related Instrumentation	Goa	13th December 2014
	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
	Training Programme on Vehicular Emission Modeling (Receptor and Dispersion Modeling)	NIOH, Ahmedabad	9th to 13th February, 2015
Miss. Reshma Vaz, Scientific Assistant	Training programme -Interactive meet with respect to Ambient Air Quality Monitoring and related Instrumentation	Goa	13th December 2014
	Laboratory quality Management system and Internal audit as per IS/ISO/IEC 17025	NITS, Noida	19th to 23rd January, 2015
Mr. Krishnanath Pednekar, Scientific Assistant	Training on GCMS basics, operational and applications	Board office	15th to 17th December 2014
Mr. Waman Chari, Senior Laboratory Assistant	Two day refresher training course on "Source emission Monitoring	CPCB, Zonal Office, Bangalore	10th and 11th July 2014
Mr. Sanmesh Borkar, Senior Laboratory Assistant	Measurement uncertainty	NITS Noida	22nd to 24th December 2014
Mr. Nilesh Surlekar, Senior Laboratory Assistant	Two day refresher training course on "Source emission Monitoring	CPCB, Zonal Office, Bangalore	10th and 11th July 2014
	Measurement uncertainty	NITS Noida	22nd to 24th December 2014
Mr. Samir Borkar, Senior Laboratory Assistant	Best Practices in Environmental Governance	Delhi / Stockholm, Sweden and Oslo, Norway	3rd to 17th October, 2014
Mrs. Jocelyn Coelho,	Training on GCMS basics, operational and applications	Board office	15th to 17th

Junior Laboratory Assistant			December, 2014
Miss. Sophia Dias, Junior Laboratory Assistant	Laboratory quality Management system and Internal audit as per IS/ISO/IEC 17025	NITS, Noida	19th to 23rd January, 2015
Mr. Johnny Bosco, Junior Laboratory Assistant	Training Prog on "Hands on advance Instruments of Water Quality Testing"	Nationla Institute of Hydrology, Roorkee	12th to 16th January, 2015
Mr. D.M. Naik, Accounts cum Administrative Officer	Technical workshop on 'Pay Fixation, MACPS, Pension, T.A., LTC, CEAS, Leave Advances and APAR	New Delhi	21st to 23rd August, 2014
Mr. Devendra Arlekar, Assistant Accounts Officer	One day programme on the Right to Information Act	GIPARD, Ela Farm Old Goa	15th November 2014
Mrs. Tulita da Costa e Fernandes , Office Superintendent	Technical workshop on 'Pay Fixation, MACPS, Pension, T.A., LTC, CEAS, Leave Advances and APAR	New Delhi	21st to 23rd Aug 2014
Miss. Mitzi D'Silva, Accounts Clerk	Technical workshop on 'Pay Fixation, MACPS, Pension, T.A., LTC, CEAS, Leave Advances and APAR	New Delhi	21st to 23rd Aug 2014
Mr. Sanjeev Joglekar Environmental Engineer	Wastech (International Summit & Expo)-4Rs: A way to sustainability	Gandhinagar, Gujarat	21 to 23 November 2014
Mrs. Nandan Prabhudessai, Junior Environmental Engineer	Training programme organised by City Corporation of Panaji	Hotel Taj Vivanta, Panaji	26th September, 2014
	Round Table meeting on developing a road map for state urban climate resilience policy organized by TERI and GSUDA	Hotel Taj Vivanta, Panaji	15th January 2015
	Two days Chinttan Shivir of officers from Indian Forest Service and Scientists from Environment Field	Bengaluru	8th to 9th February, 2015
Mr. Keshav Fadke, Junior Environmental Engineer	Training programme organised by City Corporation of Panaji	Hotel Fidalgo, Panaji	24th September, 2014
	IGBC's Training Prog on Green Building for Govt officials	PWD Head Office, Panaji	28th and 29th Oct 2014
	Workshop on demonstrable technologies for water purifcation, water treatmentt, desalination and solid waste mgt	Gujarat Technical University at Ahmadabad	19th January, 2015
	Training programme on Sustainable Development & Management of Ground Water Resources	Conference hall Directorate of Agriculture	2nd to 6th February, 2015
Mr. Abner Rodrigues, Junior Environmental Engineer	Continuing Professional Development programme on "Recent Trends in Technologies of Sewerage Systems and Sewage Treatment"	Hyderabad	21st to 24th April, 2014
	Training program on Design, Operation & Maintenance of STPs/CETPs and CBMWTF	Hyderabad	10th to 14th March 2014
	Development in Technology for Sewage, Generation, Collection, Treatment and disposal	Hyderabad	22nd to 26th September 2014
Mr. Amit Shanbag, Junior Environmental Engineer	Workshop organised by City Corporation on Urban Mobility and Climatic Resiliant Infrastructure Services	Conference Hall, CCP, Panaji	25th September, 2014
	Capacity Building on E-waste and E-waste rules	New Delhi	17th to 19th Dec 2014
Mr. Pravin Faldessai, Junior Environmental Engineer	Workshop organised by City Corporation on Urban Mobility and Climatic Resiliant Infrastructure Services	Conference Hall, CCP, Panaji	25th September, 2014
	Residential Training programme on Environmental Data Interpretation, Commpilation Analysis, Presentation and Reporting	Indian Statistical Institute---Delhi	24th to 26th February, 2015
	Worshop on stakeholder consultation workshop on National Programme for Rehabilitation of Pollutes sites (NPRPS) under the World Bank assisted CBIPMP	Ahmedabad- Gujarat	3rd February 2015
Mrs. Indira Raut, Networking Engineer	One day Workshop on 'Real ime Data Collection from Continuous Montiroing Systems'	New Delhi	6th August 2014
Mr. Ashley Pereira, Engineering Assistant	5- day residential training programme on 'Collection, storage, Handling and Disposal of Plastic wastes	Chennai	27th to 31st October, 2014
	Capacity building on E-waste and E-waste rules	New Delhi	17th to 19th December, 2014
Mr. Chetan Upadhye, Networking Assistant	Continuing professional Development Programme on "Effective system Administration Techniques	Hyderabad	12th-14th May 2014

	Continuing professional Development Programme on "Effective system Administration Techniques	Hyderabad	16th June to 18th June, 2014
Mr. Pratik Chari, Engineering Assistant	Continuing professional Development Programme on "Effective system Administration Techniques	Hyderabad	12th-14th May 2014
	Continuing professional Development Programme on "Effective system Administration Techniques	Hyderabad	16th June to 18th June, 2014

7.2 TRAINING ON AMBIENT AIR QUALITY MONITORING & RELATED INSTRUMENTATION

The Goa State Pollution Control Board organized a training programme on "Ambient Air Quality Monitoring and related Instrumentation" for the scientific staff through M/s. Envirotech Instruments Pvt. Ltd. New - Delhi. The training programme was conducted on 11th and 12th of December 2014 in the Conference Hall of the GSPCB. Mr. R. S. Yadav, Dr. D. P. Mukherjee and Mr. V. Singh from M/s Envirotech Instruments were the faculty for the training programme. The training included interactive theoretical and practical sessions on principles and operation of Respirable Dust Sampler and Fine Particulate Sampler. The following scientific and technical staff of the Board participated in the training programme:-

Sr.No	Name & Designation of the Official
Scientist	
1	Ms. Connie Fernandes
2	Dr. Mohan Girap
3	Mrs. Francisca Pereira
4	Mr. Sanjay Kankonkar
5	Mr. Nilesh Parsekar
Scientific Assistant	
1	Mrs. Livia D'Silva
2	Mr. Ganpat Naik
3	Ms. Edma Fernandes
4	Mrs. Joshna Mahale
5	Mr. Chaitanya Salgaoncar
6	Mrs. Avina Pereira
7	Mrs. Chetna Naik
8	Ms. Reshma Vaz
9	Mr. Ravi Naik
10	Mr. Krishnananth Pednekar
Senior Laboratory Assistant	
1	Mr. Sajid Inamdar
2	Mr. Santosh Haldankar
3	Mr. Waman Chari
4	Mr. Samir Borkar
5	Mr. Sanmesh Borkar
6	Mr. Nilesh Surlekar
Junior Laboratory Assistant	
1	Mr. Deepak Naik
2	Mr. Sunny Pirankar
3	Mr. Kamlesh Kavlekar
4	Mr. Johny Moniz
5	Mr. Freddy Barbosa
6	Mr. Anthony Miranda
Field Assistant	
1	Mr Saby Fernandes
2	Mr. Xawollino Rodrigues
3	Mr. Anil Parab

7.3 GOA SOS – DCP TRAINING AND AWARENESS PROGRAMME ON OIL SPILL MANAGEMENT

The Goa State Pollution Control Board (Goa-PCB) in joint collaboration with the Training Division of the Institute of Petroleum Safety, Health and Environment Management (IPSHEM), O/o Oil and Natural Gas Corporation (ONGC) Ltd., Betul, Margao has conducted a "Training-cum-Awareness' programme on State Oil Spill (SOS) – Disaster Contingency Plan (DCP)" on 29th – 30th December 2014 at IPSHEM, Betul, to understand objectives vis-a-vis preparedness / role of various stakeholders dealing with the aspects of offshore oil-spills (refer Table – 7.2) and its final fall-out in the form of tar-balls washed ashore along Goa's coast. This programme was attended by various officials representing Government line Departments (*i.e. District Collectorate, Fire and Emergency, Forest, Captain of Ports, Indian Coast Guard, Coastal Security Police, etc.,*) as well as private agencies engaged in on-site storage / transportation / utility of liquid hydrocarbons (*i.e. HPCL, IOCL, BPCL, MPT, Ganesh Benzoplast, Indian Molasses Co. Ltd., etc.,*), TERI, Goa along with following Board officials –

(1) Mrs. Jenica Sequiera – *Sci. - C*
(2) Ms. Connie F. Fernandes – *Sci. - C*
(3) Dr. Mohan R. Girap – *Sci. – C*
(4) Mrs. Francisca Pereira – *Sci. – B*
(5) Mrs. Joshna M. Mahale - *Scientific Assistant (S.A.)*
(6) Shri. Ravi N. Naik – *Scientific Assistant (S.A.)*
(7) Shri. Abner M. Rodrigues – *Jr. Environment Engineer (JEE)*
(8) Shri. Amit Shanbag - *Jr. Environment Engineer (JEE)*
(9) Mrs. Sheetal Laad – *Jr. Laboratory Assistant (JLA)*

During the 2-days training programme, technical subject experts from IPSHEM/ONGC, Indian Coast Guard (ICG), Centre for Environment Education (CEE) delivered lectures and interacted with the participants on specific theme-related topics such as (i) effective surveillance and monitoring during Oil Spill Management, (ii) Health concerns while handling oil spills, (iii) Oil characteristics and Environmental consequences of oil spills, (iv) Tar balls – origin, handling and effective disposal, (v) Regulations and Legislations on oil spills. In addition, live demonstration on 'Oil-spill fire and rescue operations' was exhibited to understand the efficiency of prioritizing on-site preparedness by all line departments concerned for effective post-disaster evacuation / management initiatives.

The said training-cum-awareness initiatives has helped the Board to conceptualize and compile draft Oil Spill Contingency Plan (OSCP) for the State of Goa and accordingly, it is proposed to release its first version of State-specific OSCP very shortly.

Fig 7.1: Shri. Jose Manual Noronha, Chairman, GSPCB addressing the participants

Fig 7.2 : Shri. S. Ganesan, Grp General Manager – Head of Institue, ONGC, IPSHEM addressing the participants

Fig 7.3: Photograph of the participants who attended the programme

OIL AND NATURAL GAS CORPORATION LIMITED
INSTITUTE OF PETROLEUM SAFETY, HEALTH AND ENVIRONMENT MANAGEMENT
TRAINING DIVISION, BETUL - GOA
PH.: 0832-2677030-35, FAX: 0832-2676129/2677029.

FORMAT No. - QHSE-FORMATS/FM6 | Issue Date: 25.03.2011
Rev. No. : 00 | Rev. Date: 00

PROGRAMME SCHEDULE / TIME TABLE

For "Year": 2014-15
For "Course" GOA SOS-DCP TRG & AWARENESS PROGRAM ON OIL SPILL MANAGEMENT
For "Prog. Code" SOS 1
For "Duration" : From 29/12/2014 To: 30/12/2014

Training Officers :
Head - IPSHEM : Shri.S Ganesan
In-charge Training : Mrs.Neelam S. Iyer
Course Manager : Shri.A K Verma

Note : Tea & Lunch breaks on all days : --- 1st - Tea break 11:15 AM to 11:30 AM | Lunch break 13:00 PM to 14:00 PM | 2nd - Tea break 15:30 PM to 15:45 PM

Day / Prog. Date	Session / From-To (Hrs)	Topic # : Dur. : Course Topic - Faculty
Day 1 29/12/2014	I 09:45- 11:15	1 : 20 mnt : **Inaugaration.** - -
	-	2 : 10 mnt : **Welcome address by Head of IPSHEM.** - **Keynote Address by GSPCB Chairman /Member Secretary**
	-	3 : 60 mnt : **SOS-DCP plan** - GSPCB
	II 11:30- 13:00	1 : 45 mnt : **Important species distribution in coastal and riverine area of Goa** - Shri. SUJEET DONGRE
	-	2 : 45 mnt : **Effective surveillance and monitoring during Oil Spill Management** - Shri. SUJEET DONGRE
	III 14:00- 15:30	1 : 90 mnt : **Oil Spill Dispersants** - ICG
	IV 15:45- 17:15	1 : 90 mnt : **Health concerns while handling oil spills** - Dr. J. S. WAGHMARE
Day 2 30/12/2014	I 09:45- 11:15	1 : 90 mnt : **Effective & safe oil spill response tecniques & best available oil spill prevention techniques in industries** - Shri. S. GANESAN
	II 11:30- 13:00	1 : 90 mnt : **1) Oil & its charcterstics. 2) Environmental consequences of Oil spill. 3) Tar balls: Origin, Handling and effective disposal** - Shri. SUNEEL VASIMALLA
	III 14:00- 15:30	1 : 90 mnt : **Importance of proper gear (PPE, Equipments, etc) , safety assessment and evaluation, fire fighting during oil spill** - Shri. D. N. PATIL
	IV 15:45- 17:15	1 : 75 mnt : **Regulations & Legislations on Oil Spill** - Shri. NIRMESH NAIK
	-	2 : 15 mnt : **Valedictory function.** - -

Note :
Programme schedule / Time table is subject to change under unavoidable circumstances.

Table **– 7.2 : SOS – DCP Programme schedule**

7.4 TRAINING AND AWARENESS ON OIL SPILLS ON COASTLINE AND EMERGENCY PREPAREDNESS GOA- STATE OIL SPILL DISASTER CONTINGENCY PLAN (SOS-DCP)

Goa State Pollution Control Board has been given the responsibility of drafting the Goa- State Oil Spill Disaster Contingency Plan (SOS-DCP), for which NIO was requested to conduct a training & awareness programme. The same was conducted on 12-13th june'2014 at NIO, conducted by both NIO and the Indian Coast Guard and was attended by most of the local stakeholders.

Brief details of the programme was as follows:

Date/Time Slot	Topic of lecture	Name of Expert
12-Jun-14		
0900:0915 Registration 0915:1015 Inaugural session; Welcome speech: Dr.M.T.Babu- Pr. Technical Officer. Inaugural address: Dr.SWA Naqvi, Director-NIO Key note address: DIG AA Hebbar DIG, CGHQ Address by Mr.Jose Manuel Noronha Chairman GSPCB Vote of thanks: Ms.Connie Fernandes Sc.C, GSPCB		
1030-1130	1. Ecologically sensitive areas	Dr.R Mani Murali
1130-1230	2. Water quality analysis and petroleum hydrocarbons	Dr. PV Shirodkar
Lunch break		
1415-1530	3. Biological importance and impact oil spill coastal ecosystems	Dr.N Ramaiah
Tea break		
1545-1700	4. Identification of oil spill (tar balls) using Oil spill finger printing techniques & equipment	V Suneel
13-Jun-14		
0930:1030	5. Numerical simulation of oil spill along the coast of Goa	Dr.MT Babu
Tea break		
1030-1130	6. Oil spill risk analysis and contingency plan	Dr.SP Fondekar
1130-1230	7. Spill response equipment, beach cleaning operations	Dr.SP Fondekar
Lunch break		
1415-1530	8. Oil spill response team & Organizational chart	DIG A.A. Hebbar-Director Environment Indian Coast Gaurd
Tea break		
1545-1700	9. Table top exercise	Commdt. Jain-Indian Coast Gaurd

The training was attended by most of the stakeholders. NIO scientists informed that DoS has financed the initiation of the finger printing laboratory in NIO, along with Modelling predictions for oil spill trajectories. ESI (Ecologically Sensitive Index) mapping done by Dr. Mani Murali of NIO on an academic basis. However the same will be prepared as per guidelines given in NOAA (National Oceanic and Atmospheric Administration) & IPIECA (International Petroleum Industry Environmental Conservation Association). Dept of Forests/Biodiversity Board / Dept of Fisheries is to submit a detailed list of species (birds & animals) present in coastal areas

The presentation on the Study of finger printing of Tar balls in Goa have been traced to shipments of SEACO (South East Asian Crude Oil), MECO (Middle Eastern Crude Oil) , plying in the Arabian Sea , the recent being from The Bombay High oil rigs.

Various actions were initiated based on the sessions towards effective implementation of GOA SOS DCP.

Address by Chairman

Welcoming of DIG –CG Mr.A.A.Hebbar by Director NIO- Dr.S.W.Naqvi

Dr.Mani Murali's-NIO Session

Certificate Distribution by Director NIO - Dr.S.W.Naqvi

NIO Training –Stakeholders & Faculty

7.5 DEPUTATIONS IN THE BOARD

1. Vide Office Order no.745 issued vide no. DA/Admn./10-20 (24)/2014-2015/TR-1826/146 dated 30/10/2014 of the Directorate of Accounts, the deputation period of Shri. Vidyesh B. Mhamal, Accountant on deputation to the Board was extended for a further period of one year from 30/11/2014 to 29/11/2015 for the 3nd year.

2. Vide Office order no.915 issued vide No. DA/Admn/45-7/2014-2015/TR-2195/88 dated 23/12/2014 of the Director of Accounts, Shri Devendra Arlekar, Assistant Accounts Officer on deputation to the Board was extended for a further period of one year from 01/01/2015 to 31/12/2015 for the 2nd year.

3. Vide Government order no.66/10-2013/STE-DIR/1506 dated 31/01/2014 of the Department of Science, Technology & Environment one post of Accounts cum Administrative Officer, on deputation from the Common Accounts cadre of the Directorate of Accounts, Govt of Goa, had been created in the Board; Shri D.M. Naik, Dy Director of Accounts/Accounts Officer was posted on deputation to the Board which is extended for a futher perion of one year form 13/02/2015 to 12/02/2016 for the 2nd year vide order no. DA/Admn/45-8/2014-2015/TR-2725/128 dated 03/032015 issued by the Directorate of Accounts.

7.6 RESIGNATION FROM SERVICE

1. Shri, Eknath Kerkar alias Gaude, Junior Environment Engineer (Civil) resigned from the Board with effect from 14/01/2015.

7.7 APPOINTMENTS

1. M/s R.K. Pikale & Associates, Chartered Accounts have been appointed as Consultants inorder to examine the proposal of raising a corpus fund for the Goa State Pollution Control Board to advice the Board in its financial matters.

2. Dr. Joe D'Souza, Retired Professor in Microbiology (Goa University) has been appointed as a Consultant on contract basis for a period one year from 2nd June, 2014 to 1st June, 2015, on a consolidated monthly remuneration of Rs. 20,000/- (Rupees Twenty thousand only). To assist and associate with the Japan International Corporation Agency project conducted on River Sal.

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 a to control the level of pollution. the industrial units has 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 of the 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 1045 Show cause notices and directions 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 514 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 IMPORTANT WRIT PETITIONS/APPLICATIONS/APPEALS BEFORE THE SUPREME COURT/NATIONAL GREEN TRIBUNAL/HIGH COURT OF BOMBAY AT GOA

(I) WRIT PETITION (CIVIL) No.435 OF 2012 (GOA FOUNDATION V/S. UNION OF INDIA AND ORS.), BEFORE THE HON'BLE SUPREME COURT OF INDIA.

Vide this Writ Petition the Goa Foundation had alleged that large scale illegal mining was being carried out in the State of Goa in contravention of various laws including MMDR Act, Forest Act, Environment (Protection) Act, Water Act and Air Act.

The Goa Foundation relied upon the Report of Inquiry submitted by Justice Shah in this regard.

Vide Judgment dated 21/4/2014, Hon'ble Supreme Court of India has allowed the said Writ Petition while passing various directions to the State Government and Central Government and also to State Pollution Control Board. These directions have been issued inorder to ensure that mining activities in the State of Goa are regulated.

Vide the said Judgment, the Goa State Pollution Control Board has been directed to strictly monitor the Air and Water Pollution in the mining areas and to exercise powers available with it under the Water Act and Air Act including powers vested in it under section 31 (A) and 33 (A) of the said Acts and to furnish relevant data to the Expert Committee.

II) WRIT PETITION NO.123/1999 (JOHN PEREIRA AND OTHERS V/S. CURCHOREM CACORA MUNICIPAL COUNCIL AND OTHERS) BEOFRE THE HON'BLE HIGH COURT OF BOMBAY AT GOA.

This Writ Petition was filed before the Hon'ble High Court on the ground that there is pollution in the railway yard at Cacora Curchorem Railway Station in view of transportation of mineral ore from different mining companies which were availing of the facilities of transport of ore by railways.

The Judgment dated 5/1/2015, the Hon'ble High Court disposed off the Writ Petition by observing that the recommendation of the Pollution Control Board submitted to the Hon'ble High Court with regard to implementation of measures for controlling pollution at Cacora Curchorem yard, meet the grievances of the Petitioners to minimise the dust pollution at the site. The Hon'ble High Court has held that the Petition could be disposed off by accepting the recommendations of the Goa State Pollution Control Board.

The Hon'ble High Court has further held that in case the Petitioner / Respondents submitted any further representatives to the Goa State Pollution Control Board, the Board shall examine and modify its directions after hearing the parties.

(III) STATE BANK OF INDIA AND OTHERS V/S. GOA STATE POLLUTION CONTROL BOARD AND OTHERS (APPEAL NO.23/2014) BEFORE THE NATIONAL GREEN TRIBUNAL (WZ) BENCH AT PUNE.

This Appeal was filed by the State Bank of India against the Directions issued by Goa State Pollution Control Board directing the State Bank India to deposit certain payment towards expenses incurred by the Goa State Pollution Control Board for the covering/ containment of Hazardous Wastes located at Cuncolim Industrial Estate that was generated by Sunrise Zinc Limited.

After hearing the arguments and submissions submitted by the parties, the NGT has directed that the order of the Board to the extent directing the Appellant to bear the expenses, which already has been paid, is maintained.

However the Board was directed to take immediate steps to dispose of the hazardous waste. The NGT has also highlighted the evolving role of financial institutes like State Bank of India in emerging global environmental governance, particularly, based on principles responsible financing and also incorporation of

environment and social governance principles in functioning of financial institution. The Chairman and the Managing Director of State Bank of India were directed to consider these aspects for integrating the same in the protocol and due diligence procedures to avoid such instances in the future.

8.3 CRIMINAL COMPLAINTS / FIR'S FILED BY GOA STATE POLLUTION CONTROL BOARD

Sr. No.	In Court of	Cri. Cases nos.	Party Name	Remark
1	Judicial Magistrate First Class Court Margao	876/OA/PCP/E	GSPCB V/s Sagar Feed Foods Industries & Ors.	For violating the provision of sec. 24 r/w Water(Prevention and Control of Pollution)Act, 1974 which is punishable under sec 43 of the Water(Prevention and Control of Pollution)Act
2	Judicial Magistrate First Class at Mapusa, Badez-Goa.	623/WA.A Act 2015/A	GSPCB V/s M/s. Darisa Resort & Ors(Mela Rosa)	For violating provision of sec 25/26 of Water(Prevention and Control of Pollution)Act, 1974 r/w sec 44 and sec 33 (A) r/w sec 41(2) of the said Act and under sec 31(A) r/w sec 21 (A) of Air (Prevention and Control of Pollution)Act, 1981.
3	Judicial Magistrate Criminal Court Building, Panaji-Goa.	AOA 314/14/C	GSCPB V/s Shri. Richardo A Vaz (Rich Builders)	For violating the provision of sec 25 & 26 of the Water(Prevention and Control of Pollution)Act, 1974 .
4	The Police Inspector, Vasco Police Station, Vasco-Goa.		Complaint against Chief Officer, Chairperson and other official of Mormugao Municipal Council.	For violating the directions issued under section 5 of the Environment (Protection) Act, 1984.

8.4 COMPLAINT MECHANISM

The Goa State Pollution Control Board receives numerous complaints on varied subject matters. In order to scrutinize and examine all such complaints, a Complaint Committee has been constituted comprising of Scientist "C", Senior Law Officer and the Environmental Engineer. The complaints so received are examined so as to verify whether the grievances alleged by the complainants are within the purview of the Water Act, the Air Act or the Rules notified under the Environmental (Protection) Act.

During the year 2014/2015 the Board has received 300 complaints. Upon examining the said complaints it is noted that certain numbers of complaints does not come within the purview of the Board, hence all such

complaints were forwarded to the concerned Departments for initiating appropriate action in the matter with the copy endorsed to the complainant.

The complaints wherein the grievances were regarding air and water pollution the same were inspected and wherever violations are observed appropriate action have been initiated.

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 3and 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)	**Assistant Account Officer**	**Public Information Officer.**
3)	**Senior Law Officer**	**Asst. Public Information Officer**

During the year 2014-2015 the Board has received 229 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).

CAG Office have appointed M/s Rege Kunkolienkar & Angle, Chartered Accountants Margao Goa as Statutory Auditors of Accounts of the Board for the year 2011 – 2012, 2012 – 2013, 2013 - 2014. Auditing of the Board accounts is in process and has reached the final stage.

9.2 INCOME, EXPENDITURE AND FUNDING

The income and expenditure account of the Board for the year ended 31st March, 2015 is as per table below:

	Goa State Pollution Control Board 2014-15			**Goa State Pollution Control Board 2014-15**	
Particulars	1-Apr-2014 to 31-Mar-2015		**Particulars**	1-Apr-2014 to 31-Mar-2015	
Direct Expenses		**56009165.00**	**Direct Incomes**		**49515560.00**
Salaries	*55801880.00*		*Air Consent Fees*	*20604861.00*	
Leave Salary & Pension Contb.	*207285.00*		*Ambient Monitoring Fees*	*3415279.00*	
Indirect Expenses		**48618794.00**	*Bio Medical Fees*	*73600.00*	
Advertisement & Publicity	*889397.00*		*E-Tendering Application*	*50200.00*	
Chairman Expenses	*327805.00*		*NOC Fees*	*2652230.00*	
Office Expenses	*13456117.00*		*Other Receipts*	*3591050.00*	
Professional & Other Special Charges	*10937649.00*		*RTI Fees*	*12254.00*	
Travel Expenses	*2562894.00*		*Water Consent Fees*	*19116086.00*	
Honorarium	*158000.00*		**Indirect Incomes**		**51483258.95**
Hospitality Expenses	*187718.00*		*Bank Guarantee*		
Office Expenses	*330850.00*		*Grant From NAMP*	*7125000.00*	
Other Expenses - Chairman	*12105.00*		*Grant From NWMP*	*262930.00*	
Publications	*3866.00*		*Interest on Bank of India FD*	*6609375.00*	
Refund of Consent Fees	*18249050.00*		*Interest on Bank of Maharashtra FD*	*3939720.00*	
Refund of Security Deposit	*1000000.00*		*Interest on Corporation Bank FD*	*7030161.76*	
Rent, Rates & Taxes	*95866.00*		*Interest on IndusInd Bank FD*	*893814.19*	
Wages	*258006.00*		*Interest on Karnataka Bank FD*	*426632.00*	
Wi-Fi	*57305.00*		*Interest on OBC FD*	*15212349.00*	
World Env Day Expenses	*92166.00*		*Interest on State Bank of Travancore*	*2072688.00*	
			Interest on Vijaya Bank	*7210589.00*	
			Public Hearing	*500000.00*	
			Sale of Vehicle	*200000.00*	
			Nett Loss		***3629140.05***
Total		**104627959.00**	**Total**		**104627959.00**

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

Funds	**Amount in Lakhs (20 14 – 15)**
1. Central Govt. (Partial reimbursement of NWMP & NAMP expenses by CPCB)	73.87
2. State Govt.	-
3. Share of Water Cess from Central Govt.	-
4. Fees (consent, NOC, authorization and analysis charges)	463.44
5. Bank interest	-
6. Public Hearing	5.00
7. Other receipts (including grants of SEP programming & Right to Information)	38.89
Total	581.20

CHAPTER 10

ANY OTHER IMPORTANT MATTERS DEALT WITH BY THE BOARD

10.1 IMPLEMENTATION OF HAZARDOUS WASTE (MANAGEMENT, HANDLING & TRANSBOUNDARY MOVEMENT) RULES, 2008

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 and 2003 and subsequently, they were modified as the Hazardous Wastes (Management, Handling &Transboundary Movement) Rules in the year 2008.

The Board grants authorizations to industries generating and handling hazardous wastes. The Goa State Pollution Control Board has identified 866 industrial units generating hazardous waste in Goa upto the period of April 2014. During the year under report, 335 units have been granted authorization (new / renewals) under the Hazardous Waste (Management & Handling) Rules, 2008. The hazardous waste generated in the State of Goa for the year 2013-2014, is as follows: total recyclable waste: 1830.791 MT; total land fillable waste: 2529.299 MT; total incinerable waste: 33618.03 MT and discarded empty cans/tins:41212 nos, Oil filters: 2181 nos.

The implementation of Hazardous Waste (Management, Handling &Transboundary Movement) Rules, 2008 is dealt with by Mr. Ashley Pereira, Engineering Assistant of the Board.

10.2 IMPLEMENTATION OF BIO-MEDICAL WASTE (MANAGEMENT & HANDLING) RULES, 1998

For the purpose of implementation of the Bio-Medical Waste (Management and Handling) Rules 1998, Hospitals have been classified as per their bedded capacity.

1.	Category 1: With 500 beds and above	1 No.
2.	Category 2: With 200 beds and above, but less than 500	3 Nos.
3.	Category 3: With 50 beds and above, but less than 200	17 Nos.
4.	Category 4: With beds less than 50 including Clinics & Patho Labs.	406 Nos.
5.	All other institutions generating bio-medical waste (not included above)	7 Nos.

Till 31/03/2014, 398 Health Care Units were granted authorizations under the Bio-Medical Waste (Management & Handling) Rules, 1998. The status of the Bio Medical waste generated by these units during the year is given as Table 6 in **Annexure VIII.**

There are total three hundred and ninety seven Health Care Facilities (HCF) out of which one hundred and fifty are bedded Hospitals with five thousand five hundred and fifty three beds, one hundred and thirteen are non bedded hospital and sixty three are Veterinary hospitals/ research organizations in the State. All the facilities have been granted authorization. Out of these, one facility have incinerator with air pollution control device, one hundred and seventy five have autoclave for sterilization, one have microwave and three hundred and sixteen have shredders for preliminary disposal of hospital instruments such as syringes, needle etc. The total quantity of bio-medical waste generated per day during the year 2012-13 is 4950.90 Kg out of which the total recyclable treated biomedical waste sold by HCF is 43.40 kg/ day and the total treated bio-medical waste disposed by HCF is 4907.50 kg/ day.

The implementation of Bio-medical Waste (Management & Handling) Rules, 1998 is dealt with by Mr. Vinson Quadros, Engineering Assistant & Mr. Sebastiao Baretto, Engineering Assistant of the Board.

10.3 NOISE POLLUTION (REGULATION & CONTROL) RULES, 2000

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

10.4 IMPLEMENTATION OF MUNICIPAL SOLID WASTES (MANAGEMENT & HANDLING) RULES, 2000

The Board has issued an authorization to all the Urban Local Bodies under the provisions of Municipal Solid Waste (Management & Handling) Rules 2000. The authorizations have been issued independently for specific purpose to the Municipal Bodies.

As per the Annual Report for the year 2013-2014 submitted to the Central Pollution Control Board, out of 13 Municipal Councils and 1 Municipal Corporation; Seven Municipal Bodies have installed Garbage Treatment Plants and presently all are in operation and six Municipal Bodies have constructed sanitary landfill sites and presently all are in operation. Two Municipal Councils are in process of installation of Garbage treatment plant. Municipal Bodies except Sanguem & Curchorem Cacora Municipal Council have complied with the provisions of Municipal Solid Waste (Management & Handling) Rules 2000 in terms of collection, segregation, storage & transportation of the waste.

The implementation of Municipal Solid Wastes (Management & Handling) Rules, 2000 is dealt with by Mr. Liston Fernandes, Engineering Assistant of the Board.

10.5 IMPLEMENTATION OF PLASTICS WASTE (MANAGEMENT & HANDLING) RULES, 2011

There are twenty one units involved in manufacture of plastic bags and containers in the State. Of the 21 units 18 units have obtained consent and 08 units have obtained registration under Plastic Waste (Management & Handling) Rules 2011. Two units are not in operation. **Annexure IX** gives the details on "Implementation of Plastic Waste (Management and Handling) Rules, 2011 in States/UTS".

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

Accordingly the Government has decided to strictly implement banning the manufacturing, sale and use of the plastic having thickness less than 40 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 2011 and Goa Non Biodegradable Garbage (Control) Act, 1996.

A drive for this purpose has already commenced on 22nd April 2013 on the occasion of Earth Day all over Goa including in and around the beaches of Goa.

The implementation of Plastics Waste (Management & Handling) Rules, 2011 is dealt with by Mr. Sebastiao Colaco, Engineering Assistant of the Board.

10.6 IMPLEMENTATION OF BATTERIES (MANAGEMENT AND HANDLING) RULES, 2001

There are 08 units who are involved in manufactures/assembling/pre-conditioners of lead acid battery within the state of Goa. 18 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**.

The implementation of Batteries (Management & Handling) Rules, 2001 is dealt with by Mr. Sebatiao Colaco, Engineering Assistant of the Board.

10.7 IMPLEMENTATION OF ELECTRONIC WASTES (MANAGEMENT & HANDLING) RULES, 2000

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

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

There are no recyclers in the State specially doing recycling for obsolete PC's. Existing E-waste handling practices are not expected to manage future E-waste generation thus formal recycling center is needed for E-waste collection, segregation, dismantling and recycling of the material. There is a lack of awareness in public regarding E-waste handling, treatment and disposal.

Presently, there are two units registered with the Board for collection of E-waste from the State of Goa, which is then sent to the registered recycler for recycling.

The implementation of Electronic Wastes (Management & Handling) Rules, 2000 is dealt with by Mr. Ashley Pereira, Engineering Assistant of the Board.

The details of annual returns for the year 2013-2014 is annexed as **Annexure VII**

10.8 OBJECTIVES & ACHIEVEMENTS

10.8.1 OBJECTIVES SET BY THE BOARD

The Board has planned to implement certain programmes for infrastructure development in specific areas. Following are some of the programmes wherein studies have been initiated and the progress of the same is given below.

The CPCB has been supporting various programmes carried out by the Board. During the financial year 2009 - 2010, the Board received financial support to the tune of Rs. 2 Lakhs for each of the following studies carried out by the Board through outsourcing.

1. Preparation of report on 'Strengthening of Goa State Pollution Control Board'.
2. Preparation of report on 'Status of Sewage Management in Goa'.

3. Preparation of report on 'Status of Municipal Solid Waste Management in Goa'.
4. Preparation of report on 'Status of Bio Medical Waste Management in Goa'.
5. Preparation of report on 'Status of Plastic Waste Management and Inventorization of Recycling Units in Goa'.
6. Preparation of report on 'Status of E-waste generation/ Management in Goa'.
7. Preparation of report on 'Status of Batteries (Waste Handling) in Goa as per Batteries Waste Management Handling Rules'
8. Preparation of report on 'Status of SSI Inventorization'
9. Preparation of report on 'Status of Industrial Pollution Control'
10. Preparation of report on 'Status of Dessimination of State Pollution Control Boards'

The Draft Final Reports were submitted by the Consultants. All the studies have been approved and forwarded to CPCB except the study on 'Status of Sewage Management' which is presently under the scrutiny of the committee.

10.8.2 ACHIEVEMENTS MADE BY THE BOARD

- **Recognition of the Goa State Pollution Control Board under ISO 9001:2008 (Quality Management System) vide certification dated 04.07.2013 and is valid upto 14.05.2015**

- **Recognition of the Goa State Pollution Control Board under BS OHSAS 18001:2007 (Occupational Health and Safety Management System) vide certificstion dated13.08.2013 and is valid upto 12.08.2016.**

- **Recognition of the Goa State Pollution Control Board under ISO 14001:2004 (Environmental Management System) vide certification dated 13.01.2014 and is valid upto 12.01.2017**

10.8.3 SKOCH RENAISSANCE AWARDS – ORDER OF MERIT 2014 CEREMONY

The GSPCB participated in the Awards function organised by the Skoch Renaissance Group on "Resurgent India, Competitive India" which was held in New Delhi during November 2014. Four projects were forwarded to the Skoch Renaissance Group and were presented on behalf of the Board by Mr. Sujeet Dongre, Scientist 'D', CEE during the project presentation ceremony held in Delhi in November 2014. Of the four, the project entitled "Bio-remediation of Sal River" was nominated for Skoch Order of Merit for one of the best project in the Country to be conferred at the 38th Skoch Summit on "Resurgent India, Competitive India" held on 20th and 21st of November 2014. The Skoch Order of Merit award was handed over to Mrs. Francisca Pereira, Scientist 'B' of the GSPCB who attended the award presentation ceremony.

Fig10.1: Presentation of the "Skoch Order of Merit Award" to GSPCB

10.8.4 SUSTAINABLE WORKFLOW PROJECT (SWP)

Under E-governance project Board presently utilizes the XGN software for Consent management and this system has been operating satisfactorily for the last 3 years. In addition to that Board is under process of implementing Office Automation System using Enterprise Resource Planning (ERP) named as Sustainable Workflow Project (SWP) implemented by SAP. ERP is Business Management Software that allows an Organization to use a System of integrated applications to manage the Business. ERP software consists of many enterprise software modules that are provided by ERP developer. The Board floated an E-tender for implementation of SAP Enterprise Resource Planning from authorized Partner of SAP to implement the following modules:

1. **Document Management System**
2. **Human Resources Management**
3. **Payroll**
4. **Purchase and Inventory management**
5. **Fixed Asset Management**
6. **Equipment Maintenance**
7. **Vehicle Management and Maintenance**
8. **Integration of XGN Software with SAP**

M/s Highbar Technologies Ltd has been awarded with work order on 20th Nov 2014 to implement the Software for 30 licenses with an amount of price of Rs. 1,98,36,372/- (Rupees One Crores Ninty Eight Lakhs Thirty Six Thousand Three Hundred Seventy Two).

Sustainable Workflow Project (SWP) kicked off from Feb 2015 which is going to take up the various activities carried out by the Board including activities of Administrative Section and Accounts Section. The functional scopes which are taken up by this project for automation as mentioned above.

Project Implementation Methodology is build on ASAP Method (Accelerated SAP) and will be completed in five phases:

- **Phase 1 Project Preparation**
- **Phase 2 Business Blueprint**
- **Phase 3 Realization**
- **Phase 4 Final Preparation**
- **Phase 5 Go-Live and support**

At present Board is under implementation of Business Blueprint phase. By mid of October Board is planning to Go-Live with this project. In addition, to host this project Board is under the process of procuring Hardware and server.

10.8.5 MEMORANDUM OF UNDERSTANDING (MOU) BETWEEN THE GOA STATE POLLUTION CONTROL BOARD (GSPCB) AND BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE, PILANI (BITS)

Memorandum of Understanding (MoU) was signed between the Goa State Pollution Control Board (GSPCB) and Birla Institute of Technology & Science, Pilani (BITS) on 5th June 2014. The MoU

between BITS and GSPCB is signed with the objective of fostering collaboration between the two organizations to promote academic interaction.

BITS would design and operate educational programmes to meet the Learning and Development needs of GSPCB leading to specific degrees of BITS through its Work-Integrated Learning Programmes. These programmes will have same rigour and standards as these offered on-campus, and will be equivalent to the corresponding degrees offered on-campus.

The educational programmes conducted under this collaborative arrangement will offer the employees of GSPCB an opportunity to enhance their academic qualification, and synergize theory with practice on a sustained basis.

GSPCB would provide the necessary infrastructural facilities and logistical support required (such as office facilities for BITS faculty, classrooms with necessary equipment, facilities for conducting examinations, library facilities, computer and communication facilities with access to electronic mail and internet) for the smooth and effective conduct of the educational programmes.

Presently classes are being conducted by faculty members of BITS for staff of the Board from Scientific Section and Technical Section and the Classes have commenced on 31/01/2015 for the 1st semester of Master Degree Programme in Environmental Engineering which presently comprises of the following subjects:

a) Environmental Management Systems
b) Environmental Chemistry
c) Environmental Statistics
d) Physico-Chemical Treatment Principles and Design for Wastewater Systems

The course comprises assignments, mid-semester exam (closed book) and Comprehensive exam (Open book).

Lighting of the Lamp

Speech given by the Chairman

10.9 CELEBRATION OF WORLD ENVIRONMENT DAY

UNEP

Raise your voice not the sea level

World Environment Day
5 June

World Environment Day (WED), 5th June, is the United Nations' principal vehicle for encouraging worldwide awareness and action for the environment. . Forty per cent of the global population lives within 150 kilometres of a coast, often in crowded low-lying cities vulnerable to storms and tidal surges. The devastating impact of extreme weather anamolies like Typhoon Haiyan, also known as Yolanda, a category 5 typhoon ,killed more than 6,000 people in the Philippines alone in 2013.

The global sea level has risen by about 10 to 25 cm. (up to about 10 inches) over the last 100 years. Sea level rise is attributable to global warming. Humanity's greenhouse gas (GHG) emissions are leading to changes in climatic patterns. The most harmful GHG emitted by human activity -- carbon dioxide -- accounts for 85% of the increase in the Earth's temperature in the past ten years. The greenhouse gas concentrations in the atmosphere are at their highest for 800,000 years.

In support of the UN designation of 2014 as the International Year of Small Island Developing States (SIDS), WED this year has adopted SIDS in the broader context of climate change as its theme UNEP WED theme was "RAISE YOUR VOICE, NOT THE SEA LEVEL" in support of Small island along with the Arctic and many coastal zones , which are on the frontline of extreme climate and sea level rise that risks lives, livelihoods and even entire countries

The combined emissions of small islands represent less than 1 per cent of global emissions. Yet these islands are the most vulnerable to changes in climate patterns, and rising sea levels can cause loss of land along coastlines of low-lying islands, disrupting economies and livelihoods. To increase the urgency to help protect the islands in the face of growing risks and vulnerabilities, particularly as a result of climate change. WED is an excellent opportunity for countries like India with significant coast line including Goa, to raise a call for solidarity with the islands, to achieve a more sustainable future. In one way or another, the effects of climate change are being experienced by all, and these will increase as global temperatures rise.The only way out is clean energy.

When you save energy you reduce the use of fossil fuels --coal -- oil and gas-- the greatest source of human carbon dioxide output. Simple steps to reduce your carbon footprint—like turning off lights and appliances when not in use, switching to compact fluorescents, carpooling or biking -- can help. The GSPCB aimsn to find out more on how each one individually can take action inorder to make a collective difference.

Our pathway is clear. Clean energy economies produce profits without pollution, better livelihoods in stable industries, restore health and wider wealth and preserve water and essential resources. I call upon all to raise their voices and their ambition now, on World Environment Day in June and throughout the journey to that new universal agreement in 2015.

The **WORLD ENVIRONMENT DAY** Programmes were held at the GSPCB Conference Hall and Sanskruti Bhavan, Patto.

The following programmes were held along with CEE (Centre for Environment Education):

On 03rd June 2014, a Staff children painting/Poster competition based on the UNEP theme, titled : "Reduce my Carbon Footprint" was held for all the GSPCB staff children, seeking out the childrens views on how they can contribute to reduicing green house gases through simple practices. The outcome

transmitted to visually inspiring posters were greatly admired by all. More than 15 children participated in two categories Junior (Jr.)aged 5-11 yrs and Seniors(Srs.) aged 12-16

Jr.Cat: 1st : Aayush S. Naik 2nd : Bhargavi V.Prabhudessai 3rd :Chrysloy D'Mello

A special Jury recommendation was given to Divesh Dongrikar for his inspiring poster

Sr.Cat.:1st Tanisha D. Naik 2nd : Lysandra Pires 3rd Isha S.Sukhthankar

On 04th June'2015 A Quiz competition was arranged by CEE involving teams from various private Industries and Government Departments. The following teams participated

Sr. No.	Name of the participants	Organisation	Prize
1	Mr. Pravin Faldesai Mr. Amit Shanbag	Goa State Pollution Control Board (GSPCB)	1st Place
2	Mr. Madan Shanbhag Mr. Dinesh Virginkar	M/s MRF Limited	2nd Place
3	Ms Shema Varghese Thadathil Mr. Shreejith Krishnan	M/s Sesa Sterlite Ltd	3rd Place
4	Shri. Shantaram B Ghatkar Shri. Saish A Lawande	Department Of Water Resources	4th Place
5	Ms. Rachana Kankonkar Mr. Roshan Verlekar	M/s Glenmark Generics Ltd. .	5th Place
6	Ms. Reshma Kerkar Ms. Rajshri Nagvekar	Goa State Biodiversity Board (GSBB)	
7	Shri. Tukaram Kharbe Shri. Mangirish Dharwadkar	Office of the Dy. Conservator of Forests, Wildlife & Eco - Tourism (North)	
8	Mr. Vivek Rale Mr. Nilesh Usgaonkar	M/s Merck Limited	
9	Shri Kedar Naik	Mormugao Port Trust (MPT)	

	Smt. Vinda G. Lotlikar		
10	Shri. Glory Furtado Shri. Amey Parab	Captain of Ports Department	
11	Dr. Anoop K. Tiwari	National Centre for Antarctic & Ocean Research (NCAOR)	

1st Prize: GSPCB 2nd Prize: MRF Ltd 3rd Prize: Sesa Sterlite.

This was followed by the an essay cum elocution competition on Initiatives towards "***Combating Climate Change"*** for staff. The Prize winners included :***1st Place:*** *Guadalupe Dias-Administration,* ***2nd Place:*** *Jocelyn Coelho-Scientific Section* ***And 3rd Place:*** *Deepti Jamble-Technical Section*

The competition on Best Environmental Practices –Industries/Units saw a few participants on the theme : **Reducing Green House Gases: Our commitment to society**. MRF Ltd's Madan Shanbhag & Saeesh Prabhu Desai have taken a lot of initiatives to minize Green House Gas (GHG) emissions by engaging M/s Ernst & Young as consultants.Zuari Agro Chemicals ltd. Also presented on their use of cleaner fuels, water harvesting etc.

1st : MRF Ltd 2nd Place:Zuari Agro Chemical Ltd

On 5th June'2015, a panel of experts provided awareness on the Climate change and its related effects. The Panel discussion was on **"Impact of climate change & Raise in sea level**"-

The Chairman of Goa State Pollution Control Board gave a welcome address, followed by the panelists , who consisted of the following

Dr. A.S. Unnikrishnan, Chief Scientist & Lead Author & Member-IPCC	National Institute of Oceanography (NIO)	Sea level rise off the Indian Coast
Prof . Mahesh Nagarajan, Operations Management	Goa Institute of Management Studies (GIMS)	Sea level rise and its impact on the Indian Economy
Shri.Anil Kher, Past Charirman & MD-Micro interconnexion Pvt.Ltd.	Confederation of Indian Industries (CII)	Global Warming : An Industrial perspective.
Prof. S.Manjre	Birla Institute of Technology & Sciences (BITS)-Pilani	

The session was followed by an Open House Discussion.

Welcome Address: Chairman-GSPCB

Dr.A.S.Unnikrishnan-NIO

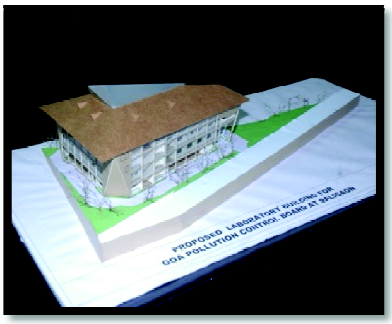
Prof.M.Nagarajan-GIMS

Mr.Anil Kher-CII

Prof.S.Manjare-BITS Pilani-Goa

Audience questions

Mr.Gerald DaCunha-Architecture Autonomous



Proposed GSPCB Building at Saligao

Release of GSPCB Annual Report 2013-2014

View of Audience

Mr.Gerald Dacunha Architect for the proposed GSPCB Building at Saligao gave a brief talk on the proposed building. The Non.Min.Environment also releases the GSPCB Annual Report 2013-14. The various Village Panchayats actively involved in initiating Solid Waste Management Practices i.e. Plastic

collection drive were also felicitated for their initiatives in waste management in collaboration with the solid waste Management cell-GSPCB by GSPCB . The various village panchayats included

The session continued with prize distribution and ended with an Address by Hon' ble Minister for Environment and Forests , Smt.Alina Saldhana. The Vote of Thanks was given by the Member Secretary-GSPCB.

Hon' ble Minister for Environment and Forests

Vote of Thanks-MS-GSPCB

On 08th June'2014, a cycling rally was organized with the group, Cycling Goa. Flags with environmental messages in line with the UNEP them were also distributed to the rally participants. The rally was flagged off at Kesarval Motels at 0730 am and was routed through Verna -Sancoale –Cortalim and back.. The event was flagged off by Mr.Martin Ghosh Plant Head-M/s Syngenta . This was followed by refreshments and an address by Mr.Bryan Soares-President Cycling-Goa . The certificates were distributed by the Chairman of Goa State Pollution Control Board, Mr.Jose Manuel Noronha.

Flag off by Mr.Martin Ghosh

Airport Road

Verna Road

Certificate and prize distribution to the participants in the cycle rally

Cycling Enthusiasts

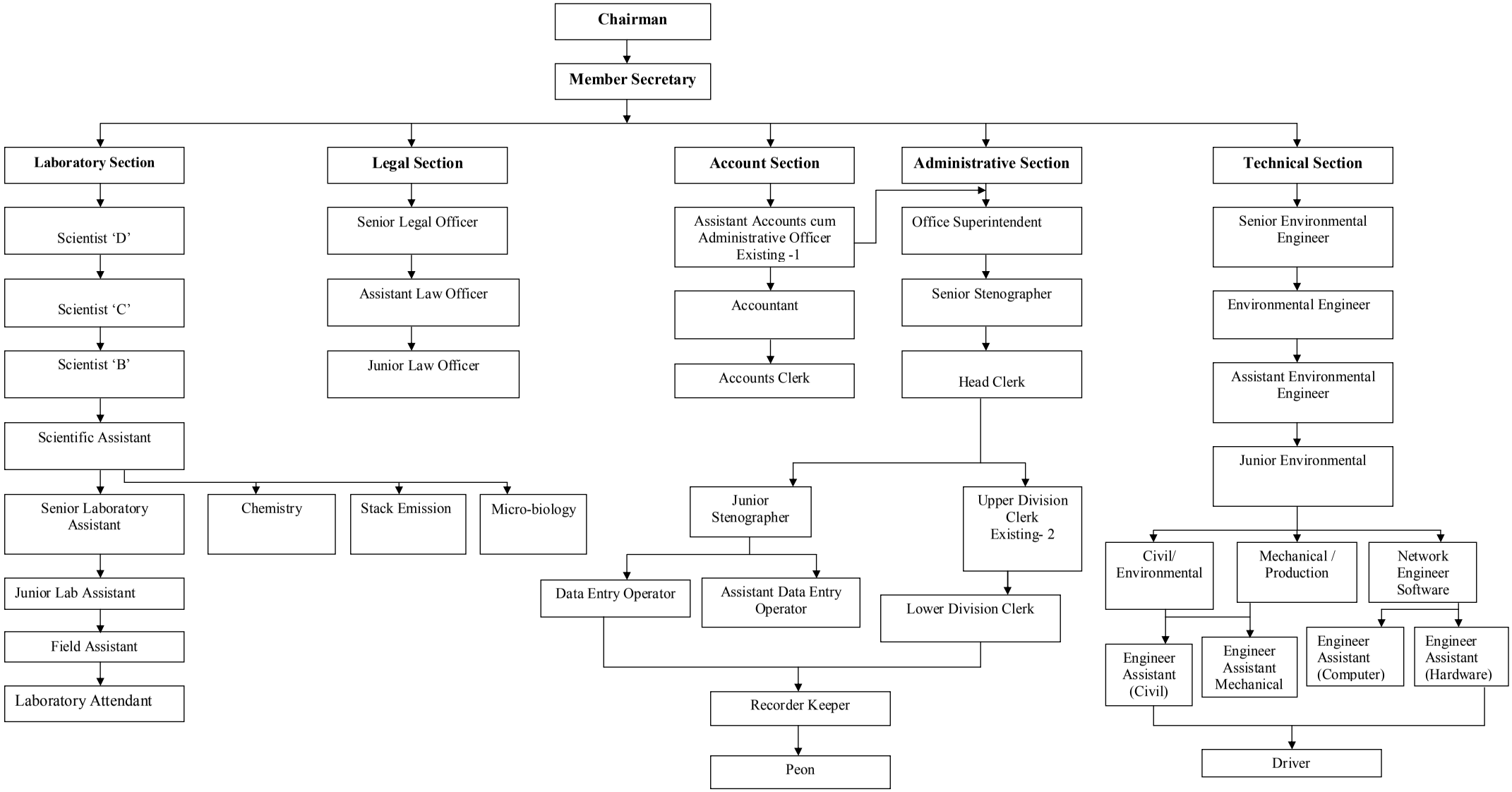
"Be the change YOU wish to see in this world"-M.K.Gandhi

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

Information in this regard, as per the Supreme Court judgment dated 13/08/1997, is that no complaints about sexual harassment at work place were received by the Board during the financial year covered by this report.

Annexure I

ORGANISATION CHART FOR GOA STATE POLLUTION CONTROL BOARD



ANNEXURE II A

LIST OF APPLICATIONS FOR CONSENTS TO OPERATE (CCA) UNDER WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 AND AIR (PREVENTION & CONTROL OF POLLUTION) ACT, 1981 BIO-MEDICAL WASTE (MANAGEMENT & HANDLING) RULES, 1998 AND HAZARDOUS WASTE (MANAGEMENT & HANDLING) (AMENDMENT) RULES, 2000 PROCESSED AND APPROVED BY THE BOARD DURING THE YEAR 2014-2015.

Sr.no	District	Industry Name	Category of Industry	Status
1	NOR	M\s Bougainvillea Guest House	S	Granted - 24/04/2014
2	NOR	M/s. Fisherman's Cove Restaurant	S	Granted - 24/04/2014
3	NOR	M/s. Sunset Bar And Restaurant And Guest House	S	Granted - 24/04/2014
4	NOR	M/s. Rhythm Guest House	S	Granted - 24/04/2014
5	NOR	M/s. Rhythm Guest House (2)	S	Granted - 24/04/2014
6	NOR	M\s Manguesh Saw Mill	S	Granted - 24/04/2014
7	NOR	M/s. Tosigo's Restaurant	S	Granted - 24/04/2014
8	NOR	M\s Popular Restaurant	S	Granted - 24/04/2014
9	NOR	M/s. Kasar Cashew Industry	S	Granted - 24/04/2014
10	NOR	M/s. Halcyon Guest House	S	Granted - 24/04/2014
11	NOR	M\s Sateri Cashew Industry	S	Granted - 24/04/2014
12	NOR	M/s. Ajanta Industries	S	Granted - 24/04/2014
13	NOR	M/s. Crompton Greaves Ltd	S	Granted - 24/04/2014
14	NOR	M/s. Blue Cube Print & Pack Pvt Ltd	S	Granted - 24/04/2014
15	SOU	M/s. Diana Spa & Saloon	S	Granted - 24/04/2014
16	NOR	M/s. Priya Saloon & Spa	S	Granted - 24/04/2014
17	SOU	M/s. Fridola Bar & Restaurant	S	Granted - 24/04/2014
18	SOU	M/s. Rumors Salon And Spa	S	Granted - 24/04/2014
19	NOR	M/s. Dona Cristalina	S	Granted - 24/04/2014
20	NOR	M/s. Hotel Devdeep	S	Granted - 24/04/2014
21	SOU	M/s. Golden Bakers	S	Granted - 24/04/2014
22	NOR	M/s. Hotel La Mansion	S	Granted - 24/04/2014
23	NOR	M/s. Lizee Hairdresser Beauticians\spas	S	Granted - 24/04/2014
24	SOU	M/s. Goa Mouldcrafters Pvt. Ltd.	M	Granted - 24/04/2014
25	SOU	M/s. Hair World Beauty Saloon & Spa	S	Granted - 24/04/2014
26	SOU	M/s. Amanya Spa And Saloon	S	Granted - 24/04/2014
27	NOR	M/s. Royal Bakery	S	Granted - 24/04/2014
28	NOR	M/s. Creamchoc Ice Cream Pvt Ltd	S	Granted - 24/04/2014
29	SOU	M\s Percy's Meat Food Products	S	Granted - 24/04/2014
30	NOR	M\s Coutinho's Nest	S	Granted - 24/04/2014
31	NOR	M\s Nine Bar & Restaurant	S	Granted - 24/04/2014
32	NOR	M\s Joao Caetano Fernandes	S	Granted - 24/04/2014
33	NOR	M\s God Gift Guest House	S	Granted - 24/04/2014
34	NOR	M/s. Cristalina's Guest House	S	Granted - 24/04/2014
35	NOR	M\s Alberto's Guest House	S	Granted - 24/04/2014

36	SOU	M\s Jutex	S	Granted - 25/04/2014
37	NOR	M/s. J & J Precision Industries	S	Granted - 25/04/2014
38	NOR	M\s Enviro Green Resorts Pvt Ltd	S	Granted - 25/04/2014
39	NOR	M/s. Bisbree Bakery	S	Granted - 25/04/2014
40	NOR	M/s. Prakash Lodge	S	Granted - 25/04/2014
41	NOR	M/s. Anuradha Engineering Works	S	Granted - 25/04/2014
42	NOR	M\s Shalom Resort	S	Granted - 25/04/2014
43	SOU	M\s Akshay Bakery	S	Granted - 25/04/2014
44	NOR	M/s. Muska Wallness Centre	S	Granted - 25/04/2014
45	NOR	M/s. Dr. Anilpatil's Vedicure Pvt. Ltd.	S	Granted - 25/04/2014
46	NOR	M/s. Lizzy's Guest House	S	Granted - 25/04/2014
47	SOU	M/s. Arshi	S	Granted - 25/04/2014
48	NOR	M/s. Hotel Manvin's	S	Granted - 25/04/2014
49	NOR	M/s. Jeneeta Industries	S	Granted - 25/04/2014
50	NOR	M/s Belladona Plasters Limited	M	Granted - 25/04/2014
51	SOU	M\s Furtado's Bar And Restaurant	S	Granted - 29/04/2014
52	SOU	M/s. Furtado's Guest House	S	Granted - 29/04/2014
53	SOU	M\s Coastal Preserves	S	Granted - 29/04/2014
54	NOR	M/s. Papiillon Salon And Wellness	S	Granted - 29/04/2014
55	SOU	M/s. Vasco Repairers	S	Granted - 29/04/2014
56	NOR	M\s Ancora Beach Resort	S	Granted - 30/04/2014
57	SOU	M\s Bhaskar Metals	S	Granted - 30/04/2014
58	SOU	M/s. Hotel Blonel Beach Resort	S	Granted - 30/04/2014
59	SOU	M/s. Hotel Gladstone	S	Granted - 30/04/2014
60	NOR	M/s. Alphagam Coating Solutions Pvt. Ltd.	S	Granted - 30/04/2014
61	NOR	M/s. Asha Cement Products	S	Granted - 30/04/2014
62	SOU	M/s. Standard Transformers Pvt Ltd	S	Granted - 30/04/2014
63	NOR	M/s. Asilo (District) Hospital	L	Granted - 30/04/2014
64	NOR	M\s. Nitin Metal Works	L	Granted - 30/04/2014
65	NOR	M/s. Shivkrupa Fabrication & Vehical Repairs	S	Granted - 30/04/2014
66	NOR	M/s. Atreya Engineering Works	L	Granted - 30/04/2014
67	SOU	M/s. Gurudeva Blocks And Tiles	S	Granted - 30/04/2014
68	NOR	M/s. Capaxem Barge Loading Jetty	M	Granted - 30/04/2014
69	SOU	M/s. S. Chems & Allied Producers Pvt. Ltd.	S	Granted - 30/04/2014
70	NOR	M/s. De Nora India Limited	L	Granted - 30/04/2014
71	NOR	M/s. Mrf Ltd.	L	Granted - 30/04/2014
72	NOR	M/s. Victor Exotica Beach Resort	M	Granted - 30/04/2014
73	NOR	M\s Misquita Engineering Pvt Ltd	S	Granted - 21/05/2014
74	NOR	M\s Shree Sharvani Industries	S	Granted - 21/05/2014
75	SOU	M\s Toolcrafts	S	Granted - 21/05/2014
76	NOR	M/s. Granpa's Inn	S	Granted - 21/05/2014
77	SOU	M\s Sebfern Wood Craft	S	Granted - 21/05/2014
78	SOU	M/s. Jaiswal Traders	S	Granted - 21/05/2014
79	NOR	M/s. Flex Art Foil Ltd.	S	Granted - 21/05/2014
80	SOU	M/s. Dynamic Pinters	S	Granted - 21/05/2014

81	NOR	M/s. Ayur Saukhya Ayurvedic Treatment Centre	S	Granted - 21/05/2014
82	NOR	M/s. Gemini Motors	S	Granted - 21/05/2014
83	SOU	M\s Persistent Systems Limited	S	Granted - 21/05/2014
84	SOU	M\s Govind Poy Oxygen Ltd.	M	Granted - 21/05/2014
85	SOU	M\s Jose Holiday Homes	S	Granted - 21/05/2014
86	NOR	M/s. Infiniti Modules Pvt. Ltd.	S	Granted - 21/05/2014
87	NOR	M/s. Rututek Enterprises	S	Granted - 21/05/2014
88	NOR	M/s. Xavier Bakery	S	Granted - 21/05/2014
89	NOR	M\s Rozbal Industries	S	Granted - 21/05/2014
90	SOU	M/s. Vinaya Enterprises	S	Granted - 21/05/2014
91	NOR	M\s Halarnkar Industries	S	Granted - 21/05/2014
92	SOU	M/s. Sunshine Spray Painting Works	S	Granted - 21/05/2014
93	SOU	M/s. Vailankanni Guest House	S	Granted - 21/05/2014
94	SOU	M\s Lourenco Furniture Works	S	Granted - 21/05/2014
95	SOU	M\s Lankhorst Euronete India Pvt. Ltd.	M	Granted - 21/05/2014
96	SOU	M/s. Ferrao Ice Factory	S	Granted - 21/05/2014
97	NOR	M/s. Romaldo Guest House	S	Granted - 21/05/2014
98	NOR	M/s. Foxes Fiesta	S	Granted - 21/05/2014
99	SOU	M\s Mamta Packers	S	Granted - 21/05/2014
100	SOU	M/s. Helen Workshop	S	Granted - 21/05/2014
101	SOU	M/s. Nilesh Bakery	S	Granted - 21/05/2014
102	SOU	M/s. Busha Engineering Works	S	Granted - 21/05/2014
103	NOR	M/s. Rama's Food Products	S	Granted - 21/05/2014
104	SOU	M/s. Conny Pollution Check-Up Centre	S	Granted - 21/05/2014
105	SOU	M/s. Acme Refrigeration Company	S	Granted - 21/05/2014
106	SOU	M/s. Acme Refrigeration Pvt Ltd	S	Granted - 21/05/2014
107	SOU	M/s. Acme Sales	S	Granted - 21/05/2014
108	SOU	M/s. Vg's Glorio Bar & Restaurant	S	Granted - 21/05/2014
109	NOR	M/s. Pawar's Cement Block Industry	S	Granted - 21/05/2014
110	NOR	M/s. Sai Sneha Sweet Mart	S	Granted - 21/05/2014
111	NOR	M/s. Sandu Ayurvedic Spa & Wellness	S	Granted - 21/05/2014
112	NOR	M/s. Excel Furniture	S	Granted - 21/05/2014
113	NOR	M/s. Anisha Arts	S	Granted - 21/05/2014
114	SOU	M/s. Chodnekar Rice & Flour Mill	S	Granted - 21/05/2014
115	NOR	World Touch Spa & Saloon	S	Granted - 21/05/2014
116	SOU	M\s Prakash V.N. Karmali Flour Mill	S	Granted - 21/05/2014
117	SOU	M\s Savita Industries	S	Granted - 21/05/2014
118	SOU	M/s. Nishad Packers (Ssi Unit)	S	Granted - 21/05/2014
119	SOU	M\s Jaclis Engineers	S	Granted - 21/05/2014
120	SOU	M/s. Reliance Infrastructure Ltd,Goa Power Station	L	Granted - 21/05/2014
121	SOU	M/s. Sanofi India Limited	S	Granted - 21/05/2014
122	NOR	M\s Sushant Fabricators	S	Granted - 21/05/2014
123	SOU	M\s. Curti Hot & Cold Traders	S	Granted - 21/05/2014
124	NOR	M/s. Mrf Ltd.	L	Granted - 21/05/2014
125	NOR	M/s. Tata Consultancy Services Ltd.	M	Granted - 21/05/2014

126	NOR	M/s. Mohit Steel Industries Private Limited	S	Granted - 21/05/2014
127	SOU	M\s. Colmar Hotels Pvt. Ltd., (Colmar Beach Resort)	S	Granted - 21/05/2014
128	NOR	M\s. Prestige Holiday Resorts Pvt. Ltd., (Royal Goan Beach Club At Monterio)	M	Granted - 21/05/2014
129	NOR	M/s. United Spirits Ltd.	S	Granted - 21/05/2014
130	SOU	M/s. Pentair Water India Pvt. Ltd.	S	Granted - 21/05/2014
131	SOU	M/s. Sateri Rice & Flour Mill	S	Granted - 21/05/2014
132	NOR	M/s. Leoney Resort	S	Granted - 21/05/2014
133	NOR	M/s. Roshan Engineering Works	S	Granted - 21/05/2014
134	NOR	M/s. Dona Florina Beach Resort	S	Granted - 21/05/2014
135	NOR	M/s. Alcon Holiday Village	S	Granted - 21/05/2014
136	NOR	M\s Kgn Fabrication Works	S	Granted - 21/05/2014
137	NOR	M\s Kamleshwar Industries	S	Granted - 21/05/2014
138	NOR	M\s Chodankar Brothers	S	Granted - 21/05/2014
139	NOR	M/s. Ananaz Hotel	S	Granted - 21/05/2014
140	SOU	M/s. Rukminirama Steel Rollings Pvt Limited (Melting Division)	M	Granted - 22/05/2014
141	SOU	M\s Vassantram Metha And Company Private Limited	L	Granted - 22/05/2014
142	NOR	M/s. Vassudeva Tamba Metal Quaryy	S	Granted - 22/05/2014
143	NOR	M/s. Vassudeva Tamba Metal Quaryy	L	Granted - 22/05/2014
144	NOR	M\s. Hindustan Industries	S	Granted - 22/05/2014
145	NOR	M/s. Bajrangbali Steel Furniture & Fabrication	S	Granted - 22/05/2014
146	NOR	M/s. Vishwakarma Furniture Industry	S	Granted - 22/05/2014
147	SOU	M/s. Vincy Beach Resort	L	Granted - 22/05/2014
148	SOU	M/s. Hotel Oshin	L	Granted - 22/05/2014
149	SOU	M/s. Naik Decorators	S	Granted - 22/05/2014
150	SOU	M/s. Dusk Aerated Waters	S	Granted - 22/05/2014
151	SOU	M/s. Krishna Industries	S	Granted - 22/05/2014
152	SOU	M/s. Shaikh Yakub & Sons Tyre Works	L	Granted - 22/05/2014
153	SOU	M/s. Suni Cottages	L	Granted - 22/05/2014
154	SOU	M/s. Mandovi Shipyard Private Limited	S	Granted - 22/05/2014
155	NOR	M/s. Indi Pharma Pvt. Ltd.	M	Granted - 22/05/2014
156	SOU	M/s. Bharat Petroleum Corporation Ltd	S	Granted - 22/05/2014
157	NOR	M/s. Sinquerim Plot For Stacking\stocking Of Iron Ore, Sirigao Mines, Chowgule & Co.	S	Granted - 22/05/2014
158	SOU	M/s. Best Western Peace Valley	S	Granted - 22/05/2014
159	SOU	M/s. Anant V. Sarmalkar	L	Granted - 22/05/2014
160	SOU	M/s. Iqra Hospitality Services (Hotel Supreme)	S	Granted - 22/05/2014
161	NOR	M/s. Maina Barge Loading Jetty	M	Granted - 22/05/2014
162	NOR	M/s. Panduronga Timblo Industrias	S	Granted - 22/05/2014
163	SOU	M/s. Blue Cross Laboratories Ltd.	S	Granted - 22/05/2014
164	SOU	M/s. Abbott India Limited	M	Granted - 22/05/2014
165	SOU	M/s. Cyratron Techmation & Oilex Systems Pvt. Ltd.	S	Granted - 22/05/2014
166	NOR	M/s. Montego Bay	S	Granted - 22/05/2014

167	NOR	M/s. Kismet Hotel	S	Granted - 22/05/2014
168	NOR	M/s. The Old Mango Tree Bar & Restaurant	S	Granted - 22/05/2014
169	SOU	M\s Bomdo Vishram Naik (Rice, Flour And Oil Mill)	S	Granted - 22/05/2014
170	SOU	M/s. Pritidas P Lotlikar Rice Mill	S	Granted - 22/05/2014
171	NOR	M/s. Shrikrishna Rice & Flour Mill	S	Granted - 22/05/2014
172	SOU	M\s Bharat Saw Mill Unit No. I	S	Granted - 22/05/2014
173	NOR	M/s. Shah Solutions	S	Granted - 22/05/2014
174	SOU	M\s P. K Tiles & Industries	S	Granted - 22/05/2014
175	NOR	M/s. Mahalaxmi Industries	S	Granted - 22/05/2014
176	NOR	M/s. Devashri Real Estate Developers	S	Granted - 22/05/2014
177	SOU	M\s Lucky Traders	S	Granted - 22/05/2014
178	SOU	M/s. Ganesh Timber Depot	S	Granted - 22/05/2014
179	SOU	M/s. Goa Art Printers	M	Granted - 22/05/2014
180	NOR	M/s. Bharat Industries	S	Granted - 22/05/2014
181	NOR	M/s. Plastwell Plastics	S	Granted - 22/05/2014
182	NOR	M\s Vishwakarma Fabrication	S	Granted - 22/05/2014
183	SOU	M/s. Hotel Annapurna Lodging And Boarding	S	Granted - 22/05/2014
184	NOR	M/s. Santiago Residency (Guest House)	S	Granted - 22/05/2014
185	NOR	M\s Goa Service Centre	S	Granted - 22/05/2014
186	SOU	M\s Pradeep Furniture Industry	S	Granted - 22/05/2014
187	SOU	M\s Metalloys	S	Granted - 22/05/2014
188	NOR	M\s Saishiv Boards And Tops Pvt Ltd	M	Granted - 22/05/2014
189	NOR	M\s Dias Villa Guest House	S	Granted - 22/05/2014
190	NOR	M/s. Charles Rooms Bar N Restaurant	S	Granted - 22/05/2014
191	NOR	M\s Damodar Fabricators	S	Granted - 22/05/2014
192	SOU	M/s. Fernandes Bros. Engineering Works	S	Granted - 22/05/2014
193	NOR	M\s Devki Krishna Service Centre	S	Granted - 22/05/2014
194	SOU	M\s Kenkre Engg. Works	S	Granted - 22/05/2014
195	SOU	M\s. Narayan Vaman Bale (Rice & Flour Mill)	S	Granted - 22/05/2014
196	NOR	M/s. Galaxy Cashew Processing Unit	S	Granted - 22/05/2014
197	SOU	M/s. Damodar Rice & Flour Mill	S	Granted - 22/05/2014
198	NOR	M/s. Hotel Satyam	S	Granted - 22/05/2014
199	SOU	M\s. Purshottam V.S. Kunkolienkar (Flour Mill)	S	Granted - 22/05/2014
200	NOR	M/s. Mahalaxmi Enterprises	S	Granted - 22/05/2014
201	NOR	M/s. Laxmi Vijay Saw Mill	S	Granted - 22/05/2014
202	SOU	M/s. Roman Wood Industries	S	Granted - 22/05/2014
203	NOR	M/s. Marbella Guest House	S	Granted - 22/05/2014
204	SOU	M/s. South Goa Planning And Develoment Authority	M	Granted - 22/05/2014
205	NOR	M/s. Matruchhaya Lodge	S	Granted - 22/05/2014
206	SOU	M\s Sunrise Rice And Flour Mill	S	Granted - 22/05/2014
207	SOU	M\s Basil Bottling Company	S	Granted - 22/05/2014
208	SOU	Ms Pramukh Caps	S	Granted - 22/05/2014
209	SOU	M/s. Lotlikar Engineers	S	Granted - 22/05/2014
210	SOU	M\s Waingankar Engineering	S	Granted - 22/05/2014
211	NOR	M/s. Sunshine Electric Co. Pvt. Ltd.	S	Granted - 22/05/2014

212	NOR	M\s Exclusive Meals L.L.P	S	Granted - 22/05/2014
213	NOR	M\s Gajanan Wood Industries	S	Granted - 22/05/2014
214	NOR	M\s Dattaprasad Saw Mill	S	Granted - 22/05/2014
215	NOR	M\s Shunyata Arts Pvt Ltd	S	Granted - 22/05/2014
216	SOU	M\s R. K. Crushing Industries	S	Granted - 22/05/2014
217	SOU	M/s. P. K. Transport	S	Granted - 22/05/2014
218	NOR	M/s. E.Dalian Holiday Village	S	Granted - 22/05/2014
219	SOU	M/s. S. Chems & Allied Producers Pvt. Ltd.	S	Granted - 22/05/2014
220	NOR	M\s Mohit Ispat Ltd	S	Granted - 22/05/2014
221	SOU	M\s Pralshar Bio Products Pvt Ltd	S	Granted - 22/05/2014
222	SOU	M\s Polyclass Industries	M	Granted - 22/05/2014
223	NOR	M\s Kemtec India Photographic Co. Pvt Ltd.	S	Granted - 22/05/2014
224	NOR	M/s. Rasaka Engineering Company	S	Granted - 22/05/2014
225	SOU	M/s. Goa Ice & Cold Storage	S	Granted - 22/05/2014
226	NOR	M/s. Lloyd Industries	S	Granted - 22/05/2014
227	SOU	M/s. Gopika Wood Industries	S	Granted - 22/05/2014
228	SOU	M/s. Indian Saw Mill	S	Granted - 22/05/2014
229	NOR	M\s Shree Gananath Industries	S	Granted - 22/05/2014
230	SOU	Ms Alagoa Resorts	S	Granted - 22/05/2014
231	NOR	M\s Surface Coating Industries	S	Granted - 22/05/2014
232	SOU	M/s. Express Machines & Scaffolding Pvt. Ltd.	S	Granted - 22/05/2014
233	NOR	M\s Kismat Mahal Tourist Home	S	Granted - 22/05/2014
234	NOR	M/s. Mermaid Restaurant & Bar	S	Granted - 22/05/2014
235	NOR	M/s. Tosigo's	S	Granted - 22/05/2014
236	SOU	M\s Genosylvia Springs	S	Granted - 22/05/2014
237	NOR	M\s Symbiotic Resins & Coatings	S	Granted - 22/05/2014
238	NOR	M/s. Uttam Tourist Resort	S	Granted - 28/05/2014
239	NOR	M/s. Udipi Lodging & Boarding	S	Granted - 28/05/2014
240	NOR	M\s Kingstork Beach Resort	S	Granted - 28/05/2014
241	NOR	M/s. Jeena Ayurvedic Treatment Centre	S	Granted - 10/06/2014
242	NOR	M/s. Infant Jesus Bakery	S	Granted - 10/06/2014
243	NOR	M/s. Falcon Hotels Pvt. Ltd.	S	Granted - 11/06/2014
244	SOU	M/s. Shaun Filaments	L	Granted - 11/06/2014
245	NOR	M/s. Elegant Offset Printers	S	Granted - 18/06/2014
246	NOR	M/s. Dipti Alluminium Work	S	Granted - 18/06/2014
247	NOR	M/s. Hira Saw Mill	S	Granted - 18/06/2014
248	SOU	M/s. Natekar Rice & Flour Mill	S	Granted - 18/06/2014
249	NOR	M/s. Chill Out Refrigeration	S	Granted - 18/06/2014
250	NOR	M/s. Britto Amusement Pvt. Ltd.,(Vainguinim Vally Resort)	L	Granted - 18/06/2014
251	NOR	M\s Castle Royal	L	Granted - 18/06/2014
252	NOR	M\s Castle Royal	L	Granted - 18/06/2014
253	NOR	M\s Dona Julia	S	Granted - 18/06/2014
254	NOR	M\s Angels Goan Special Masala	S	Granted - 18/06/2014
255	SOU	M/s. Rafael Bar & Restaurant	S	Granted - 18/06/2014

256	SOU	M/s. Tantra Designs P) Ltd (Devasthali)	M	Granted - 18/06/2014
257	NOR	M/s. Shivam Ispat Pvt. Ltd.	S	Granted - 18/06/2014
258	NOR	M/s. Ayur Green Ayurveda Clinic	S	Granted - 18/06/2014
259	NOR	M\s Lift Controls Pvt. Ltd.	M	Granted - 18/06/2014
260	NOR	M/s. Navbharat Granite & Marbles	S	Granted - 18/06/2014
261	NOR	M/s. Anita Lodge	S	Granted - 18/06/2014
262	NOR	M\s Ferns Fabricators	S	Granted - 18/06/2014
263	NOR	M/s. Konkan Paper Products	S	Granted - 18/06/2014
264	SOU	M/s. Siddhi Vinayak Industries	S	Granted - 18/06/2014
265	NOR	M/s. Albuquerque Holiday Villas	S	Granted - 18/06/2014
266	NOR	M/s. Kelbai Rice & Flour Mill	S	Granted - 18/06/2014
267	NOR	M\s D.B. Electricals Pvt. Ltd.	S	Granted - 18/06/2014
268	NOR	M/s. Nofrills Hotels Pvt Ltd	M	Granted - 26/06/2014
269	NOR	M\s Severna Guest House	S	Granted - 26/06/2014
270	NOR	M\s Pan Asia Bowl (Bar And Restaurant And Mekong Lounge)	M	Granted - 26/06/2014
271	NOR	M/s. Vitorino Guest House	S	Granted - 26/06/2014
272	SOU	M\s Ashirwad Garage	S	Granted - 26/06/2014
273	NOR	M\s Mahalaxmi Aerated Water	S	Granted - 26/06/2014
274	NOR	M\s Laxmi Narayan Cashew	S	Granted - 26/06/2014
275	NOR	M\s Savitri Work Shop	S	Granted - 26/06/2014
276	NOR	M\s Namrata Rice And Flour Mill	S	Granted - 26/06/2014
277	NOR	M/s. Sandalwood Resorts Private Ltd.	L	Granted - 26/06/2014
278	NOR	M/s. Radharam Cashew Products	S	Granted - 26/06/2014
279	SOU	M/s. Joet Resort Pvt. Ltd.	S	Granted - 26/06/2014
280	NOR	M\s Twenty First Century Iron & Steel Ltd	L	Granted - 26/06/2014
281	NOR	Marigold Hotel	M	Granted - 26/06/2014
282	NOR	M\s. Raj Hospitality Private Limited (Varanda Do Mar)	M	Granted - 26/06/2014
283	SOU	M/s. Roiz Cottages	L	Granted - 26/06/2014
284	NOR	M/s. Shell Top Inn	S	Granted - 26/06/2014
285	NOR	M/s. Ambey Metallic Ltd	L	Granted - 26/06/2014
286	NOR	M/s. Power Engineering (India) Pvt Ltd	S	Granted - 25/06/2014
287	NOR	M/s. Aakaash Manufacturing Company Pvt.Ltd	S	Granted - 18/06/2014
288	SOU	M/s. Pg Holiday Inn Private Limited	S	Granted - 18/06/2014
289	NOR	M/s. Devashri Garden	S	Granted - 18/06/2014
290	SOU	M\s United Marine Products	S	Granted - 18/06/2014
291	NOR	M/s. Elegant Offset Printers	S	Granted - 18/06/2014
292	NOR	M/s. Cyril Yoga Ayurveda Centre	S	Granted - 26/06/2014
293	NOR	M/s. Christie's Holiday Home	S	Granted - 26/06/2014
294	SOU	M/s. Twiga Lodge	S	Granted - 26/06/2014
295	NOR	M/s. Jasper Carpentry	S	Granted - 26/06/2014
296	NOR	M/s. A W Faber-Castell (I) Pvt Ltd	S	Granted - 26/06/2014
297	NOR	M/s. Sharda Stone Industries	S	Granted - 26/06/2014
298	SOU	M/s. Nisarga Health Provider	S	Granted - 26/06/2014

299	SOU	M/s. Santhigiri Ayurveda & Siddha Healthcare Centre	S	Granted - 26/06/2014
300	NOR	M/s. St. Anthony (Rice & Flour & Oil) Mill	S	Granted - 26/06/2014
301	NOR	M/s. Sai Gaurd	S	Granted - 26/06/2014
302	NOR	M\s Deep Residency	S	Granted - 26/06/2014
303	NOR	M\s Prince Seby Guest House	S	Granted - 26/06/2014
304	NOR	M/s. Prince Dona Guest House	S	Granted - 26/06/2014
305	NOR	M/s. Khot Herbo Ayurvedic Clinic	S	Granted - 26/06/2014
306	SOU	M/s. Vikas Workshop	S	Granted - 26/06/2014
307	NOR	M\s Raiyani Steel	S	Granted - 26/06/2014
308	NOR	M\s Alan's Meat Products	S	Granted - 26/06/2014
309	SOU	M/s. Westend Hotel - 3rd wing	S	Granted - 26/06/2014
310	SOU	M/s. Jymi's Cottages	S	Granted - 26/06/2014
311	SOU	M\s Pimenta Pereira Building Materials	S	Granted - 26/06/2014
312	NOR	M\s Om Shree Ganesh Enterprises	S	Granted - 26/06/2014
313	NOR	M/s. Vintage Hospital & Medical Research Centre Pvt. Ltd.	L	Granted - 26/06/2014
314	NOR	M\s Mario Bom Villa	S	Granted - 26/06/2014
315	NOR	M\s Sunita Guest House	S	Granted - 26/06/2014
316	SOU	M/s. Preira Wheat Flour Mill	S	Granted - 26/06/2014
317	NOR	M\s Agnes Fernandes	S	Granted - 26/06/2014
318	NOR	M\s Mangesh Industries	S	Granted - 26/06/2014
319	NOR	M\s Antonatta Guest House	S	Granted - 26/06/2014
320	NOR	M\s Naresh Wood Industries & Saw Mill	S	Granted - 26/06/2014
321	NOR	M/s. Santosh India Operations Pvt Ltd "panchavatti"	M	Granted - 26/06/2014
322	NOR	M/s. Shankar L Korgaonkar (Laundary Unit)	S	Granted - 26/06/2014
323	NOR	M/s. Sharvani Plastic Industries	S	Granted - 26/06/2014
324	NOR	M/s. Shri Navdurga Tiles	S	Granted - 26/06/2014
325	SOU	M/s. Vincent's Bar & Restaurant	S	Granted - 26/06/2014
326	SOU	M/s. Rosenberger Electronic Co (I) Pvt Ltd	L	Granted - 26/06/2014
327	NOR	M/s. Divar Island Guest House Retreat	S	Granted - 26/06/2014
328	NOR	M/s. Wilsha Bar & Restaurant & Laudging	M	Granted - 01/07/2014
329	SOU	M/s. Herald Publication Pvt. Ltd.	L	Granted - 01/07/2014
330	NOR	M/s. Meditab Specialities Pvt Ltd	S	Granted - 01/07/2014
331	SOU	M/s. Dinanath V.S. Kuncolikar	S	Granted - 01/07/2014
332	SOU	M/s. 5 Elements Clinic	S	Granted - 01/07/2014
333	SOU	M\s Bharat Saw Mill	S	Granted - 01/07/2014
334	NOR	M/s. Gkb Hi-Tech Lenses Pvt.Ltd (Plot 50)	S	Granted - 03/07/2014
335	SOU	M/s. Birla Furukawa Fibre Optics Limited	L	Granted - 03/07/2014
336	NOR	M/s. Ajay Cashew Oil & Allied Products	S	Granted - 03/07/2014
337	SOU	M\s Monteiro Distillery	L	Granted - 03/07/2014
338	NOR	M/s. Alpro Metal Pvt. Ltd.	S	Granted - 03/07/2014
339	NOR	M/s. El Martino Winery Pvt Ltd	S	Granted - 03/07/2014
340	SOU	M/s. Janki Engineering Works	S	Granted - 03/07/2014
341	SOU	M/s. Ganesh Cafe	S	Granted - 03/07/2014
342	SOU	M/s. Birla Institute Of Technology And Science	S	Granted - 03/07/2014

343	NOR	M/s. M.V San Domino	L	Granted - 03/07/2014
344	SOU	M/s. Ayub Bakeries	S	Granted - 03/07/2014
345	NOR	M/s. Hotel Arcadia	S	Granted - 03/07/2014
346	NOR	M/s. K.V. Industries	S	Granted - 03/07/2014
347	SOU	M/s. Kingdom Saloon & Ayurvedic Clinic	S	Granted - 03/07/2014
348	SOU	M/s. Alcina Packers Pvt Ltd	S	Granted - 03/07/2014
349	NOR	M/s. Imperial Distillers & Vinters Pvt Ltd	S	Granted - 03/07/2014
350	SOU	M\s Prakash Corrugated Products	L	Granted - 03/07/2014
351	NOR	M\s Ashwini Flour Mill	S	Granted - 03/07/2014
352	SOU	M\s Gosalia Rubber Industries	S	Granted - 03/07/2014
353	NOR	M/s. The International Centre Goa	S	Granted - 03/07/2014
354	NOR	M/s. Crest Engineering	L	Granted - 03/07/2014
355	SOU	M/s. Casa De Cris	S	Granted - 03/07/2014
356	NOR	M/s. Trinity Plastopacks	S	Granted - 03/07/2014
357	SOU	M/s. Francisca Sweets	S	Granted - 03/07/2014
358	NOR	M\s Steelmac Industries	S	Granted - 03/07/2014
359	NOR	Ms Chowgule Industries Pvt Ltd	S	Granted - 04/07/2014
360	NOR	M/s. Sunny Guest House	S	Granted - 04/07/2014
361	NOR	M/s. Encube Ethicals Pvt Ltd	L	Granted - 04/07/2014
362	NOR	Manohar Packagings Pvt Ltd	L	Granted - 04/07/2014
363	NOR	M\s Nunes Enterprises	S	Granted - 04/07/2014
364	NOR	M/s. Oriyon Molding	S	Granted - 04/07/2014
365	NOR	M\s Club 69 Estrela Do Mar Beach Resort	S	Granted - 04/07/2014
366	NOR	M\s Raiyani Furnitures	S	Granted - 04/07/2014
367	NOR	M/s. Camp 69	S	Granted - 04/07/2014
368	NOR	M/s. Zinhos Beach Resort	S	Granted - 04/07/2014
369	NOR	M/s. Aquamarine Engineers	S	Granted - 04/07/2014
370	NOR	M/s. Le Grand Engineering Pvt. Ltd.	S	Granted - 04/07/2014
371	NOR	M/s. M\s Goa Windings	S	Granted - 04/07/2014
372	NOR	M/s. Nitya Resort	S	Granted - 04/07/2014
373	SOU	M/s. Steve P-Air Solutions	S	Granted - 04/07/2014
374	NOR	M\s Raj Industry	S	Granted - 04/07/2014
375	SOU	M/s. Sao Domingos Holiday Home	S	Granted - 07/07/2014
376	SOU	M\s St. Anthony Rice & Flour Mill	S	Granted - 07/07/2014
377	SOU	M\s Siddhivinayak Metallics	S	Granted - 07/07/2014
378	SOU	M/s. Waluscha Engineering Works	S	Granted - 07/07/2014
379	NOR	M/s. Esthetecian Salon	S	Granted - 07/07/2014
380	SOU	M/s. Naresh Industries	S	Granted - 07/07/2014
381	NOR	M/s. Sensation Beauty Salon	S	Granted - 07/07/2014
382	SOU	M/s. Surendra Balchandra Dessai (Rice And Flour Mill)	S	Granted - 07/07/2014
383	SOU	M/s. Tirupati Automotive	S	Granted - 07/07/2014
384	SOU	M\s Shivram Industries	S	Granted - 07/07/2014
385	SOU	M/s. Bandekar Speciality Valve Corporation	S	Granted - 07/07/2014
386	NOR	M\s Ambika Precast Products	S	Granted - 07/07/2014
387	SOU	M\s Kransy Marine Services Pvt Ltd	S	Granted - 07/07/2014

388	SOU	M/s. Taj Sats Air Catering Ltd	L	Granted - 07/07/2014
389	SOU	M/s. Prestige Holiday Resorts Pvt. Ltd. (Haathi Mahal)	L	Granted - 07/07/2014
390	NOR	M/s. Garden Court Resort	S	Granted - 08/07/2014
391	NOR	M/s. Dempo Shipbuilding & Engineerig Pvt Ltd	L	Granted - 14/07/2014
392	NOR	M/s. Neena Industries	S	Granted - 14/07/2014
393	NOR	M/s. River Navigation Department (Marine Workshop)	L	Granted - 14/07/2014
394	NOR	M/s. Ice Kings	S	Granted - 14/07/2014
395	NOR	M/s. The Heritage Hotel	S	Granted - 14/07/2014
396	SOU	M/s. Hindustan Petroleum Corporation Limited, Asf	M	Granted - 14/07/2014
397	SOU	M\s.Tibna Metal Industries	S	Granted - 14/07/2014
398	NOR	M/s. Counto Metals & Mining Co. Ltd.	S	Granted - 14/07/2014
399	NOR	M/s. Manohar Packagings Pvt Ltd	L	Granted - 14/07/2014
400	NOR	M\s Kalanath Saw Mill	S	Granted - 14/07/2014
401	NOR	M/s. Sub District Hospital, Ponda	L	Granted - 14/07/2014
402	NOR	M/s. Glenmark Genercis Limited (Plant Ii)	L	Granted - 14/07/2014
403	NOR	M/s. Automobile Corporation Of Goa Ltd - Plant Ii	L	Granted - 14/07/2014
404	SOU	M/s. Goa Carbon Limited	M	Granted - 14/07/2014
405	SOU	M/s. Shraddha Ispat Pvt. Ltd. (Meelting Division)	L	Granted - 14/07/2014
406	SOU	M/s. Blue Coast Hotels & Resorts Ltd	S	Granted - 14/07/2014
407	NOR	M/s. Sesa Goa Ltd. (Amona Barge Loading Jetty)	S	Granted - 14/07/2014
408	NOR	M\s Pvp Metacoats	S	Granted - 14/07/2014
409	NOR	M\s Villa Sol Areia	S	Granted - 14/07/2014
410	SOU	M/s. Roquedal Lubricants Pvt. Ltd.	S	Granted - 14/07/2014
411	NOR	M/s. Sahanu Rolling Mills	S	Granted - 14/07/2014
412	NOR	M/s. Amacio's Guest House	S	Granted - 14/07/2014
413	NOR	M\s Harwalkar Rice Mill & Flour	S	Granted - 14/07/2014
414	NOR	M/s. Hotel Paradise Inn	S	Granted - 14/07/2014
415	NOR	M/s. Nevgi Fasterners Pvt. Ltd.	S	Granted - 15/07/2014
416	NOR	M/s. Hi-Tech Capsules Pvt Ltd	S	Granted - 15/07/2014
417	NOR	M/s. Anand Engineers	S	Granted - 15/07/2014
418	SOU	M/s. Kushal Packaging Industries	S	Granted - 15/07/2014
419	NOR	M/s. J. B. Gracias Salon & Spa	S	Granted - 15/07/2014
420	SOU	M\s Om Cashew Inndustries	S	Granted - 15/07/2014
421	SOU	M/s. Berth No.8 Of Mormugao Port Trust	L	Granted - 15/07/2014
422	SOU	M/s. Berth No.9 Of Mormugao Port Trust	L	Granted - 15/07/2014
423	SOU	M\s Fresh-N-Nice Foods	S	Granted - 15/07/2014
424	SOU	M/s. Plastchem Industries	S	Granted - 15/07/2014
425	NOR	M\s Ses Engineering Works	S	Granted - 15/07/2014
426	SOU	M\s Samrat Industries	S	Granted - 15/07/2014
427	NOR	M/s. Kapson Engineering Works	S	Granted - 15/07/2014
428	NOR	M\s Michael Servicing Centre	S	Granted - 15/07/2014
429	SOU	M\s Tana Engineers	S	Granted - 15/07/2014
430	SOU	M/s. Samrat Industries	S	Granted - 15/07/2014
431	SOU	M/s. Bharat Petroleum Corporation Ltd	S	Granted - 15/07/2014
432	NOR	M/s. Veronik Micronutrients Pvt.Ltd	S	Granted - 15/07/2014

433	NOR	M/s. Kundil Alloys Pvt Limited	M	Granted - 15/07/2014
434	SOU	M/s. Siemens Ltd	L	Granted - 15/07/2014
435	SOU	M/s. Baptista Crushing Industry	S	Granted - 15/07/2014
436	SOU	M/s. Rss Cement Products	S	Granted - 15/07/2014
437	NOR	M\s. Hindustan Multi Tech	S	Granted - 15/07/2014
438	SOU	M/s. Kentuckee Restaurant	S	Granted - 15/07/2014
439	NOR	M/s. Ellenabad Steels Pvt Ltd	S	Granted - 15/07/2014
440	SOU	M/s. Western Beverages Private Limited	S	Granted - 15/07/2014
441	SOU	M/s. Muktar Minerals Pvt Ltd	S	Granted - 15/07/2014
442	SOU	M/s. Sanjay Shriniwas Phadte Enterprise	S	Granted - 15/07/2014
443	NOR	M\s Padmavati Holiday Homes	S	Granted - 15/07/2014
444	NOR	M/s. Sai Service Station Limited	S	Granted - 15/07/2014
445	NOR	M\s Guruprasad Enterprises	S	Granted - 15/07/2014
446	NOR	M/s. Sinq Brewery	S	Granted - 15/07/2014
447	SOU	M\s Cajy Enterprises	S	Granted - 15/07/2014
448	NOR	M/s. Sukho Thai	S	Granted - 15/07/2014
449	NOR	M/s. Sonu Industries	S	Granted - 15/07/2014
450	SOU	M/s. Palolem Delights	S	Granted - 15/07/2014
451	SOU	M\s Cotyar Beverages	S	Granted - 15/07/2014
452	SOU	M/s. Athi Resorts	S	Granted - 15/07/2014
453	SOU	Tulip Diagnostics (P).Ltd.	S	Granted - 15/07/2014
454	NOR	Sinori Jetty	S	Granted - 15/07/2014
455	SOU	M/s. Vishwa Saraswati Society (Hotel Management Institute)	S	Granted - 15/07/2014
456	NOR	M/s. Twenty First Century Wire Rods Ltd	S	Granted - 15/07/2014
457	NOR	M\s Nizam S. Ladji	S	Granted - 17/07/2014
458	SOU	M/s. Bioveda Ayurved Centre	S	Granted - 17/07/2014
459	NOR	M/s. Jerriso Guest House Bar And Restaurant	S	Granted - 17/07/2014
460	NOR	M/s. Mandovi Pellets,	L	Granted - 17/07/2014
461	SOU	M\s Jovito Stone Crusher	S	Granted - 17/07/2014
462	NOR	M/s. Sesa Sterlite Ltd. (Met Coke Division)	L	Granted - 17/07/2014
463	SOU	M/s. Srithik Ispat Pvt. Ltd.	L	Granted - 17/07/2014
464	NOR	M\s. La Calypso Hotels Pvt. Ltd.,	L	Granted - 24/07/2014
465	NOR	M\s Lynn Wash Care	S	Granted - 24/07/2014
466	NOR	M/s. Ave Maria Beach Resort	S	Granted - 24/07/2014
467	NOR	M\s Kamat Saw Mill	S	Granted - 24/07/2014
468	SOU	M/s. Quinsan Cottages & Restaurant	S	Granted - 25/07/2014
469	SOU	M/s. Yerakani Bakery	S	Granted - 25/07/2014
470	NOR	M/s. Mahadeo Saw Mill	S	Granted - 25/07/2014
471	NOR	M/s. T-Ron Industries	S	Granted - 25/07/2014
472	SOU	M/s. Micro Labs Limited	L	Granted - 25/07/2014
473	SOU	M\s Doodhsagar Ice Plant	S	Granted - 25/07/2014
474	SOU	M/s. Shikara Beach Guest House	S	Granted - 25/07/2014
475	SOU	M/s. Priya Engineering Works	S	Granted - 25/07/2014
476	NOR	M/s. Navadurga Rubbers	S	Granted - 25/07/2014

477	NOR	M/s. Rasaka Engineering Co.	S	Granted - 25/07/2014
478	NOR	M/s. Ramchandra F Tivrekar (Workshop)	S	Granted - 25/07/2014
479	NOR	M\s Marquis Hotels Ltd	M	Granted - 25/07/2014
480	NOR	M/s. Rajendra Naik Automobile Workshop	S	Granted - 31/07/2014
481	SOU	M/s. Hotel Saaj	S	Granted - 31/07/2014
482	NOR	M\s A-One Enterprises	S	Granted - 05/08/2014
483	SOU	M\s Camron Restaurant & Bar	S	Granted - 05/08/2014
484	NOR	M/s. Sangam Bakery	S	Granted - 05/08/2014
485	SOU	M\s Ganesh Packaging	S	Granted - 05/08/2014
486	NOR	M/s. Villa Costa	S	Granted - 05/08/2014
487	SOU	M/s. Park Sintech Co Pvt Ltd	S	Granted - 05/08/2014
488	NOR	M\s Dom Joao's Guest House	S	Granted - 05/08/2014
489	NOR	M\s Durga Rice And Flour Mill	S	Granted - 05/08/2014
490	NOR	M/s. Shree Bhumika Enterprises	S	Granted - 05/08/2014
491	NOR	M/s. Nazri Resort	M	Granted - 05/08/2014
492	SOU	M\s Varda Enterprises	S	Granted - 05/08/2014
493	NOR	M\s Joy Engineering Works	S	Granted - 05/08/2014
494	SOU	M\s Goa Sintered Products Pvt Ltd	S	Granted - 05/08/2014
495	NOR	M/s. Sahyadri Offset Systems	S	Granted - 07/08/2014
496	SOU	M/s. Hitech Electronics Engineering	S	Granted - 07/08/2014
497	NOR	M/s. Tiger Camp Pvt. Ltd. (Gestro Bar & Lounge)	L	Granted - 08/08/2014
498	NOR	M/s. Dada Engineering (Puc)	S	Granted - 08/08/2014
499	SOU	M/s. Novacare Drug Specialities Pvt. Ltd.	S	Granted - 09/08/2014
500	SOU	M/s. S. S Engineering Co.	S	Granted - 09/08/2014
501	SOU	M\s Matha Foods	S	Granted - 09/08/2014
502	NOR	M/s. Siddhesh Engineering	S	Granted - 09/08/2014
503	NOR	M/s. Goa Medical College & Hospital	L	Granted - 09/08/2014
504	NOR	M\s Vel-Vin Packaging Pvt. Ltd	S	Granted - 09/08/2014
505	SOU	M/s. Dazzler Confectionary Company Pvt Ltd	M	Granted - 09/08/2014
506	NOR	M/s. Navdurga Rice & Flour Mill	S	Granted - 09/08/2014
507	NOR	M/s. Vicco Laboratories (Goa)	S	Granted - 09/08/2014
508	SOU	M\s. Private Enterprises	S	Granted - 09/08/2014
509	NOR	M/s. Opa Water Works	S	Granted - 09/08/2014
510	NOR	M\s Laxmi Rice & Flour Mill	S	Granted - 11/08/2014
511	SOU	M\s Mallikarjun Printers	S	Granted - 11/08/2014
512	NOR	M/s. B.M.K.Industries	S	Granted - 11/08/2014
513	SOU	M/s. Jesboa Guest House	S	Granted - 11/08/2014
514	SOU	M/s. Om Clinic	S	Granted - 11/08/2014
515	NOR	M/s. Hindustan Tyre Works	S	Granted - 11/08/2014
516	NOR	M/s. Dalal Enterprises	S	Granted - 11/08/2014
517	SOU	M/s. Ranjanis Deft Touch Beauty Cum Massage Parlour	S	Granted - 11/08/2014
518	NOR	M/s. Marlin Guest House	S	Granted - 11/08/2014
519	NOR	M/s. Garib Nawaz Karkhana	S	Granted - 11/08/2014
520	NOR	M/s. Dhanulaxmi Cashewnuts	S	Granted - 11/08/2014

521	NOR	M\s Laxminarayan Bakery	S	Granted - 11/08/2014
522	SOU	M\s Manju Industrial Ancillaries Pvt Ltd.	S	Granted - 11/08/2014
523	NOR	M/s. Dona Alcina Resorts Pvt. Ltd	S	Granted - 11/08/2014
524	SOU	M/s. Vijay Engineers	L	Granted - 11/08/2014
525	NOR	M/s. Velina Villa	S	Granted - 14/08/2014
526	SOU	M\s Mahalaxmi Industries	S	Granted - 14/08/2014
527	NOR	M\s Stanley's Guest House	S	Granted - 14/08/2014
528	SOU	M\s Seagull Resort	S	Granted - 14/08/2014
529	SOU	M\s Seiko & Seiko	S	Granted - 14/08/2014
530	NOR	M\s Tavora Vegtures (Navtara)	S	Granted - 14/08/2014
531	NOR	M/s. Pastina	S	Granted - 14/08/2014
532	SOU	M/s. Jorina Guest House	S	Granted - 14/08/2014
533	SOU	M/s. Casa Goes Guest House	S	Granted - 14/08/2014
534	SOU	M/s. Casa De-Caji-M-Cottages	S	Granted - 14/08/2014
535	SOU	M/s. O Mangueiro Guest House	S	Granted - 14/08/2014
536	SOU	M/s. Elva Mansion	S	Granted - 14/08/2014
537	SOU	M/s. Karthik Alloys Limited (Rolling Division)	S	Granted - 14/08/2014
538	SOU	M/s. Goa Shipyard Limited	L	Granted - 14/08/2014
539	NOR	M/s. South India Cashew Corporation	S	Granted - 14/08/2014
540	NOR	M/s. Dempo Mining Corporation Pvt. Ltd, Barge Loading Jetty At Sarmanus	S	Granted - 14/08/2014
541	NOR	M/s. Blossom Pharmaceuticals	S	Granted - 14/08/2014
542	SOU	M/s. Abhishek Engineers	S	Granted - 14/08/2014
543	NOR	M\s Madkay Plast	S	Granted - 14/08/2014
544	SOU	M\s Airport Authority Of India	L	Granted - 14/08/2014
545	SOU	M\s Upa Auto Service	S	Granted - 14/08/2014
546	NOR	M/s. Lobo's Guest House	S	Granted - 14/08/2014
547	SOU	M/s. Premium Pavers & Stone Products	S	Granted - 14/08/2014
548	NOR	M/s. Bilss Groups	S	Granted - 14/08/2014
549	SOU	M/s. Emco Goa Pvt Ltd	S	Granted - 14/08/2014
550	SOU	M/s. Emco Goa Pvt Ltd	S	Granted - 14/08/2014
551	SOU	M/s. Dci Pharmaceuticals Pvt Ltd	S	Granted - 14/08/2014
552	NOR	M\s Sai Baba Fabricators	S	Granted - 14/08/2014
553	NOR	M/s. Palmyra Resorts Pvt Ltd	L	Granted - 14/08/2014
554	NOR	M/s. Sun Royal Resort	S	Granted - 14/08/2014
555	SOU	M\s. Dynamic Technofabs	L	Granted - 21/08/2014
556	NOR	M\s Counto Microfine Products Pvt. Ltd.	L	Granted - 21/08/2014
557	NOR	M/s. Mario Fernandes & Co.,	S	Granted - 21/08/2014
558	NOR	M/s. Surla Jetty	S	Granted - 21/08/2014
559	SOU	M/s. Rajaram N.S. Bandekar & Co. Pvt. Ltd	L	Granted - 21/08/2014
560	NOR	M/s. Kundil Rolling Mils Pvt Ltd	M	Granted - 21/08/2014
561	NOR	M/s. The Indian Hotels Co. Ltd. Unit: Vivanta By Taj-Holiday Village, Goa	S	Granted - 21/08/2014
562	NOR	M\s. Santiago Resort	S	Granted - 21/08/2014
563	NOR	M/s. Swanson Plastics (India) Private Limited	L	Granted - 21/08/2014

564	NOR	M/s. Blossom Pharmaceuticals	S	Granted - 21/08/2014
565	NOR	M/s. Srithik Rolling Pvt. Ltd.	L	Granted - 21/08/2014
566	NOR	M/s. Churi Industries,	S	Granted - 21/08/2014
567	SOU	M/s. Ready Systems	S	Granted - 21/08/2014
568	NOR	M/s. Pentagon Engineers	S	Granted - 21/08/2014
569	SOU	M/s. Chowgule & Company Private Limited	S	Granted - 21/08/2014
570	NOR	M/s. Mangal Iron Pvt. Ltd	M	Granted - 21/08/2014
571	NOR	M/s. Gkb Vision Ltd	L	Granted - 21/08/2014
572	NOR	M\s. Hindustan Industries	S	Granted - 21/08/2014
573	NOR	M/s. Fantasy Guest House	S	Granted - 21/08/2014
574	NOR	M/s. Pretty Petals Guest House	S	Granted - 21/08/2014
575	NOR	M\s. Gagan Wine Trade & Financers Limited	S	Granted - 21/08/2014
576	NOR	M/s. Hotel Palacio De Goa	M	Granted - 21/08/2014
577	NOR	M/s. Casa De Goa Boutique Resort	L	Granted - 21/08/2014
578	NOR	M/s. Sandalwood Resorts Private Ltd.	L	Granted - 21/08/2014
579	SOU	M/s. Ship Construction	L	Granted - 21/08/2014
580	NOR	M/s. Mahalsa Acoustic Pvt. Ltd. Unit Ii	S	Granted - 21/08/2014
581	NOR	M/s. Viva	S	Granted - 21/08/2014
582	SOU	M/s. Yogesh Metals	S	Granted - 21/08/2014
583	NOR	Ms Tiger Sheet Metal Works Unit I	S	Granted - 21/08/2014
584	NOR	M/s. Vailankanni Service Workshop	S	Granted - 21/08/2014
585	NOR	M\s Surekleen Services Pvt Ltd	M	Granted - 21/08/2014
586	SOU	M\s Vruksha Enterprises	S	Granted - 21/08/2014
587	NOR	M\s Shri Mahadeo Industries	S	Granted - 21/08/2014
588	NOR	M\s Boshan Developers Pvt Ltd (Hotel Project)	S	Granted - 21/08/2014
589	SOU	M\s Josam Contractors	S	Granted - 21/08/2014
590	NOR	M/s. Cleaners	S	Granted - 21/08/2014
591	SOU	M/s. Venus Stone Crusher (Ssi Unit)	S	Granted - 21/08/2014
592	NOR	M/s. Primo Bom Terra Verde	S	Granted - 21/08/2014
593	NOR	M/s. Francis House	S	Granted - 21/08/2014
594	NOR	M/s. Frank Rooms	S	Granted - 21/08/2014
595	NOR	M\s Madame Rosa 1933	S	Granted - 21/08/2014
596	NOR	M\s Montana Confectioners Pvt. Ltd	L	Granted - 21/08/2014
597	NOR	M/s. B.M.K Industry Unit II	S	Granted - 21/08/2014
598	NOR	M\s Peravel Beach Holiday Home	S	Granted - 21/08/2014
599	NOR	M\s Goana Foods	L	Granted - 21/08/2014
600	SOU	M\s C. M. Abdulla & Sons	S	Granted - 21/08/2014
601	SOU	M\s Star Mechanical Work	S	Granted - 21/08/2014
602	NOR	M/s. Advanced Composites Pvt Ltd	M	Granted - 21/08/2014
603	SOU	M/s. Model Mystique, Model Real Estate Developers	S	Granted - 21/08/2014
604	NOR	M\s Shine Beauty Parlour	S	Granted - 21/08/2014
605	SOU	M/s. Dona Sa Maria	S	Granted - 21/08/2014
606	SOU	M\s Tourist Nest	S	Granted - 21/08/2014
607	SOU	M/s. Silva Engineers	S	Granted - 21/08/2014
608	NOR	M/s. Cuts N Colors	S	Granted - 21/08/2014

609	NOR	M/s. Yashodatta Flour Mills	S	Granted - 21/08/2014
610	NOR	M/s. Dada Engineering Works	S	Granted - 21/08/2014
611	NOR	M/s. Sushrut Ayurved	S	Granted - 21/08/2014
612	SOU	M/s. Sanil Food Processing Pvt. Ltd.	S	Granted - 21/08/2014
613	NOR	M\s Lordes Damodar Furniture And Fabrication Workshop	S	Granted - 21/08/2014
614	SOU	M\s Jkl Stone Crushing Company	S	Granted - 21/08/2014
615	NOR	M/s. Jai Santoshi Housing Pvt. Ltd. (Opus)	S	Granted - 21/08/2014
616	NOR	M/s. Sukho Thai India Pvt Ltd	S	Granted - 21/08/2014
617	NOR	M/s. Sukho Thai	S	Granted - 21/08/2014
618	SOU	M/s. Casa Susegad	S	Granted - 21/08/2014
619	SOU	M/s. Navadurga Bakery	S	Granted - 21/08/2014
620	NOR	M/s. Abu John Guest House	S	Granted - 21/08/2014
621	SOU	M/s. A. M. Ventures	S	Granted - 21/08/2014
622	SOU	M\s Rosita Industries	S	Granted - 21/08/2014
623	NOR	M\s Hoble Raj Restaurant	S	Granted - 21/08/2014
624	SOU	M/s. Vrecycle Waste Management Services	S	Granted - 21/08/2014
625	NOR	M\s. Electroshine	S	Granted - 21/08/2014
626	SOU	M\s Coconut Grove Beach Resort Pvt Ltd (Goa)	M	Granted - 21/08/2014
627	SOU	M/s. The Village Guest House	S	Granted - 01/09/2014
628	SOU	M/s. Xavier Bakery	S	Granted - 01/09/2014
629	SOU	M/s. Simran Guest House	S	Granted - 01/09/2014
630	SOU	M/s. Libra Cottages	S	Granted - 21/08/2014
631	SOU	M\s Ellora Mansion	S	Granted - 21/08/2014
632	SOU	M/s. Emmanuel Guest House	S	Granted - 21/08/2014
633	SOU	M/s. Conelto Wood Industries	S	Granted - 21/08/2014
634	SOU	M/s. Michael Guest House	S	Granted - 21/08/2014
635	SOU	M/s. Felizio Guest House	S	Granted - 21/08/2014
636	SOU	M/s. Lloyd's Tourist Rooms	S	Granted - 21/08/2014
637	SOU	M/s. Patxa Guest House	S	Granted - 21/08/2014
638	SOU	M/s. Da Silva Casa	S	Granted - 21/08/2014
639	SOU	Ms Antonette`s Guest House	S	Granted - 21/08/2014
640	SOU	M/s. Hipolito Guest House	S	Granted - 21/08/2014
641	SOU	M/s. Bogpre Family Inn	S	Granted - 21/08/2014
642	SOU	M/s. Mallikarjun Crushing Company	S	Granted - 21/08/2014
643	NOR	M/s. Goa State Horticultural Corporation Ltd.	S	Granted - 21/08/2014
644	SOU	M/s. Lucianas Resort	S	Granted - 21/08/2014
645	SOU	M/s. Julie Guest House	S	Granted - 21/08/2014
646	NOR	M/s. Villa Oceanic Guest House	S	Granted - 21/08/2014
647	SOU	M\s. Colmar Hotels Pvt. Ltd., Colmar Beach Resort	S	Granted - 01/09/2014
648	SOU	M/s. R S S Ice Plant And Storage	S	Granted - 01/09/2014
649	SOU	M/s. Keni Enterprises	S	Granted - 01/09/2014
650	SOU	M/s. Cruzinha Guest House	S	Granted - 01/09/2014
651	SOU	M/s. R.S.S Ice Plant & Storage	S	Granted - 01/09/2014

652	NOR	M/s. Faria Products Caterers & Confectioners	S	Granted - 15/09/2014
653	NOR	M/s. Awesome Salon & Spa	S	Granted - 15/09/2014
654	NOR	M/s. Resorte Marinha Dourada	L	Granted - 15/09/2014
655	NOR	M/s. baba Hotels Pvt Ltd	S	Granted - 16/09/2014
656	NOR	M/s. Hitech Caps	S	Granted - 16/09/2014
657	NOR	M/s. E-Boshan	S	Granted - 16/09/2014
658	SOU	M\s Sandhya Enterprises	S	Granted - 16/09/2014
659	NOR	M/s. Geeta Engineering Works	S	Granted - 16/09/2014
660	SOU	M/s. Freda D'sa (Piggery Unit)	S	Granted - 16/09/2014
661	NOR	M/s. St Rita Bakery	S	Granted - 16/09/2014
662	SOU	M/s. Antonio Piedade Rodrigues Rice & Flour Mill	S	Granted - 01/10/2014
663	NOR	M/s. Carlos Tavora (Navtara)	S	Granted - 01/10/2014
664	NOR	M/s. Shantadurga Rice & Flour Mill	S	Granted - 01/10/2014
665	SOU	M/s. Baretto Furniture Works	S	Granted - 01/10/2014
666	SOU	M\s Borkar Colopacks Pvt Ltd	S	Granted - 01/10/2014
667	SOU	M\s Marine Electrical Agencies	S	Granted - 01/10/2014
668	NOR	M/s. Ayur Bhoomi Clinic	S	Granted - 01/10/2014
669	SOU	M/s. Ayurveda Vihar	S	Granted - 01/10/2014
670	SOU	M/s. Maria Industries	S	Granted - 14/10/2014
671	SOU	M/s. Sea Bird Resorts Pvt. Ltd.(Alila Diwa Goa)	L	Granted - 15/10/2014
672	SOU	M/s. Hotel Green View	L	Granted - 15/10/2014
673	NOR	M/s. Infrastructure Logistics Pvt. Ltd.	S	Granted - 15/10/2014
674	NOR	M/s. Lithoferros (Sircaim Barge Loading Facility)	S	Granted - 15/10/2014
675	NOR	M/s. Minco (India) Flow Elements Pvt. Ltd	L	Granted - 15/10/2014
676	NOR	M/s. Omni Impex Pvt. Ltd.,	S	Granted - 15/10/2014
677	SOU	M/s. Shraddha Ispat Pvt. Ltd. (Meelting Division)	L	Granted - 15/10/2014
678	SOU	M/s. Shirdi Steel Re-Rollers Pvt. Ltd	S	Granted - 15/10/2014
679	NOR	M/s. Siddharth Chemicals	S	Granted - 15/10/2014
680	NOR	M/s. Merck Limited	L	Granted - 15/10/2014
681	SOU	M/s. Ifb Industries Ltd.	S	Granted - 15/10/2014
682	SOU	M/s. Karthik Alloys Limited (Rolling Division)	S	Granted - 15/10/2014
683	SOU	M/s. South West Port Ltd. (Berth No. 5a & 6a)	L	Granted - 15/10/2014
684	NOR	M/s. Victor Exotica Beach Resort	M	Granted - 15/10/2014
685	NOR	M/s. Syngenta India Limited	L	Granted - 15/10/2014
686	SOU	M/s. Alliance Multipackagings Pvt Ltd	S	Granted - 15/10/2014
687	SOU	M/s. Varun Beverages Ltd	L	Granted - 15/10/2014
688	NOR	M/s. Srithik Rolling Pvt. Ltd.	L	Granted - 15/10/2014
689	NOR	M/s. Angels Holiday Resort	S	Granted - 15/10/2014
690	SOU	M/s. Goa Pet Products	S	Granted - 15/10/2014
691	NOR	M/s. Aparant Enterprises	S	Granted - 15/10/2014
692	SOU	M/s. Ayurveda Vihar	S	Granted - 15/10/2014
693	NOR	M/s. Resort Ritchita	S	Granted - 15/10/2014
694	NOR	M/s. Global Caps & Closers	S	Granted - 15/10/2014
695	NOR	M/s. Snip Salons & Spas	S	Granted - 15/10/2014

696	NOR	M/s. Seby Guest House	S	Granted - 15/10/2014
697	SOU	M\s Kaloshi Stone Crusher	S	Granted - 15/10/2014
698	SOU	M/s. Amicas Structural & Fibreglass Works	S	Granted - 15/10/2014
699	NOR	Alor Grande Holiday Resort	S	Granted - 15/10/2014
700	SOU	Electro Controls	S	Granted - 15/10/2014
701	NOR	M/s. Acron Hospitality Pvt Ltd.	S	Granted - 15/10/2014
702	SOU	M\s Agencia Commercial Maritima	S	Granted - 15/10/2014
703	NOR	M/s. Karthik Inductions Ltd	S	Granted - 15/10/2014
704	NOR	M/s. Shivam Combines	S	Granted - 15/10/2014
705	SOU	M/s. Sub Division 2 \ Div 21	S	Granted - 15/10/2014
706	SOU	M\s. Khr Hospitality India Limited	L	Granted - 15/10/2014
707	NOR	M\s. New Horizons Biotek	L	Granted - 15/10/2014
708	NOR	M.V.Casino Royale	S	Granted - 15/10/2014
709	NOR	M/s. Panduronga Timblo Industrias	S	Granted - 15/10/2014
710	SOU	M/s. Dalmia Resorts International Pvt. Ltd. (Unit: Old Anchor)	L	Granted - 15/10/2014
711	SOU	M/s. Khamamol Jetty, Sesa Resources Limited	S	Granted - 15/10/2014
712	SOU	M/s. Meera's Guest House	S	Granted - 15/10/2014
713	SOU	M/s. Palmira Guest House	S	Granted - 15/10/2014
714	SOU	M/s. Villa Sebel	S	Granted - 15/10/2014
715	SOU	M/s. N C Villa Guest House	S	Granted - 15/10/2014
716	NOR	M/s. Neomis Hair & Beauty Salon	S	Granted - 15/10/2014
717	SOU	M/s. Bhavesh Farm	S	Granted - 15/10/2014
718	SOU	M/s. Klassic Labels & Barcode Technologies	S	Granted - 15/10/2014
719	SOU	M/s. Anita Industry	S	Granted - 15/10/2014
720	SOU	M/s. Angela Bakery	S	Granted - 15/10/2014
721	NOR	M/s. Abdul Sattar Chowhand & Kafil Ahmed Chowhan (Hindustan Serene Hills)	S	Granted - 15/10/2014
722	NOR	M/s. Triveni Cashew Processing Enterprise	S	Granted - 15/10/2014
723	NOR	M\s Mallikarjun Sankhelo Prassan Bakery	S	Granted - 15/10/2014
724	NOR	M/s. Rabiya Flour And Chilli Powder Mill	S	Granted - 15/10/2014
725	SOU	M/s. Cajie Tourist Home	S	Granted - 15/10/2014
726	SOU	M/s. Rafaels Bar & Restaurant	S	Granted - 15/10/2014
727	NOR	M\s Sampada Flour Mill	S	Granted - 15/10/2014
728	NOR	M/s. Joshua's Guest House	S	Granted - 15/10/2014
729	NOR	M/s. Avita's Guest House	S	Granted - 15/10/2014
730	NOR	St Francis Xavier Guest House	S	Granted - 15/10/2014
731	NOR	St Augustin Guest House	S	Granted - 15/10/2014
732	NOR	Anandi Niwas	S	Granted - 15/10/2014
733	SOU	Schneider Electric India Pvt Ltd	S	Granted - 15/10/2014
734	NOR	Villa Rodrigues	S	Granted - 15/10/2014
735	NOR	M\s Marvel Industries	S	Granted - 15/10/2014
736	NOR	M/s. Bona Plus Products	S	Granted - 15/10/2014
737	NOR	M\s Classic Rubber Industry	S	Granted - 15/10/2014
738	NOR	M/s. Blue Bird Guest House Bar & Restaurant	S	Granted - 15/10/2014

739	NOR	M/s. Schematix	S	Granted - 15/10/2014
740	NOR	M/s. H.No. 600 (P.G.A) Anthony M. Dsouza	S	Granted - 15/10/2014
741	NOR	M/s. Rice & Flour Mill	S	Granted - 15/10/2014
742	SOU	M\s Amrut Mills	S	Granted - 15/10/2014
743	SOU	M/s. Kamat Metal Industries	S	Granted - 15/10/2014
744	NOR	M/s. Swastik Engineering Industries	S	Granted - 15/10/2014
745	NOR	M/s. V. T Switchgear & Transformers	S	Granted - 15/10/2014
746	NOR	M\s Lift Controls Pvt. Ltd.	M	Granted - 15/10/2014
747	SOU	M\s Durga Packers	S	Granted - 15/10/2014
748	NOR	M/s. Tin Tin Restaurant	S	Granted - 15/10/2014
749	SOU	M/s. Murdeshwar Plastics	S	Granted - 15/10/2014
750	NOR	M/s. Blue Fin Guest House	S	Granted - 15/10/2014
751	NOR	M/s. Benedict Guest House	S	Granted - 15/10/2014
752	NOR	M\s Davico Composites	S	Granted - 15/10/2014
753	NOR	M/s. Mudrank Print Studio	S	Granted - 15/10/2014
754	SOU	M/s. Villa Martha	S	Granted - 15/10/2014
755	SOU	M/s. Casmina Guest House	S	Granted - 15/10/2014
756	SOU	M/s. acinta Paying Guest House	S	Granted - 15/10/2014
757	SOU	M/s. Villa Seancy	S	Granted - 15/10/2014
758	SOU	M/s. Paulrina Tourist Home	S	Granted - 15/10/2014
759	SOU	M/s. Crismin Guest House	S	Granted - 15/10/2014
760	NOR	M/s. Marie Gold Saloon & Beauty Shop	S	Granted - 15/10/2014
760	SOU	M\s Hotel Navadeep	S	Granted - 15/10/2014
762	NOR	M/s. Jaws Bakery	S	Granted - 15/10/2014
763	NOR	M\s Mandovi Hatcheries	S	Granted - 15/10/2014
764	SOU	M\s Naveen Distillery	S	Granted - 15/10/2014
765	NOR	M\s Yash Fabrication	S	Granted - 15/10/2014
766	NOR	M/s. Savitri Niwas	S	Granted - 15/10/2014
767	SOU	M/s. Navadeep Clasic	S	Granted - 15/10/2014
768	SOU	M\s Navadeep Beverages	S	Granted - 15/10/2014
769	SOU	M\s Hotel Siesta De Goa	S	Granted - 15/10/2014
770	SOU	M/s. Lotus Suites	M	Granted - 15/10/2014
771	SOU	M/s. Ace Hotel & Resorts Pvt. Ltd	S	Granted - 15/10/2014
772	NOR	M\s Shri Dattaguru Furniture (sister concern)	S	Granted - 15/10/2014
773	NOR	M\s Shree Dattaguru Industries	S	Granted - 15/10/2014
774	NOR	M\s Manorama Rural Engineers	S	Granted - 15/10/2014
775	NOR	M/s. Durga Enterprises	S	Granted - 15/10/2014
776	NOR	M\s Omkar	S	Granted - 15/10/2014
777	SOU	M/s. Shri Santosh Chandak	S	Granted - 15/10/2014
778	SOU	M/s. Pinky Shipyard Pvt. Ltd.	S	Granted - 15/10/2014
779	SOU	M\s New Millennium Bakers	M	Granted - 15/10/2014
780	SOU	M/s. Composite Material Industries Pvt Ltd	S	Granted - 15/10/2014
781	NOR	M/s. Fernandes Guest House	S	Granted - 15/10/2014
782	NOR	M/s. Kuldip Hotels Pvt. Ltd. (Hotel Aroma)	S	Granted - 15/10/2014
783	NOR	M\s Romeo's Guest House	S	Granted - 15/10/2014

784	NOR	M\s Siddhivinayak Rcie & Flour Mill	S	Granted - 15/10/2014
785	SOU	M\s Vishwakarma Furniture Works	S	Granted - 15/10/2014
786	SOU	M\s Madanant Constructions Goa Pvt Ltd	S	Granted - 15/10/2014
787	NOR	M/s. Marine Solutions Distribution & Services Pvt. Ltd. (Pit Stop Dumb Pontoon)	S	Granted - 15/10/2014
788	NOR	M/s. Victor Hotels And Motels Ltd (M.V. Horseshoe Casino)	L	Granted - 15/10/2014
789	NOR	M/s. So My Resorts Pvt Ltd	S	Granted - 15/10/2014
790	SOU	M\s Vijay Industries	S	Granted - 15/10/2014
791	SOU	M\s Chowgule & Co. Pvt. Ltd	L	Granted - 15/10/2014
792	NOR	M\s Hotel Nifa	S	Granted - 15/10/2014
793	SOU	M\s Lotus Inn	S	Granted - 15/10/2014
794	SOU	M/s. Shrusti Envirocare	S	Granted - 20/10/2014
795	SOU	M/s. Rukminirama Steel Rollings Pvt Limited (Melting Division)	M	Granted - 20/10/2014
796	SOU	M/s. Sociedade De Fomento Ind. Pvt. Ltd., Capxem Iron Ore Transshipment Terminal	S	Granted - 20/10/2014
797	SOU	M/s. Dimac Organics P. Ltd.	S	Granted - 20/10/2014
798	NOR	M/s. Sinquerim Plot For Stacking\stocking Of Iron Ore, Sirigao Mines, Chowgule & Co.	S	Granted - 20/10/2014
799	NOR	M/s. Sociadade De Fomento Industrial Pvt. Ltd.	S	Granted - 20/10/2014
800	SOU	M\s. John Distilleries Pvt. Ltd.	L	Granted - 20/10/2014
801	SOU	M/s. Sociadade De Fomento Industrial Pvt. Ltd.	S	Granted - 20/10/2014
802	NOR	M/s. Sociadade De Fomento Industrial Pvt. Ltd.	S	Granted - 20/10/2014
803	NOR	M\s Rameshwar Prasad Saw Mill	S	Granted - 20/10/2014
804	NOR	M/s. Hotel Incity	S	Granted - 20/10/2014
805	NOR	M/s. See Bhal Mikelin Distillery Pvt Ltd	M	Granted - 20/10/2014
806	SOU	M/s. Blue Ocean Beverages Pvt. Ltd.	L	Granted - 20/10/2014
807	NOR	M\s Hotel Trimurti	S	Granted - 20/10/2014
808	SOU	M\s Vimleshwar Industries	S	Granted - 20/10/2014
809	SOU	M/s. D Silva Metal Industries (Ssi Unit)	S	Granted - 20/10/2014
810	SOU	M\s Shree Ramnath Damodar Industries (Ssi Unit)	S	Granted - 20/10/2014
811	NOR	M\s Fish Tail Restaurant	S	Granted - 20/10/2014
812	SOU	M/s. Rohit Crushing Industries	S	Granted - 20/10/2014
813	NOR	M/s. Shri Yash Cement Arts	S	Granted - 20/10/2014
814	SOU	M/s. Gradient Chemicals Co. Pvt. Ltd.	S	Granted - 20/10/2014
815	SOU	M/s. Ultra Tech Automotive Pvt. Ltd.,	S	Granted - 20/10/2014
816	SOU	M\s Madanant Constructions Goa Pvt Ltd	S	Granted - 20/10/2014
817	NOR	M/s. Stp,Phase V	S	Granted - 20/10/2014
818	SOU	M\s Tereza Crushing Enterprises	S	Granted - 20/10/2014
819	SOU	M/s. Western India Shipyard Limited	M	Granted - 20/10/2014
820	NOR	M/s. La Grande Residencia	S	Granted - 20/10/2014
821	NOR	M\s Samarth Metal	S	Granted - 20/10/2014
822	NOR	M/s. Snip Salons & Spas	S	Granted - 20/10/2014
823	NOR	M/s. Samant Foods	S	Granted - 20/10/2014
824	NOR	M/s. Lodge Janki Shankar	S	Granted - 20/10/2014
825	NOR	M/s. Totos Foot Spa	S	Granted - 20/10/2014

826	NOR	M/s. Waterleaf Salon & Wellness	S	Granted - 20/10/2014
827	NOR	M/s. Ayurtouch Ayurvedic Massage Centre	S	Granted - 20/10/2014
828	NOR	M/s. Sonikas Paradise	S	Granted - 20/10/2014
829	NOR	M/s. S.S Industries	S	Granted - 20/10/2014
830	NOR	M/s. Chandralekha Guest House	S	Granted - 20/10/2014
831	NOR	M/s. Raj Exotica Holiday Homes	S	Granted - 20/10/2014
832	NOR	M/s. Prem Engineering	S	Granted - 20/10/2014
833	NOR	M/s. Ursula Happy Home	S	Granted - 20/10/2014
834	NOR	M/s. Villa Rosa	S	Granted - 20/10/2014
835	NOR	M/s. Manuel Villa	S	Granted - 20/10/2014
836	SOU	M/s. Desa Engineering Works	S	Granted - 20/10/2014
837	NOR	M/s. Yojana Bhavan (Directorate Of Planning, Statistics & Evaluation)	S	Granted - 20/10/2014
838	SOU	M\s Chowgule & Co. Pvt. Ltd. (Pipe Bending Unit)	L	Granted - 20/10/2014
839	NOR	M/s. Estella Guest House	S	Granted - 20/10/2014
840	NOR	M/s. Raffle Square Development Pvt Ltd.	S	Granted - 21/10/2014
841	SOU	M\s Tin Pack Cans	S	Granted - 21/10/2014
842	NOR	M/s. Sanjiv Workshop	S	Granted - 21/10/2014
843	NOR	M/s. Sundaram Industries Ltd.,	S	Granted - 21/10/2014
844	NOR	M/s. Sai Service Station Limited	S	Granted - 21/10/2014
845	SOU	M\s.K.G.K.Engineering Works	M	Granted - 21/10/2014
846	NOR	M/s. Colgate Palmolive (India) Ltd	L	Granted - 21/10/2014
847	NOR	M/s. Hotel 10 Calangute	S	Granted - 21/10/2014
848	SOU	M/s. Abbott India Limited	M	Granted - 21/10/2014
849	NOR	M/s. Highland Holiday Homes (Goa) Pvt. Ltd	S	Granted - 21/10/2014
850	SOU	M/s. Sanofi India Limited	S	Granted - 21/10/2014
851	NOR	M/s. Domingos Pickles	S	Granted - 21/10/2014
852	NOR	M/s. Larios Beach Holidays	S	Granted - 21/10/2014
853	NOR	M\s Nasnodkar Saw Mill	S	Granted - 21/10/2014
854	NOR	M\s Mandrem Beach Resort (Unit Of Sand Dunes Leisure Homes Pvt. Ltd.)	S	Granted - 21/10/2014
855	NOR	M\s Mahalaxmi Enterprises	S	Granted - 21/10/2014
856	NOR	M/s. Premier Industries	S	Granted - 21/10/2014
857	SOU	M/s. Ashokand Garage	S	Granted - 21/10/2014
858	SOU	M/s. Fragina Guest House	S	Granted - 21/10/2014
859	SOU	M/s. Serene Wellness Centre	S	Granted - 21/10/2014
860	SOU	M/s. Suyog Residency Guest House	S	Granted - 21/10/2014
861	NOR	M/s. Dental Space Cad-Cam System	S	Granted - 21/10/2014
862	NOR	M/s. Hotel Welcome Inn	S	Granted - 21/10/2014
863	NOR	M/s. Prince Santosh Guest House	S	Granted - 21/10/2014
864	NOR	M/s. Doriyasukh	S	Granted - 21/10/2014
865	SOU	M/s. Simca Aluminium Pvt Ltd	S	Granted - 21/10/2014
866	NOR	M/s. Sunshine Appartment (Guest House)	S	Granted - 21/10/2014
867	NOR	M/s. Happy Laundry	S	Granted - 21/10/2014
868	NOR	M/s. Celestiial Hotel	S	Granted - 21/10/2014

869	NOR	M/s. Nilesh Auto Service And Repairs	S	Granted - 21/10/2014
870	NOR	M/s. New Washing Centre	S	Granted - 21/10/2014
871	SOU	M/s. Hotel Failaka	L	Granted - 21/10/2014
872	NOR	M/s. Jaws Restaurant	S	Granted - 21/10/2014
873	NOR	M\s Rututek Enterprises	S	Granted - 21/10/2014
874	NOR	M\s Palyekar Fiberglass	S	Granted - 21/10/2014
875	NOR	M\s Natekar Engineering Works	S	Granted - 21/10/2014
876	NOR	M/s. Navrang Steel Furniture	S	Granted - 21/10/2014
877	NOR	M/s. Goa Glacial	S	Granted - 21/10/2014
878	NOR	M\s Om Ganesh Naik Guest House	S	Granted - 21/10/2014
879	NOR	M\s Shraddha Industries	S	Granted - 21/10/2014
880	NOR	M/s. Paying Guest House No 951 (1)	S	Granted - 21/10/2014
881	NOR	M\s Trupti Engineering Works	S	Granted - 21/10/2014
882	NOR	M\s Fantasy Resort	S	Granted - 21/10/2014
883	NOR	M/s. Ayurvedic Natural Health Centre Pvt Ltd	S	Granted - 24/10/2014
884	NOR	M/s. Standard Epoxy Materials	S	Granted - 24/10/2014
885	NOR	M/s. Heritage Ayurveda Centre	S	Granted - 24/10/2014
886	NOR	M/s. Janata Timber Industries	S	Granted - 24/10/2014
887	NOR	M/s. Hotel Bernado	S	Granted - 24/10/2014
888	SOU	M/s. Yogmaya Hostels Pvt. Ltd (Ocean Residency)	S	Granted - 24/10/2014
889	NOR	M/s. Anup Holiday Homes	S	Granted - 24/10/2014
890	NOR	M\s Don Joao Resort	S	Granted - 24/10/2014
891	SOU	M/s. Cosmos Premises Pvt. Ltd.(Royal Orchid Resort Galaxy)	L	Granted - 24/10/2014
892	SOU	M/s. Ship Construction	L	Granted - 24/10/2014
893	SOU	M/s. Vailankanni Nest	S	Granted - 24/10/2014
894	NOR	M\s Godrej Agrovet Limited	M	Granted - 24/10/2014
895	SOU	M/s. Vergo Pharma Research Laboratories Pvt Ltd	S	Granted - 24/10/2014
896	NOR	M/s. Morjim Club Resort	S	Granted - 24/10/2014
897	SOU	M/s. Roshan Welding	S	Granted - 24/10/2014
898	SOU	M/s. Dinesh Alluminium Works	S	Granted - 24/10/2014
899	SOU	M/s. Octima Guest House, Bar & Restaurant	S	Granted - 24/10/2014
900	SOU	M/s. S.N Printers	S	Granted - 24/10/2014
901	NOR	M/s. Gopal Flour Mill	S	Granted - 24/10/2014
902	SOU	M/s. Bhargava Natural Healing Center	S	Granted - 24/10/2014
903	SOU	M/s. Rafael Guest House	S	Granted - 24/10/2014
904	NOR	M/s. Sonikas Heritage (Guest House)	S	Granted - 24/10/2014
905	NOR	M/s. Bay 15	S	Granted - 24/10/2014
906	NOR	M/s. Juliana Guest House	S	Granted - 24/10/2014
907	NOR	M/s. Garden Of Meals	S	Granted - 24/10/2014
908	SOU	M/s. Ocean Spa & Salon	S	Granted - 24/10/2014
909	SOU	M/s. Spectra Pavers Private Limited	S	Granted - 24/10/2014
910	NOR	M/s. Riverside Resort And Holiday Homes Pvt Ltd	L	Granted - 24/10/2014
911	NOR	M/s. Procter & Gamble Hygiene & Health Care Ltd.	L	Granted - 27/10/2014

912	NOR	M/s. Acerock Developers Pvt. Ltd. (The Baga Marina Beach Resorts)	L	Granted - 27/10/2014
913	NOR	M/s. Gulf Goan Hotels Company Ltd - Hotel Goan Heritage	S	Granted - 27/10/2014
914	NOR	M/s. Encube Ethicals Pvt Ltd	L	Granted - 27/10/2014
915	NOR	M/s. Oktoberfest (Bullseye Entertainment)	S	Granted - 29/10/2014
916	NOR	M/s. Perfect Auto Coating	S	Granted - 03/11/2014
917	NOR	M/s. Goa Beach Grind (Viola Fernandes)	S	Granted - 03/11/2014
918	SOU	M/s. Birla Furukawa Fibre Optics Limited	L	Granted - 05/11/2014
919	SOU	Ms Alcon Resort Holdings Ltd - Unit Radisson Resort Goa	M	Granted - 05/11/2014
920	NOR	M/s. Chowgule & Company Private Limited (Khazan Jetty)	S	Granted - 05/11/2014
921	SOU	M/s. Sanofi India Limited	S	Granted - 05/11/2014
922	NOR	M/s. D.B.Bandodkar And Sons Pvt.Ltd (Tixem Barge Loading Platform\facilities)	S	Granted - 05/11/2014
923	NOR	M\s Heramb Industries	S	Granted - 05/11/2014
924	SOU	M\s Schiffer & Menezes Ind. Pvt. Ltd (L-27)	L	Granted - 05/11/2014
925	NOR	M\s Sea View Cottages	S	Granted - 05/11/2014
926	SOU	M/s. Shant Nag Printing Press	S	Granted - 05/11/2014
927	NOR	M/s. Natasha Candles	S	Granted - 05/11/2014
928	SOU	M/s. Get Down Bar And Restaurant	S	Granted - 05/11/2014
929	SOU	M/s. J. N. Kamat Saw Mill	S	Granted - 05/11/2014
930	NOR	M/s. Giroba Sateri Prasad Bhavan (Hotel Manjunath)	S	Granted - 05/11/2014
931	NOR	M/s. Metal Fabrik India	S	Granted - 05/11/2014
932	NOR	M/s. Riverside Resort And Holiday Homes Pvt Ltd	L	Granted - 11/11/2014
933	NOR	M\s. Devyani Food Industries Ltd.	L	Granted - 11/11/2014
934	NOR	M\s Brittos Guest House	S	Granted - 11/11/2014
935	NOR	M/s. Marusha Barretto E Rodrigues Homeopathic Dispensary	S	Granted - 11/11/2014
936	NOR	M/s. Sephora Salon & Spa	S	Granted - 11/11/2014
937	NOR	M/s. Olegar Enterprises	S	Granted - 11/11/2014
938	SOU	M/s. Amalgamated Bean Coffee Trading Company Limited (Cafe Coffee Day)	S	Granted - 11/11/2014
939	NOR	M/s. Goan Hotels And Clubs Pvt Ltd	S	Granted - 27/10/2014
940	SOU	M/s. Jungle Cafe	S	Granted - 27/11/2014
941	NOR	M/s. V. M. Salgaocar & Bro. Pvt. Ltd. (Dry Screening Plant & Loading Facility)	S	Granted - 27/11/2014
942	SOU	M\s Vilanova Holidays	S	Granted - 28/11/2014
943	NOR	M\s Physiotherapy (Dr. Mamta Karpe)	S	Granted - 28/11/2014
944	SOU	M/s. Hip Snip Salon & Spa	S	Granted - 28/11/2014
945	NOR	M/s. Rj's Ayuspaa	S	Granted - 02/12/2014
946	SOU	M/s. Coelho Industries	S	Granted - 02/12/2014
947	NOR	M/s. Dreamz Salon & Spa	S	Granted - 02/12/2014
948	NOR	M/s. Dreamz Salon & Spa	S	Granted - 02/12/2014
949	NOR	M/s. Deborah Rodrigues (Spa)	S	Granted - 02/12/2014
950	NOR	M/s. Marbela Resort	S	Granted - 02/12/2014
951	NOR	M/s. Vasu Paying Guest House	S	Granted - 02/12/2014

952	NOR	M/s. "sushruti" Dr. Dhulapkars Hospital	S	Granted - 02/12/2014
953	NOR	M/s. Shree Om Plastic	S	Granted - 02/12/2014
954	NOR	M/s. Moonlight Restaurant (Guest House, Bar & Restaurant)	S	Granted - 02/12/2014
955	NOR	M/s. Chowgule & Company Private Limited	S	Granted - 02/12/2014
956	NOR	M/s. Simeshwar Garage	S	Granted - 02/12/2014
957	NOR	M/s. Sunset Guest House	S	Granted - 02/12/2014
958	NOR	M/s. Mojim Grande	S	Granted - 02/12/2014
959	SOU	M/s. Shailesh Chari (2 Wheeler Repair Station)	S	Granted - 02/12/2014
960	NOR	M/s. Paradise Guest House	S	Granted - 02/12/2014
961	NOR	M/s. Coastal Sunview Hotel Private	L	Granted - 02/12/2014
962	NOR	M/s. Paulo M. D'souza (Guest House)	S	Granted - 05/12/2014
963	SOU	M/s. Shival Candle Industry	S	Granted - 05/12/2014
964	NOR	M/s. Rudresh Guest House	S	Granted - 05/12/2014
965	NOR	M\s Super Industries	S	Granted - 05/12/2014
966	NOR	M\s Sonish Equi-Chem Industries	S	Granted - 05/12/2014
967	NOR	M/s. All Seasons Beach Classic	S	Granted - 05/12/2014
968	NOR	M/s. Ulka Seafoods Pvt Ltd(Unit-Ii)	L	Granted - 05/12/2014
969	NOR	M/s. Milton Lobo S Guest House	S	Granted - 05/12/2014
970	NOR	M/s. God`s Gift Guest House	S	Granted - 05/12/2014
971	NOR	M/s. Joaquim House	S	Granted - 05/12/2014
972	NOR	M/s. Sebastian Minguel Dmello Guest House	S	Granted - 05/12/2014
973	NOR	M/s. Paying Guest House	S	Granted - 05/12/2014
974	NOR	M/s. Beach Way Guest House	S	Granted - 05/12/2014
975	NOR	M/s. Sailor`s Inn	S	Granted - 05/12/2014
976	NOR	M/s. Piya Guest House	S	Granted - 05/12/2014
977	NOR	M/s. Ivon's Holiday Calm	S	Granted - 05/12/2014
978	NOR	M/s. Ivon's Holiday Calm	S	Granted - 05/12/2014
979	NOR	M/s. United Breweries Ltd.	M	Granted - 09/12/2014
980	SOU	M/s. Bona Steel Industries	S	Granted - 09/12/2014
981	NOR	M/s. Vep Forming & Moulding	S	Granted - 09/12/2014
982	SOU	M/s. Ayurveda Clinic	S	Granted - 09/12/2014
983	SOU	M/s. Ayurveda Clinic	S	Granted - 09/12/2014
984	SOU	M/s. Richardson Bakers & Confectioners	S	Granted - 09/12/2014
985	SOU	M/s. Ayurvedic Clinic And Treatment Centre	S	Granted - 09/12/2014
986	SOU	M/s. Saroj Rice & Flour Mill	S	Granted - 09/12/2014
987	SOU	M/s. Dr Ellen's Ayurveda Clinic	S	Granted - 09/12/2014
988	SOU	M/s. Lotus Spa & Saloon	S	Granted - 09/12/2014
989	SOU	M/s. Eden Spa Homestays Pvt. Ltd	S	Granted - 09/12/2014
990	SOU	M/s. Traditional Ayurvedic Massage	S	Granted - 09/12/2014
991	SOU	M/s. Metro Eyelets Industries	S	Granted - 10/12/2014
992	SOU	M/s. Puja Ferro Alloys Pvt. Ltd	S	Granted - 10/12/2014
993	SOU	M\s Patharvat Industries	S	Granted - 10/12/2014
994	NOR	M/s. Shree Dattakrupa Industries	S	Granted - 10/12/2014
995	SOU	M/s. Benson Bakery	S	Granted - 10/12/2014

996	NOR	M/s Sesa Sterlite Ltd. (Pig Iron Division)	L	Granted - 11/12/2014
997	NOR	M/s. Sur La Mer Resort Pvt Ltd	S	Granted - 11/12/2014
998	SOU	M/s. Janet Guest House	S	Granted - 11/12/2014
999	NOR	M/s. Shrem Resort Pvt Ltd	L	Granted - 11/12/2014
1000	NOR	M/s. Tara Massage & Beauty Centre	S	Granted - 11/12/2014
1001	SOU	M\s J.M. Metal Industries	S	Granted - 11/12/2014
1002	SOU	M/s. Choksi Laboratories Ltd.	M	Granted - 12/12/2014
1003	SOU	M/s. Shri Gaulaxmi Saw Mill	S	Granted - 12/12/2014
1004	SOU	M/s. Shree Mahalaxmi Saw Mill	S	Granted - 12/12/2014
1005	SOU	M/s. Sameer Engineering	S	Granted - 12/12/2014
1006	SOU	M/s. Ranjit Fabricators	S	Granted - 12/12/2014
1007	SOU	M/s. Freedom Workshop	S	Granted - 12/12/2014
1008	SOU	M/s. Emaben Enterprises	S	Granted - 12/12/2014
1009	SOU	M/s. Anandi Hotel	S	Granted - 12/12/2014
1010	SOU	M/s. Ayurtouch Spa Center	S	Granted - 12/12/2014
1011	NOR	M/s. Speciality Bites	S	Granted - 12/12/2014
1012	SOU	M/s. Jorges Holiday Homes	S	Granted - 12/12/2014
1013	NOR	M/s. St Anthony Guest House	S	Granted - 12/12/2014
1014	NOR	M/s. The Indian Hotels Co. Ltd. Unit : Vivanta By Taj - Fort Aguada, Goa.	S	Granted - 12/12/2014
1015	NOR	M/s. Capaxem Barge Loading Jetty	M	Granted - 12/12/2014
1016	NOR	M/s. Maina Barge Loading Jetty	M	Granted - 12/12/2014
1017	NOR	M/s. Anjuna Villa140\1	L	Granted - 12/12/2014
1018	SOU	M/s. Tiburcio Fernandes (Rice Mill)	S	Granted - 17/12/2014
1019	SOU	M/s. Adarsh Lodging	S	Granted - 17/12/2014
1020	NOR	M/s. Franria Villa Guest House	S	Granted - 17/12/2014
1021	SOU	M/s. Shri Anant Stores\flour Mill	S	Granted - 17/12/2014
1022	NOR	M/s. Resorte Marinha Dourada	L	Granted - 17/12/2014
1023	NOR	M/s. Sunset Getaways (Sunburn)	S	Granted - 26/12/2014
1024	NOR	M/s. Starlight Events And Entertainment Pvt Ltd (Supersonic)	S	Granted - 26/12/2014
1025	NOR	M/s. Ujwal Interiors	S	Granted - 30/12/2014
1026	NOR	Ms Casa Severina	L	Granted - 02/01/2015
1027	NOR	M/s. United Breweries Ltd.	M	Granted - 02/01/2015
1028	NOR	M/s. Nestle India Limited	L	Granted - 02/01/2015
1029	SOU	M\s Three Star Bakery	S	Granted - 02/01/2015
1030	SOU	M/s. Kailash Ayurvedic Treatment Center	S	Granted - 02/01/2015
1031	SOU	M/s. Rich Kerala Ayurvedic Clinic & Pharmaceutical Corp(I.M)	S	Granted - 02/01/2015
1032	SOU	M/s. Jungle Village	S	Granted - 02/01/2015
1033	NOR	M/s. Dias Auto Care Centre	S	Granted - 02/01/2015
1034	NOR	M/s. Sukho Thai The Foot Spa	S	Granted - 02/01/2015
1035	NOR	M/s. Ayurvedic Care Centre	S	Granted - 02/01/2015
1036	NOR	M/s. Awesome Salon & Thai Foot Therapy	S	Granted - 02/01/2015
1037	NOR	M/s. Cadila Healthcare Ltd.	L	Granted - 08/01/2015
1038	SOU	M/s. Andrew Telecommunications Indis Pvt Ltd	M	Granted - 08/01/2015

1039	NOR	M/s. Phoenix Park Inn (Unit Of Phoenix Township Limited)	L	Granted - 08/01/2015
1040	SOU	M/s. Parani Resort Pvt Ltd	S	Granted - 08/01/2015
1041	NOR	M/s. Alex Rodrigues	S	Granted - 08/01/2015
1042	NOR	M/s. Vailankanni Guest House	S	Granted - 08/01/2015
1043	NOR	M/s. Paying Guest House	S	Granted - 08/01/2015
1044	NOR	M/s. Avinash Guest House	S	Granted - 08/01/2015
1045	NOR	M/s. Yellow House Guest House	S	Granted - 08/01/2015
1046	NOR	M/s. Domnic Guest House	S	Granted - 08/01/2015
1047	NOR	M/s. Marshall's Guest House	S	Granted - 08/01/2015
1048	NOR	M/s. Leena Guest House	S	Granted - 08/01/2015
1049	NOR	M/s. A. J. F. Villa	S	Granted - 08/01/2015
1050	NOR	M/s. Chillis Guest House	S	Granted - 08/01/2015
1051	SOU	M/s. Valankini Workshop	S	Granted - 08/01/2015
1052	NOR	M/s. Shakti Sales Corporation	S	Granted - 08/01/2015
1053	SOU	M/s. Francon Guest House	S	Granted - 08/01/2015
1054	NOR	M\s Tavora Hotels & Restaurants(Navtara)	S	Granted - 08/01/2015
1055	NOR	M/s. De Souza Leisures Pvt. Ltd. - Aldeia Santa Rita	S	Granted - 08/01/2015
1056	NOR	M/s. The Sea Side	S	Granted - 08/01/2015
1057	NOR	M\s Super Industries	S	Granted - 08/01/2015
1058	NOR	M/s. River Isle Guest House & Restaurant	S	Granted - 08/01/2015
1059	SOU	M\s Rodrickson Cottages	S	Granted - 08/01/2015
1060	SOU	M\s Rodrickson Cottages	S	Granted - 08/01/2015
1061	SOU	M/s. Kare Labs Pvt. Ltd.	L	Granted - 08/01/2015
1062	NOR	M/s. Dsouza Biotech	S	Granted - 08/01/2015
1063	SOU	M/s. Zuari Agro Chemicals Limited	L	Granted - 08/01/2015
1064	NOR	M/s. Anthony Villa	S	Granted - 08/01/2015
1065	NOR	M/s. Omkar House	S	Granted - 08/01/2015
1066	NOR	M/s. Holy Cross Guest House	S	Granted - 08/01/2015
1067	SOU	M/s. Spirit De Goa	S	Granted - 08/01/2015
1068	NOR	M/s. Time & Leisure Hotels Pvt. Ltd	S	Granted - 08/01/2015
1069	SOU	M/s. Symphony Family Restaurant & Bar	S	Granted - 08/01/2015
1070	NOR	M/s. Menino Jesus Cottage	S	Granted - 08/01/2015
1071	NOR	M/s. Paying Guest House	S	Granted - 08/01/2015
1072	SOU	M/s. Bandekar's Annapurna Masale	S	Granted - 08/01/2015
1073	NOR	M/s. Sai Guest House	S	Granted - 08/01/2015
1074	NOR	M/s. Corals	S	Granted - 08/01/2015
1075	NOR	M/s. Hotel Peace Garden	S	Granted - 08/01/2015
1076	SOU	M/s. Ayurveda Clinic	S	Granted - 08/01/2015
1077	NOR	M/s. Relax Inn Guest House(Vincent Rodrigues)	S	Granted - 08/01/2015
1078	NOR	M/s. Ayurjeevana Ayurvedic Massage Center	S	Granted - 08/01/2015
1079	NOR	M/s. Ayurclinic Goa	S	Granted - 08/01/2015
1080	NOR	M/s. Ashley Resort Pvt. Ltd. Adamo The Bellus	L	Granted - 09/01/2015
1081	SOU	M/s. Pravinkumar Shantilal Gosalia	L	Granted - 09/01/2015
1082	NOR	M/s. Heera Recreation & Entertainment	S	Granted - 09/01/2015

1083	NOR	M/s. Sky King Guest House	S	Granted - 09/01/2015
1084	NOR	M/s. Neomis Hair & Beauty Salon	S	Granted - 09/01/2015
1085	NOR	M/s. Willy Guest House	S	Granted - 09/01/2015
1086	NOR	M/s. Sharon Villa	S	Granted - 09/01/2015
1087	SOU	M/s. Veeniola Holiday Home	S	Granted - 09/01/2015
1088	SOU	M/s. Rosario Inn	S	Granted - 09/01/2015
1089	NOR	M\s Britts	L	Granted - 09/01/2015
1090	SOU	M/s. R.K Enterprises	S	Granted - 09/01/2015
1091	NOR	M/s. VLCC Slimming , Beauty & Health Centre (Orchid Health Care)	S	Granted - 09/01/2015
1092	SOU	M/s. Penguim Restaurant	S	Granted - 09/01/2015
1093	SOU	M/s. Valerys Beauty Parlour	S	Granted - 09/01/2015
1094	NOR	M/s. Hair Dressing Saloon	S	Granted - 09/01/2015
1095	SOU	M/s. Traditional Ayurvedic Centre And Spa	S	Granted - 12/01/2015
1096	NOR	M/s. Rudra Beauty Saloon And Ayurvedic Massage Center	S	Granted - 12/01/2015
1097	NOR	M/s. Yellow Foot And Fish Therapy	S	Granted - 12/01/2015
1098	NOR	M/s. Feel Good Massage Parlour	S	Granted - 12/01/2015
1099	NOR	M/s. Ayurvedic Massage Treatment	S	Granted - 12/01/2015
1100	NOR	M/s. Anavadhya Ayurvedic Panchakarma Treatment Centre	S	Granted - 12/01/2015
1101	NOR	M/s. Farid Veljee (Prop. Veljee Motors\ Veljee Automobiles)	S	Granted - 12/01/2015
1102	NOR	M\s Ranjana Ladies Beauty Parlour	S	Granted - 12/01/2015
1103	NOR	M/s. Nature Touch Massage Centre	S	Granted - 12/01/2015
1104	NOR	M/s. R. J. Industries	S	Granted - 12/01/2015
1105	SOU	M/s. K. G. N. Enterprises	S	Granted - 12/01/2015
1106	NOR	M/s. Babanov And Coutinho Resorts Pvt Ltd (Hotel Casa Blanca)	S	Granted - 12/01/2015
1107	NOR	M/s. Rachel Ladies Beauty Parlour	S	Granted - 12/01/2015
1108	SOU	M/s. Swami Ayurveda Clinic	S	Granted - 12/01/2015
1109	SOU	M/s. Vipul Shipping Engineering Works	S	Granted - 12/01/2015
1110	NOR	M/s. Alphagam Coating Solutions Pvt. Ltd.	S	Granted - 12/01/2015
1112	NOR	M/s. The Horizon	S	Granted - 12/01/2015
1113	SOU	M/s. Hotel Saaj	S	Granted - 12/01/2015
1114	NOR	M/s. Sher-E-Punjab Hotels Pvt Ltd	S	Granted - 12/01/2015
1115	NOR	M\s Savoy Retreat Pvt. Ltd.	S	Granted - 12/01/2015
1116	NOR	M/s. Surla Jetty	S	Granted - 12/01/2015
1117	NOR	M/s. Sinori Jetty	S	Granted - 12/01/2015
1118	NOR	M/s. Damodar Mangalji & Co. Ltd. (Jetty No. 2)	S	Granted - 12/01/2015
1119	NOR	M/s. Damodar Mangalji & Co. Ltd. (Jetty No. 1)	S	Granted - 12/01/2015
1120	NOR	M/s. Goa Energy Limited	L	Granted - 12/01/2015
1121	SOU	M/s. Timblo Drydocks Pvt. Ltd.	M	Granted - 12/01/2015
1122	SOU	M/s. Global Ispat Ltd.	M	Granted - 12/01/2015
1123	NOR	M/s. Dempo Mining Corporation Pvt. Ltd, Barge Loading Jetty At Sarmanus	S	Granted - 12/01/2015
1124	NOR	M/s. Vilashini Cleaning Works	S	Granted - 12/01/2015

1125	SOU	M/s. Balton's Beach Shack (Baltazar Fernandes)	S	Granted - 21/01/2015
1126	SOU	M/s. Rosary Beach Shack	S	Granted - 21/01/2015
1127	SOU	M/s. Camron Beach Shack	S	Granted - 21/01/2015
1128	SOU	M/s. Albert Place	S	Granted - 21/01/2015
1129	SOU	M/s. Blue Waves Shack (Livia D'silva)	S	Granted - 21/01/2015
1130	SOU	M/s. The Beach House (Glenn D'souza)	S	Granted - 21/01/2015
1131	SOU	M/s. Cool Place	S	Granted - 21/01/2015
1132	SOU	M/s. Lloyd's Beach Shack	S	Granted - 21/01/2015
1133	SOU	M/s. Lobster King (Christina Fernandes)	S	Granted - 21/01/2015
1134	SOU	M/s. Goa Hilton (Joanita Gonsalves)	S	Granted - 21/01/2015
1135	SOU	M/s. Wensben Shack	S	Granted - 21/01/2015
1136	NOR	M/s. Indus Cama	S	Granted - 24/01/2015
1137	NOR	M\s. Aqua Goa	S	Granted - 24/01/2015
1138	NOR	M\s Saliz & Co.	S	Granted - 24/01/2015
1139	NOR	M/s. Edryl India	S	Granted - 24/01/2015
1140	NOR	M\s Hotel Dona Terezinha Pvt. Ltd	S	Granted - 24/01/2015
1141	NOR	M/s. Ayurma	S	Granted - 24/01/2015
1142	NOR	M\s Laxmikant Saw Mill	S	Granted - 24/01/2015
1143	NOR	M\s Radha Furniture Works	S	Granted - 24/01/2015
1144	NOR	M/s. Akshaya Ayurvedic Pvt Ltd	S	Granted - 24/01/2015
1145	NOR	M/s. Krupa Polymers (India) Private Limited	M	Granted - 24/01/2015
1146	NOR	M/s. Anil Garage	S	Granted - 24/01/2015
1147	NOR	M\s Bhavani Garage	S	Granted - 24/01/2015
1148	NOR	M/s. Morjim Farm And Beach Resort	S	Granted - 24/01/2015
1149	NOR	M/s. Shree Mahalasa Saunsthan	S	Granted - 26/01/2015
1150	NOR	M/s. Model Real Estate Developers (Model Status)	S	Granted - 26/01/2015
1151	NOR	M/s. Ayurvedic Natural Health Centre Pvt Ltd	S	Granted - 26/01/2015
1152	NOR	M\s Pearl Granites & Marbles	S	Granted - 26/01/2015
1153	NOR	M/s. Metadecor Industries	M	Granted - 26/01/2015
1154	NOR	Ms Global Spirits & Foods	S	Granted - 26/01/2015
1155	NOR	M\s Shree Polymer Products	L	Granted - 26/01/2015
1156	NOR	M/s. Advanced Composites Pvt Ltd	M	Granted - 26/01/2015
1157	NOR	M/s. Okasa Pvt. Ltd.	L	Granted - 26/01/2015
1158	NOR	M/s. Berger Becker Coatings Private Limited.,	S	Granted - 26/01/2015
1159	NOR	M/s. Merck Limited	L	Granted - 26/01/2015
1160	NOR	M/s. Ambey Metallic Ltd	L	Granted - 26/01/2015
1161	NOR	M/s. Automobile Corporation Of Goa Ltd - Plant - I	L	Granted - 26/01/2015
1162	NOR	M/s. Dempo Mining Corporation Pvt. Ltd, Barge Loading Jetty At Sarmanus	S	Granted - 26/01/2015
1163	NOR	M/s. Amar Metal	S	Granted - 26/01/2015
1164	NOR	M\s Prabhu Smaran Rest House	S	Granted - 26/01/2015
1165	NOR	M\s Goan Hospitality (caravela)	S	Granted - 27/01/2015
1166	SOU	M\s Nunes Bakery	S	Granted - 30/01/2015
1167	SOU	M\s Valany Fabrication	S	Granted - 30/01/2015
1168	SOU	M\s Goa Super Eletrodes Pvt. Ltd.	S	Granted - 30/01/2015

1169	SOU	M\s Sudesh Bandodkar Rice Mill	S	Granted - 30/01/2015
1170	SOU	M\s Sagar Power Laundry	S	Granted - 30/01/2015
1171	SOU	M\s Umesh Mukund Chari (Carpentry)	S	Granted - 30/01/2015
1172	SOU	M\s Gautam Wood Industries	S	Granted - 30/01/2015
1173	SOU	M\s Prabhu Cement Products	S	Granted - 30/01/2015
1174	SOU	M\s Goa Tourism Development Corporation (Colva Residency)	S	Granted - 30/01/2015
1175	SOU	M\s St Francis Xavier Workshop	S	Granted - 30/01/2015
1176	SOU	M\s Sunshine Laundry	S	Granted - 30/01/2015
1177	SOU	M\s St. Francis Bakery	S	Granted - 30/01/2015
1178	NOR	M\s Club Cubana	S	Granted - 30/01/2015
1179	NOR	M\s G M Enterprise	S	Granted - 30/01/2015
1180	NOR	M\s Curry House	S	Granted - 30/01/2015
1181	NOR	M\s S S Electricals	S	Granted - 30/01/2015
1182	NOR	M\s Quality Windings	S	Granted - 30/01/2015
1183	NOR	M\s Delta Residency	S	Granted - 30/01/2015
1184	NOR	M\s Om Ganesh	S	Granted - 30/01/2015
1185	NOR	M\s Golden Plastocrafts	S	Granted - 30/01/2015
1186	NOR	M\s Envirowise Services	S	Granted - 30/01/2015
1187	NOR	M\s Water Parells	S	Granted - 30/01/2015
1188	NOR	M\s Om Sai Washing Centre	S	Granted - 30/01/2015
1189	NOR	M\s Ashok Fast Food Centre	S	Granted - 30/01/2015
1190	SOU	M\s Delta Engineers	S	Granted - 30/01/2015
1191	SOU	M\s Supra Industries	S	Granted - 30/01/2015
1192	NOR	M\s Shivram Optical Industry	S	Granted - 30/01/2015
1193	NOR	M\s Mahamaya Enterprises	S	Granted - 30/01/2015
1194	SOU	M\s Tak-Nik Metal Works	S	Granted - 30/01/2015
1195	SOU	M\s Joscar Rice And Flour Mill	S	Granted - 30/01/2015
1196	NOR	M\s Nitya Resort	S	Granted - 30/01/2015
1197	NOR	M\s Orchid Health Care	S	Granted - 30/01/2015
1198	SOU	M\s Pinto's Flour Mill	S	Granted - 30/01/2015
1199	NOR	M\s Standard Pack Prints Pvt. Ltd	S	Granted - 30/01/2015
1200	NOR	M\s Sfx Bakers & Confectioners	S	Granted - 30/01/2015
1201	SOU	M\s Rice And Flour Mill	S	Granted - 30/01/2015
1202	SOU	M\s Om Ice Cream Factory	S	Granted - 30/01/2015
1203	NOR	M\s Tarun Bharat Multi-Graphics Pvt Ltd	S	Granted - 30/01/2015
1204	NOR	M\s Palm Grove Cottages	S	Granted - 30/01/2015
1205	NOR	M\s Sea View Cottages	S	Granted - 30/01/2015
1206	SOU	M\s S.S Products	S	Granted - 30/01/2015
1207	NOR	M\s Alibaba Enclave	S	Granted - 30/01/2015
1208	NOR	M\s Diebold Systems Pvt. Ltd.	S	Granted - 30/01/2015
1209	NOR	M\s Polynova Industries Ltd	L	Granted - 30/01/2015
1210	SOU	M\s Tevapharm India Pvt. Ltd.	L	Granted - 30/01/2015
1211	SOU	M\s Teknic Electric (I) Pvt Ltd	S	Granted - 30/01/2015
1212	NOR	M\s Syngenta India Limited	L	Granted - 04/02/2015

1213	NOR	M\s Ajay Cashew Oil & Allied Products	S	Granted - 04/02/2015
1214	SOU	M\s Atc Industries	S	Granted - 04/02/2015
1215	NOR	M\s Vassudeva Tamba Metal Quaryy	S	Granted - 04/02/2015
1216	SOU	M\s J L Baptista	L	Granted - 04/02/2015
1217	NOR	M\s Vivajay Brushes (Goa)	M	Granted - 04/02/2015
1218	NOR	M\s Power Engineering (India) Pvt Ltd	S	Granted - 04/02/2015
1219	NOR	M/s. Swift Boutique Hotels Pvt Ltd	L	Granted - 04/02/2015
1220	NOR	M\s Zaraf Cosmetics	S	Granted - 04/02/2015
1221	SOU	M\s Espee Diesel Engineers (Margao Branch)	S	Granted - 04/02/2015
1222	NOR	M\s Raman Resort	S	Granted - 04/02/2015
1223	NOR	M\s Shanti Atithi Home Pvt.Ltd	M	Granted - 04/02/2015
1224	NOR	M\s Royal Ice Cream	S	Granted - 04/02/2015
1225	SOU	M\s Baba Engineering Works	S	Granted - 04/02/2015
1226	NOR	M\s Parmaz Hospitality Pvt Ltd (Little Italy)	S	Granted - 04/02/2015
1227	NOR	M\s P.D.A Guest House	S	Granted - 04/02/2015
1228	SOU	M\s Jila Bakers & Confectioners	S	Granted - 11/02/2015
1229	SOU	M\s Power Laundry	S	Granted - 11/02/2015
1230	SOU	Neca Industries	S	Granted - 11/02/2015
1231	SOU	Namdev Narcinva Lotlikar	S	Granted - 11/02/2015
1232	SOU	M\s Narendra Atchut Shirodkar	S	Granted - 11/02/2015
1233	SOU	M\s Canara Cold Storage	S	Granted - 11/02/2015
1234	SOU	M\s Amol Rice And Flour Mill	S	Granted - 11/02/2015
1235	NOR	M\s Gbc Packaging	M	Granted - 11/02/2015
1236	NOR	M\s Healthway Hospital Pvt Ltd	S	Granted - 11/02/2015
1237	NOR	M\s Yashoda Industries	S	Granted - 11/02/2015
1238	SOU	M\s Golden Cane Industries	S	Granted - 11/02/2015
1239	NOR	M\s Ssp Polymers	S	Granted - 11/02/2015
1240	NOR	M\s Chalet Belle Rosa	S	Granted - 11/02/2015
1241	SOU	M\s Cake Palace	S	Granted - 11/02/2015
1242	SOU	M\s Mili Furniture	S	Granted - 11/02/2015
1243	NOR	M\s Mundial Guest House	S	Granted - 11/02/2015
1244	NOR	M\s Sundar S. P. Bandodkar	S	Granted - 11/02/2015
1245	NOR	M\s Hotel Park Plaza	S	Granted - 11/02/2015
1246	SOU	M\s Mach Tech Goa	S	Granted - 11/02/2015
1247	NOR	M\s Velpar Associates	S	Granted - 11/02/2015
1248	NOR	M\s Infinity Nails Pvt Ltd	S	Granted - 11/02/2015
1249	NOR	M\s Laxmi Hair Cutting Saloon	S	Granted - 11/02/2015
1250	NOR	M\s Priyanka Packaging Industries	S	Granted - 11/02/2015
1251	SOU	M\s Ranjit Electronics	S	Granted - 11/02/2015
1252	NOR	M\s Jaws Guest House	S	Granted - 11/02/2015
1253	NOR	M\s Vishal Industries	S	Granted - 11/02/2015
1254	NOR	M/s D' Interiors	S	Granted - 11/02/2015
1255	SOU	M\s Xavier Garage	S	Granted - 11/02/2015
1256	NOR	M\s Sirsat Lodge	S	Granted - 11/02/2015

1257	NOR	M/s Om Winder	S	Granted - 11/02/2015
1258	NOR	M/s Mahadev Saw Mill	S	Granted - 11/02/2015
1259	NOR	M\s Goa Karting Pvt Ltd	S	Granted - 11/02/2015
1260	NOR	M/s Javed Qureshi Exports	S	Granted - 11/02/2015
1261	NOR	M/s M\s New General Workshop	S	Granted - 11/02/2015
1262	NOR	M/s Goa Electric Company	S	Granted - 11/02/2015
1263	NOR	M\s Satpurush Industry	S	Granted - 11/02/2015
1264	SOU	M\s. Mahindra Holidays And Resorts (I) Ltd. (Club Mahindra)	L	Granted - 11/02/2015
1265	NOR	M\s Kemtec India Photographic Co. Pvt Ltd.	S	Granted - 11/02/2015
1266	NOR	M\s Gajantlaxmi Industries	S	Granted - 11/02/2015
1267	NOR	Ms Shreyash Brick And Cement Products	S	Granted - 11/02/2015
1268	SOU	M\s S. J. Enterprises	S	Granted - 11/02/2015
1269	NOR	M\s Deepra Industries	S	Granted - 11/02/2015
1270	NOR	M/s Baga Waterfront Resort & Spa (Acron Hospitality Pvt Ltd)	L	Granted - 11/02/2015
1271	NOR	M/s Mahadev Gunaji Chari	S	Granted - 11/02/2015
1272	NOR	M\s Supreme Industries	S	Granted - 11/02/2015
1273	NOR	M\s Oriental Containers Ltd	L	Granted - 11/02/2015
1274	NOR	M/s Ameya Offset Printers	S	Granted - 11/02/2015
1275	SOU	M/s Vinayak Industries	S	Granted - 11/02/2015
1276	NOR	M\s Johton Autocoat	S	Granted - 11/02/2015
1277	NOR	M/s Jonny's Hotel	S	Granted - 11/02/2015
1278	NOR	M/s Pk Composites Private Limited.,	S	Granted - 11/02/2015
1279	SOU	M\s. Emkay Elastomers	S	Granted - 11/02/2015
1280	NOR	M/s Adelphi Pharmaceuticals	S	Granted - 11/02/2015
1281	NOR	M/s Nazri Resort	M	Granted - 11/02/2015
1282	NOR	M/s Hotel Swapna	S	Granted - 11/02/2015
1283	SOU	M/s Alve Weld-O-Craft	S	Granted - 17/02/2015
1284	NOR	M/s Arti Fabulous Body Care	S	Granted - 20/02/2015
1285	NOR	M/s Dreamstone	S	Granted - 20/02/2015
1286	NOR	M/s Espynick	S	Granted - 20/02/2015
1287	NOR	M/s The River Palace	S	Granted - 23/02/2015
1288	NOR	M/s Sunrise Cashew Industry	S	Granted - 23/02/2015
1289	NOR	M\s Nana's Restaurant	S	Granted - 23/02/2015
1290	NOR	M/s Hotel Priti International	S	Granted - 23/02/2015
1291	NOR	M/s Pirates Cabin	S	Granted - 23/02/2015
1292	NOR	M/s Konkan Tyres	S	Granted - 23/02/2015
1293	SOU	M/s Damodar Timber Depot	S	Granted - 23/02/2015
1294	SOU	M\s Hotel Surya Palace	S	Granted - 23/02/2015
1295	SOU	M/s Joema Tourist Home	S	Granted - 23/02/2015
1296	NOR	M/s Casmira D'souza (Mira Cafe Guest House)	S	Granted - 23/02/2015
1297	NOR	M/s Uma Hotel	S	Granted - 23/02/2015
1298	SOU	M/s South Western Railway Holiday Home	S	Granted - 23/02/2015
1299	NOR	M/s Samatma Estates Pvt. Ltd.(Hotel Salida Del Sol)	M	Granted - 23/02/2015

1300	NOR	M/s Procter & Gamble Hygiene & Health Care Ltd.	L	Granted - 23/02/2015
1301	NOR	M/s Maruti Agro Products	S	Granted - 23/02/2015
1302	NOR	M/s Merck Specialities Private Limited	S	Granted - 23/02/2015
1303	NOR	M/s Cosme Pharma Ltd.	M	Granted - 23/02/2015
1304	SOU	M/s Lafarge Aggregates & Concrete India Pvt. Ltd.	S	Granted - 23/02/2015
1305	SOU	M/s Allywin Enterprises	S	Granted - 23/02/2015
1306	SOU	M/s Costa Cement Products	S	Granted - 23/02/2015
1307	SOU	M\s. Gate Gourmet India Pvt. Ltd.	S	Granted - 23/02/2015
1308	SOU	M/s Stanley Engineering Works	S	Granted - 23/02/2015
1309	SOU	M/s Vailankanni Fabrications	S	Granted - 23/02/2015
1310	SOU	M/s O'Cuzinero	S	Granted - 23/02/2015
1311	NOR	M/s Gaonkar Chemicals	S	Granted - 23/02/2015
1312	NOR	M/s Compact Cement Products	S	Granted - 23/02/2015
1313	SOU	M/s Angela Bar & Restaurant	S	Granted - 23/02/2015
1314	NOR	M/s Om Shack (Vasudev Calangutkar)	S	Granted - 23/02/2015
1315	NOR	M/s Zanzibar Beach Shack (Raymond Fernandes)	S	Granted - 23/02/2015
1316	NOR	M/s Sol Cables	S	Granted - 23/02/2015
1317	NOR	M/s Shri Ganesh Indian Industries	S	Granted - 23/02/2015
1318	NOR	M/s Hotel Gopika International	S	Granted - 23/02/2015
1319	NOR	M/s Raj Industries	S	Granted - 23/02/2015
1320	NOR	M/s Ondas Do Mar Resort	S	Granted - 23/02/2015
1321	SOU	M/s Bharat Conductors Pvt. Ltd.	S	Granted - 23/02/2015
1322	SOU	M/s Hindustan Coca-Cola Beverages Pvt Ltd.	L	Granted - 23/02/2015
1323	SOU	M\s Prestige Holiday Resorts Pvt Ltd (Royal Palms)	L	Granted - 23/02/2015
1324	NOR	M/s Alex Traveller Beach Shack (Severino Fernandes)	S	Granted - 23/02/2015
1325	SOU	M/s Ion Exchange (India) Ltd.	L	Granted - 04/03/2015
1326	NOR	M/s Samraat Marine Services	S	Granted - 04/03/2015
1327	SOU	M/s Brothers Bakery	S	Granted - 04/03/2015
1328	SOU	M\s Cota Industries	S	Granted - 04/03/2015
1329	SOU	M/s Matrix Cement Blocks	S	Granted - 08/03/2015
1330	SOU	M/s Fernandes Engineering Works	S	Granted - 08/03/2015
1331	NOR	M/s Lucky Star Beach Shack (Joao Xavier Fernandes)	S	Granted - 08/03/2015
1332	NOR	M/s Julma Guest House	S	Granted - 08/03/2015
1333	NOR	M/s Yovkar Mini Hotel	S	Granted - 08/03/2015
1334	SOU	M/s Cafe Riz	S	Granted - 08/03/2015
1335	SOU	M/s Supreme Industry	S	Granted - 08/03/2015
1336	SOU	M/s Fomento Resources Pvt Ltd	S	Granted - 08/03/2015
1337	SOU	M/s St Jose Wood Works	S	Granted - 08/03/2015
1338	SOU	M/s Remedios Bakery	S	Granted - 08/03/2015
1339	SOU	M/s Lezica Auto Service Centre	S	Granted - 08/03/2015
1340	SOU	M/s Nicholas & Sons Engineering Works	S	Granted - 08/03/2015
1341	SOU	M/s Suringi Rubbers	S	Granted - 08/03/2015
1342	SOU	M/s Agnelo Furniture Works	S	Granted - 08/03/2015
1343	SOU	M/s Costa & Co Pvt Ltd	S	Granted - 08/03/2015

1344	NOR	M/s Desai Earthmovers	S	Granted - 08/03/2015
1345	SOU	M/s Berth No.9 Of Mormugao Port Trust	L	Granted - 08/03/2015
1346	SOU	M/s Zuari Industries	L	Granted - 08/03/2015
1347	NOR	M/s Sesa Sterlite Ltd. (Pig Iron Division)	L	Granted - 08/03/2015
1348	NOR	M/s Cgppi Adhesive Products Ltd	L	Granted - 08/03/2015
1349	NOR	M/s Sesa Goa Limited Ship Building Division	L	Granted - 08/03/2015
1350	NOR	M/s Balaji Metals	S	Granted - 08/03/2015
1351	NOR	M\s Yash Enterprises (Unit-Iii)	S	Granted - 09/03/2015
1352	NOR	M/s Highland Holiday Homes (Goa) Pvt. Ltd	S	Granted - 09/03/2015
1353	SOU	M/s Dorellis Agro Home Industries	S	Granted - 09/03/2015
1354	SOU	M\s Anto Engineering Services	S	Granted - 09/03/2015
1355	NOR	Ms Syngenta Bioscience Pvt. Ltd.	L	Granted - 09/03/2015
1356	NOR	Mystical Polycontainers Pvt Ltd.	S	Granted - 09/03/2015
1357	SOU	M/s Prabhakar R. Raut	S	Granted - 09/03/2015
1358	SOU	M/s Benjoe Drinks	S	Granted - 09/03/2015
1359	SOU	M/s Goa Guest House	S	Granted - 09/03/2015
1360	SOU	M/s Prakash Engineering Industries	S	Granted - 09/03/2015
1361	SOU	M/s Pinto Cottages	S	Granted - 09/03/2015
1362	SOU	M/s Vishwanath Saw Mill	S	Granted - 09/03/2015
1363	SOU	M\s Car Care Centre	S	Granted - 09/03/2015
1364	NOR	M/s Aranya Centre	S	Granted - 09/03/2015
1365	NOR	M/s Eme Automation	S	Granted - 09/03/2015
1366	SOU	M/s Pam Synthetics	S	Granted - 09/03/2015
1367	SOU	M\s Western Marine & Engg. Services Pvt. Ltd.	S	Granted - 09/03/2015
1368	NOR	M/s Eva's Ark Guesthouse	S	Granted - 09/03/2015
1369	NOR	M/s Joe Louie Beach Shack (Francis Fernandes)	S	Granted - 09/03/2015
1370	SOU	M/s Seagull Inn	S	Granted - 09/03/2015
1371	NOR	M/s Good Luck Beach Cafe (Mark Fernandes)	S	Granted - 09/03/2015
1372	NOR	M/s Sam's Beach Shack (Nicholas Fernandes)	S	Granted - 09/03/2015
1373	NOR	M/s Andrews Beach Cafe (Anthony Fernandes)	S	Granted - 09/03/2015
1374	SOU	M/s Kishan Auto Engineering	L	Granted - 10/03/2015
1375	SOU	M\s Goa Industrial Tapes Pvt.Ltd	S	Granted - 11/03/2015
1376	SOU	M/s Fomento Resources Pvt Ltd	S	Granted - 11/03/2015
1377	SOU	M/s Sunset Paradise	S	Granted - 11/03/2015
1378	SOU	M/s Dr. Sagar`s Ayurveda Clinic	S	Granted - 11/03/2015
1379	SOU	M/s Dr. Sagar's Ayurveda Clinic	S	Granted - 11/03/2015
1380	SOU	M/s Himalaya Ice Cream Factory	S	Granted - 11/03/2015
1381	NOR	M/s Kalika Fabrication	S	Granted - 11/03/2015
1382	SOU	M/s Copse Wood Villa & Cafe	S	Granted - 11/03/2015
1383	NOR	M/s Aquarius Fibreglas Pvt Ltd	S	Granted - 11/03/2015
1384	NOR	M/s V. M. Salgaocar & Bro. Pvt. Ltd. (Dry Screening Plant & Loading Facility)	S	Granted - 11/03/2015
1385	NOR	M/s V. M. Salgaocar & Bro. Pvt. Ltd. (Ore Loading Facility - Vagus)	S	Granted - 11/03/2015
1386	NOR	M/s Glenmark Genercis Limited (Plant I)	L	Granted - 11/03/2015

1387	NOR	M/s Arvind Organics	S	Granted - 11/03/2015
1388	NOR	M/s Dempo Shipbuilding & Engineering Pvt. Ltd.	L	Granted - 11/03/2015
1389	NOR	M/s North Shore Hotels	S	Granted - 11/03/2015
1390	SOU	M/s Pg Holiday Inn Private Limited	S	Granted - 11/03/2015
1391	SOU	M/s Vishwa Saraswati Society (Hotel Management Institute)	S	Granted - 11/03/2015
1392	NOR	M/s Amit Capacitors Ltd	S	Granted - 11/03/2015
1393	SOU	M/s Dura-Line India Pvt. Ltd.	L	Granted - 11/03/2015
1394	NOR	M/s Golden Peace Infrastructure Pvt. Ltd. (M.V. Boa Sorte)	L	Granted - 11/03/2015
1395	SOU	M/s Braganza Auto Works	S	Granted - 11/03/2015
1396	SOU	M\s Anil Metals	S	Granted - 11/03/2015
1397	SOU	M/s Zeolites & Allied Products Pvt. Ltd.	S	Granted - 11/03/2015
1398	NOR	M/s Goa Steels Ltd.	S	Granted - 11/03/2015
1399	NOR	M/s Buddha Bar Beach Shack(Caetano Fernandes)	S	Granted - 11/03/2015
1400	NOR	M/s Cafe Delmar(Agostinho Mascarenhas)	S	Granted - 11/03/2015
1401	NOR	M/s Fawlty Towers (Luis Silveira)	S	Granted - 11/03/2015
1402	NOR	M/s Jolly Jack Shack(Sabastiao D`souza)	S	Granted - 11/03/2015
1403	NOR	M/s Cafe Roma(Anthony Fernandes)	S	Granted - 11/03/2015
1404	NOR	M/s Fontana Splash Shack (Felix Lobo)	S	Granted - 11/03/2015
1405	NOR	M/s Cho-Co Marie Beach Shack(Ludgero Muclar)	S	Granted - 11/03/2015
1406	NOR	M/s Fishermen`s Paradise(Anthony Fernandes)	S	Granted - 11/03/2015
1407	SOU	M\s Gen Engineering Works	S	Granted - 11/03/2015
1408	NOR	M/s Veljee Automobiles	S	Granted - 11/03/2015
1409	SOU	M/s Antonio & Luizinha Residence	S	Granted - 11/03/2015
1410	SOU	M/s Neomis Hair & Beauty Salon	S	Granted - 11/03/2015
1411	SOU	M/s Durwankur Mechanical Works Pvt. Ltd.	S	Granted - 11/03/2015
1412	NOR	M/s Casa Nunes	S	Granted - 11/03/2015
1413	NOR	M/s Goodwill Enterprises	S	Granted - 11/03/2015
1414	SOU	M/s Sociadade De Fomento Industrial Pvt. Ltd	L	Granted - 11/03/2015
1415	NOR	M/s Shivam Ispat Pvt. Ltd.	S	Granted - 11/03/2015
1416	SOU	M/s X L Stone Crusher	S	Granted - 11/03/2015
1417	NOR	M\s Sea Homes	S	Granted - 11/03/2015
1418	SOU	M\s Pegasus Prima Products (India) Pvt Ltd	S	Granted - 11/03/2015
1419	SOU	M\s Kamaxi Industries Unit II	S	Granted - 11/03/2015
1420	NOR	M\s Cavala Hotels Pvt. Ltd	S	Granted - 11/03/2015
1421	NOR	M/s Yash Resorts(Kay Jay Construction Co.Pvt. Ltd)	S	Granted - 11/03/2015
1422	NOR	M/s Sesa Sterlite Ltd. (Coke Oven Plant Unit-Expansion)	L	Granted - 11/03/2015
1423	SOU	M/s Hotel Pedro Bab	S	Granted - 11/03/2015
1424	SOU	M/s South West Port Ltd. (Berth No. 5a & 6a)	L	Granted - 11/03/2015
1425	SOU	M/s Rukminirama Steel Rollings Pvt. Limited	S	Granted - 11/03/2015
1426	SOU	M/s Wyeth Limited	L	Granted - 11/03/2015
1427	NOR	M/s Vic Industries.,	S	Granted - 11/03/2015
1428	NOR	M/s Sesa Sterlite Ltd. (Pig Iron Division)	L	Granted - 11/03/2015
1429	NOR	M/s Mandovi Casting Pvt Ltd	S	Granted - 11/03/2015

1430	SOU	M/s Manuel Da Costa (Basalt - "4\basalt\89")	S	Granted - 11/03/2015
1431	SOU	M/s Manuel Da Costa (Basalt - "5\basalt\89")	S	Granted - 11/03/2015
1432	SOU	M/s Nickytasha's Shack	S	Granted - 11/03/2015
1433	NOR	M/s Sky Lark Beach Cafe (Caciana Fernandes)	S	Granted - 11/03/2015
1434	NOR	M/s The Big Banana Beach Shack (Francisco Lobo)	S	Granted - 11/03/2015
1435	NOR	M/s Shining Star (Alex Fernandes)	S	Granted - 11/03/2015
1436	NOR	M/s T.G.I Friday (Francisco Fernandes)	S	Granted - 11/03/2015
1437	NOR	M/s Squeeze Beach Cafe (Xavier Lobo)	S	Granted - 11/03/2015
1438	NOR	M/s Safil's Beach Shack (Maria Luisa Fernandes)	S	Granted - 11/03/2015
1439	NOR	M/s The Only Place (Anthony Fernandes)	S	Granted - 11/03/2015
1440	NOR	M/s Shri Siddhivinayak Ayurveda Panchakarma Clinic	S	Granted - 11/03/2015
1441	SOU	M\s Hind Klifften Meta Craft	S	Granted - 11/03/2015
1442	NOR	M/s Sieves Pharma	S	Granted - 11/03/2015
1443	NOR	M\s Casa Esmeralda	S	Granted - 11/03/2015
1444	NOR	M/s Ashwini Pharmaceuticals	S	Granted - 11/03/2015
1445	SOU	M/s Costa Chari	S	Granted - 11/03/2015
1446	NOR	M/s Hidden Paradise	S	Granted - 11/03/2015
1447	SOU	M\s Spectrum	S	Granted - 11/03/2015
1448	NOR	M/s Terry's Restaurant & Pub	S	Granted - 11/03/2015
1449	SOU	M/s Sagar Printing Press	S	Granted - 11/03/2015
1450	SOU	M/s Saukar Freezers	S	Granted - 11/03/2015
1451	SOU	M/s Sunway Bar & Restuarant	S	Granted - 11/03/2015
1452	NOR	M/s Sun City Resort	S	Granted - 11/03/2015
1453	SOU	M/s Prahlad Saw Mill	S	Granted - 11/03/2015
1454	SOU	M/s Greg Engineering Industries	S	Granted - 11/03/2015
1455	NOR	M/s Delboy`s Cafe Beach Shack(Caitan Mascarenhas)	S	Granted - 11/03/2015
1456	NOR	M/s Johny`s Sand Dune Beach Shack(John Silveira)	S	Granted - 11/03/2015
1457	NOR	M/s United Breweries Ltd.	M	Granted - 12/03/2015
1458	NOR	M/s S. K. Bakery	S	Granted - 12/03/2015
1459	NOR	M/s Prafula Beach Shack(Prafulla Mayekar)	S	Granted - 19/03/2015
1460	NOR	M/s Oceanic Blue Shack (Nicholas Lobo)	S	Granted - 19/03/2015
1461	NOR	M/s Sea Pearl Beach Shack(Rosario D`souza)	S	Granted - 19/03/2015
1462	NOR	M/s Simon`s Place	S	Granted - 19/03/2015
1463	NOR	M/s Buckingham Beach Cafe (Vivek Simepurushkar)	S	Granted - 19/03/2015
1464	NOR	M/s Lario's Beach Shack (Jose Mario D'souza)	S	Granted - 19/03/2015
1465	NOR	M/s Sameer Laxmikant Kalangutkar	S	Granted - 19/03/2015
1466	NOR	M/s Sea Spray(Vin1487cent Silveira)	S	Granted - 19/03/2015
1467	NOR	M/s Sea Horse Beach S1488hack (Domnic Mascarenhas)1489	S	Granted - 19/03/2015
1468	NOR	M/s Reggies Cafe(Savio Fernandes)	S	Granted - 19/03/2015
1469	NOR	M\s Westfield Hydraulics & Pneumatics	S	Granted - 19/03/2015
1470	NOR	M\s House Of Furniture Makers	S	Granted - 19/03/2015
1471	SOU	M\s Ramesh Hotels & Resorts Private Ltd.	L	Granted - 19/03/2015
1472	NOR	M\s Desai Cashew & Allied Products	S	Granted - 19/03/2015

1473	SOU	M\s Zuari Foods & Farms Pvt. Ltd.	S	Granted - 19/03/2015
1474	NOR	M\s Summerville Beach Resort	S	Granted - 19/03/2015
1475	NOR	M\s Esperanca Rodrigues	S	Granted - 19/03/2015
1476	NOR	M\s Ameya Cashew Industries	S	Granted - 19/03/2015
1477	NOR	M\s Chandrakant Garage	S	Granted - 19/03/2015
1478	NOR	M\s Srisan Bar & Restaurant	S	Granted - 19/03/2015
1479	NOR	M\s Susheela Palace	S	Granted - 19/03/2015
1480	NOR	M\s Nerys Rose Beach Shack (Rosalina Lobo)	S	Granted - 19/03/2015
1481	NOR	M\s Marine Beach Shack (Alex Fernandes)	S	Granted - 19/03/2015
1482	NOR	M\s Le Marin Beach Shack (Sebastiana Fernandes)	S	Granted - 19/03/2015
1483	NOR	M\s Coco Joe Beach Cafe (Joaquim Lobo)	S	Granted - 19/03/2015
1484	NOR	M\s Bobby's Shack (Vinayak Calangutkar)	S	Granted - 19/03/2015
1485	NOR	M\s Star Agro Products	S	Granted - 19/03/2015
1496	NOR	M\s Sesa Goa Ltd. (Amona Barge Loading Jetty)	S	Granted - 19/03/2015
1487	SOU	M\s The Indian Hotels Co. Ltd. Unit: Taj Exotica, Goa	S	Granted - 19/03/2015
1488	SOU	M\s Bogmallo Beach Resort	M	Granted - 19/03/2015
1489	NOR	M\s Sea Wave Inn Hotel	S	Granted - 19/03/2015
1490	NOR	M\s. Santana Beach Resort,	S	Granted - 19/03/2015
1491	SOU	M/s Khamamol Jetty, Sesa Resources Limited	S	Granted - 23/03/2015
1492	NOR	M/s Sun Village	S	Granted - 23/03/2015
1493	NOR	M\s Structures India	L	Granted - 23/03/2015
1494	SOU	M\s Rukminirama Steel Rollings Pvt Ltd Bricks Division Unit Iv	S	Granted - 23/03/2015
1495	SOU	M\s Cipla Ltd	L	Granted - 23/03/2015
1496	NOR	M\s Vassudeva Tamba Metal Quaryy	L	Granted - 23/03/2015
1497	NOR	M\s Themepark Design House	S	Granted - 23/03/2015
1498	NOR	M\s Kundil Alloys Pvt Limited	M	Granted - 23/03/2015
1499	SOU	M\s Shraddha Ispat Pvt. Ltd. (Meelting Division)	L	Granted - 23/03/2015
1500	NOR	M\s V.M. Salgaocar And Brother Private Limited-Hotel Division, Goa Marriott Resort	L	Granted - 23/03/2015
1501	NOR	M\s Sociadade De Fomento Industrial Pvt. Ltd.	S	Granted - 23/03/2015
1502	SOU	M\s Shantadurga Industries	S	Granted - 23/03/2015
1503	NOR	M\s Rmc Readymix (India) (A Division Of Prism Cement Limited)	S	Granted - 23/03/2015
1504	SOU	M\s Rocha Industries	S	Granted - 23/03/2015
1505	SOU	M\s Furtado's Guest House	S	Granted - 23/03/2015
1506	SOU	M\s Jomilla Guest House	S	Granted - 23/03/2015
1507	SOU	M\s Maratha Ice Factory	S	Granted - 23/03/2015
1508	SOU	M\s Goa Auto Reconditioners	S	Granted - 23/03/2015
1509	SOU	M\s Traditional Ayurvedic Massage & Spa	S	Granted - 23/03/2015
1510	SOU	M\s Physiotherapeautics	S	Granted - 23/03/2015
1511	SOU	M\s Costa Electronics	S	Granted - 23/03/2015
1512	SOU	M\s Dudhsagar Spa Resort	S	Granted - 23/03/2015
1513	SOU	M\s The Stylish Cut Salon	S	Granted - 23/03/2015
1514	NOR	M\s Timber Trail Travel Today Pvt. Ltd.	L	Granted - 23/03/2015

1515	NOR	M\s Shamsunder Garage	S	Granted - 23/03/2015
1516	SOU	M\s Lubricare Services	S	Granted - 23/03/2015
1517	NOR	M\s Tom`s Place (Cruz Mascarenhas)	S	Granted - 23/03/2015
1518	NOR	M\s Twinkling Star Beach Shack(Simao Fernandes)	S	Granted - 23/03/2015
1519	NOR	M\s Tropicana Beach Shack(Rosalina D`souza)	S	Granted - 23/03/2015
1520	NOR	M\s Shapoorji Pallonji & Co. Pvt. Ltd.	S	Granted - 23/03/2015
1521	SOU	M\s Macc Fabricators	S	Granted - 25/03/2015
1522	SOU	M\s Nancy's Place	S	Granted - 25/03/2015
1523	SOU	M\s Arthur Serrao Rice Mill	S	Granted - 25/03/2015
1524	NOR	M\s Pisces Engineering Works	S	Granted - 25/03/2015
1525	SOU	M\s Cipla Ltd	L	Granted - 25/03/2015
1526	SOU	M\s Nanutel-Margao	S	Granted - 25/03/2015
1527	SOU	M\s Macc Fabricators	S	Granted - 25/03/2015
1528	SOU	M\s Nancy's Place	S	Granted - 25/03/2015
1529	SOU	M\s Arthur Serrao Rice Mill	S	Granted - 25/03/2015
1530	NOR	M\s Pisces Engineering Works	S	Granted - 25/03/2015
1531	SOU	M\s Cipla Ltd	L	Granted - 25/03/2015
1532	SOU	M\s Nanutel-Margao	S	Granted - 25/03/2015
1533	SOU	M\s Cocomar Beach Resorts Pvt.Limited	L	Granted - 26/03/2015
1534	NOR	M\s Ticlo Resorts	S	Granted - 26/03/2015
1535	NOR	M\s Lotus Mama(Luis Fernandes)	S	Granted - 26/03/2015
1536	SOU	M\s Cocomar Beach Resorts Pvt.Limited	L	Granted - 26/03/2015
1537	NOR	M\s Ticlo Resorts	S	Granted - 26/03/2015
1538	NOR	M\s. Lotus Mama(Luis Fernandes)	S	Granted - 26/03/2015

ANNEXURE II B

LIST OF APPLICATIONS FOR CONSENTS TO ESTABLISH (CCE) UNDER WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 AND AIR (PREVENTION & CONTROL OF POLLUTION) ACT, 1981 BIO-MEDICAL WASTE (MANAGEMENT & HANDLING) RULES, 1998 AND HAZARDOUS WASTE (MANAGEMENT & HANDLING) (AMENDMENT) RULES, 2000 PROCESSED AND APPROVED BY THE BOARD DURING THE YEAR 2014-2015.

Sr.no	District	Industry Name	Category of Industry	Status
1	NOR	M\s. A W Faber-Castell (I) Pvt Ltd	S	Granted - 23/04/2014
2	NOR	M\s. Palmyra Resorts Pvt Ltd	L	Granted - 24/04/2014
3	SOU	M\s Anand Chandra Bose	L	Granted - 24/04/2014
4	NOR	M\s. Power Engineering (India) Pvt Ltd	S	Granted - 24/04/2014
5	NOR	M\s. Raj Fabrications	S	Granted - 25/04/2014
6	NOR	M\s Lavande Properties	L	Granted - 25/04/2014
7	NOR	M\s. Mahadev Saw Mill	S	Granted - 25/04/2014
8	NOR	M\s Shri Shiv Samarth Motors	S	Granted - 25/04/2014
9	NOR	M\s. Velvin Paper Products	M	Granted - 25/04/2014
10	SOU	M\s. Zuari Agro Chemicals Limited	L	Granted - 25/04/2014
11	SOU	M\s. Trinitas Developers Pvt. Ltd.	S	Granted - 29/04/2014
12	NOR	M\s. Alpine Minmetals India Pvt. Ltd.	L	Granted - 29/04/2014
13	SOU	M\s. Indian Oil Corporation Limited	L	Granted - 29/04/2014
14	NOR	M\s Goa Quarry	S	Granted - 30/04/2014
15	NOR	M\s. Department Of Science, Technology & Environment (Calangute\saligao)	L	Granted - 30/04/2014
16	NOR	M\s. Leading Hotels Limited	L	Granted - 30/04/2014
17	NOR	M\s. Cosme Costa's Miramar Hotel	L	Granted - 21/05/2014
18	NOR	M\s. Pandurang Transport	S	Granted - 21/05/2014
19	NOR	M\s Sonatapes	M	Granted - 21/05/2014
20	NOR	M\s. Npd Enterprises	S	Granted - 21/05/2014
21	NOR	M\s. Pushkaraj Enterprises	S	Granted - 21/05/2014
22	NOR	M\s. Ellenabad Steels Pvt Ltd	S	Granted - 22/05/2014
23	SOU	M\s. Himachal Futuristic Communications Ltd	L	Granted - 22/05/2014
24	SOU	M\s. Cipla Ltd	L	Granted - 22/05/2014
25	NOR	M\s. Sharvet Containers & Logistics (Goa) Pvt Ltd	S	Granted - 22/05/2014
26	NOR	M\s Rainbow Plast	S	Granted - 22/05/2014
27	SOU	M\s. Riteway Packing Industries	S	Granted - 22/05/2014
28	SOU	M\s. Steve P-Air Solutions	S	Granted - 22/05/2014
29	NOR	M\s. Suraksha Packaging	S	Granted - 22/05/2014
30	NOR	M\s Mangalam Build Developers Limited	S	Granted - 22/05/2014
31	NOR	M\s. Devashri Real Estate Developers	S	Granted - 22/05/2014
32	NOR	M\s. Mountain Himalaya Beverages	S	Granted - 22/05/2014
33	NOR	M\s. Mohit Steel Industries Pvt Ltd (Unit II)	S	Granted - 22/05/2014
34	NOR	M\s. The Sea Side	S	Granted - 22/05/2014
35	SOU	M\s. Dci Pharmaceuticals Pvt Ltd	S	Granted - 22/05/2014

36	NOR	M\s. Sms Fabrication	S	Granted - 22/05/2014
37	SOU	M/s D. P. Chemicals & Aromatics Unit II	S	Granted - 22/05/2014
38	NOR	M\s. Villa De Goa	S	Granted - 28/05/2014
39	NOR	M\s. Chakki Of Spices, Chillies And Flour Mill	S	Granted - 18/06/2014
40	NOR	M\s. Casa Tropical , Guest House	M	Granted - 18/06/2014
41	NOR	M\s Bharti Block Supplier	S	Granted - 18/06/2014
42	NOR	M\s Heramb Industries	S	Granted - 18/06/2014
43	NOR	M\s. Abdul Sattar Chowhand & Kafil Ahmed Chowhan (Hindustan Serene Hills)	S	Granted - 18/06/2014
44	NOR	M\s. Monarch Enterprises	S	Granted - 18/06/2014
45	NOR	M\s. New Vision Imaging Pvt Ltd	M	Granted - 18/06/2014
46	NOR	S.T.P For Toilet At Calangute	S	Granted - 18/06/2014
47	SOU	M\s. Niclau's Dismentling, Assembling, Repairing Vehicles	S	Granted - 18/06/2014
48	NOR	M\s. M.V.Casino Royale	S	Granted - 18/06/2014
49	NOR	M\s. Parekh Recycling	S	Granted - 26/06/2014
50	SOU	M\s. Saaj Plastics	S	Granted - 26/06/2014
51	NOR	M\s. Casmiro James Vincent Albuquerque (The Grand Leoney Resort)	S	Granted - 26/06/2014
52	SOU	M\s Mbr Cement Blocks & Bricks	S	Granted - 03/07/2014
53	NOR	M\s. Shelley Gonsalves	S	Granted - 03/07/2014
54	SOU	M\s. Dunmar Formations India Pvt Ltd.	S	Granted - 03/07/2014
55	NOR	M\s. Mahalasa Technocoats	S	Granted - 04/07/2014
56	SOU	M\s Gafur Enterprises	S	Granted - 04/07/2014
57	NOR	M\s. D' Interiors	S	Granted - 14/07/2014
58	NOR	M\s. Bhumika Petroleum	S	Granted - 15/07/2014
59	SOU	M\s. Rashtriya Fabtech	S	Granted - 15/07/2014
60	SOU	M\s. Reliance Infrastructure Ltd,Goa Power Station	L	Granted - 15/07/2014
61	NOR	M\s. Civilco Engineers & Associates	M	Granted - 15/07/2014
62	NOR	M\s Marvel	M	Granted - 15/07/2014
63	SOU	M\s. Excell Devices	S	Granted - 15/07/2014
64	SOU	M\s. Kartikey Metachem	S	Granted - 17/07/2014
65	NOR	M\s. Urban Concept (Palmar Don Filipe)	S	Granted - 17/07/2014
66	NOR	M\s. Intech Pharma P Ltd	L	Granted - 17/07/2014
67	SOU	M\s Corporate Alliances	S	Granted - 25/07/2014
68	NOR	M\s. Gsidc Project No - 956 (Jetty, Kala Academy)	L	Granted - 25/07/2014
69	SOU	M\s. Universal Cables Ltd	S	Granted - 05/08/2014
70	NOR	M\s. Standard Epoxy Materials	S	Granted - 05/08/2014
71	SOU	M\s. Veneshell Industries	S	Granted - 05/08/2014
72	NOR	M\s. Aerocoach Unit V	S	Granted - 05/08/2014
73	SOU	M\s. Divyashree Packaging Industry	S	Granted - 05/08/2014
74	SOU	M\s. Reliant Packaging	S	Granted - 05/08/2014
75	NOR	M\s. Tulip Diagnostics (P) Ltd.	S	Granted - 07/08/2014
76	SOU	Department Of Tourism (Viewing Tower Near Colva Beach)	S	Granted - 08/08/2014
77	NOR	M\s D Domlo's Furniture	S	Granted - 11/08/2014

78	SOU	M\s. Goa Shipyard Limited	L	Granted - 14/08/2014
79	NOR	M\s. Blossom Pharmaceuticals	S	Granted - 14/08/2014
80	SOU	M\s Competent Automobiles Company Ltd.	L	Granted - 14/08/2014
81	NOR	M\s. V. S. Dempo Holding Pvt Ltd	S	Granted - 14/08/2014
82	NOR	M\s. Hindustan Petroleum Corporation Limited	M	Granted - 21/08/2014
83	NOR	M\s. Esteem Industries Pvt. Ltd.,	S	Granted - 21/08/2014-RCN
84	NOR	M\s. Fomento Resorts Hotels Ltd. (Cidade De Goa)	L	Granted - 21/08/2014
85	NOR	M\s Sateri Metal	S	Granted - 21/08/2014
86	SOU	M\s Ordain Health Care Global Pvt Ltd	L	Granted - 21/08/2014
87	SOU	M\s. Fertin India Pvt Ltd	L	Granted - 21/08/2014
88	SOU	M\s. Spin City Laundry	S	Granted - 21/08/2014
89	NOR	M\s. Kaanak Industries	M	Granted - 21/08/2014
90	NOR	M\s. Tulip Diagnostics (P) Ltd.	S	Granted - 21/08/2014
91	NOR	M\s Jayashree Industries	S	Granted - 21/08/2014
92	NOR	M\s. Montana Confectioners Private Limited	S	Granted - 21/08/2014
93	NOR	M\s. Navelkar Landmarks	S	Granted - 21/08/2014
94	NOR	M\s. Churi Electromech Unit Ii	S	Granted - 15/09/2014
95	SOU	M\s. Cipla Ltd	L	Granted - 15/09/2014
96	NOR	M\s. Asce Services	S	Granted - 16/09/2014
97	NOR	M\s. Asce Services	S	Granted - 16/09/2014
98	NOR	M\s. Goa Ispat Ltd.	L	Granted - 29/09/2014
99	NOR	M\s. Procter & Gamble Hygiene & Health Care Ltd.	L	Granted - 15/10/2014
100	NOR	M\s. Esteem Industries Pvt. Ltd.,	S	Granted - 15/10/2014
101	SOU	M\s. Cipla Ltd	L	Granted - 15/10/2014
102	NOR	M\s. Associate Florencio	S	Granted - 15/10/2014
103	SOU	M\s. Pentair Water India Pvt. Ltd.	S	Granted - 15/10/2014
104	NOR	M\s. Sai Jyoti Distributors	S	Granted - 15/10/2014
105	NOR	M\s. Sahanu Rolling Mills	S	Granted - 15/10/2014
106	SOU	M\s. Rukminirama Steel Rollings Pvt. Limited	S	Granted - 20/10/2014
107	NOR	M\s. Golden Packaging Industry	S	Granted - 20/10/2014
108	NOR	M\s. Sr Pulses	S	Granted - 20/10/2014
109	NOR	M\s Standard Packaging Industries	S	Granted - 20/10/2014
110	NOR	M\s Supreme Packaging	S	Granted - 20/10/2014
111	SOU	M\s. Mabpharm Private Limited	L	Granted - 21/10/2014
112	SOU	M\s. Lok-Beta Pharmaceuticals (I)pvt.Ltd.	L	Granted - 21/10/2014
113	NOR	M\s. Encube Ethicals Pvt Ltd	L	Granted - 21/10/2014
114	NOR	M\s. Diebold Systems Pvt. Ltd.	S	Granted - 21/10/2014
115	NOR	M\s. Shamsunder Garage	S	Granted - 21/10/2014
116	NOR	M\s. Naiks Eco Bricks	S	Granted - 21/10/2014
117	SOU	M\s. Martin Chemicals Pvt. Ltd.	S	Granted - 21/10/2014
118	SOU	M\s. Classic Enterprises	S	Granted - 21/10/2014
119	SOU	M\s. Astra Metal Systems Pvt Ltd Unit II	S	Granted - 24/10/2014
120	SOU	M\s. Gelo Cool Equipments Pvt Ltd	S	Granted - 24/10/2014

121	NOR	M\s Vaibhav Real Estate & Madanant Construction Goa (Khadpabandh Gaeden)	L	Granted - 24/10/2014
122	NOR	M\s Ecotech Project Pvt Ltd (Hotel Abhishek)	M	Granted - 24/10/2014
123	SOU	M\s Shree Mahamaya Service Station	S	Granted - 24/10/2014
124	SOU	M\s Business India	S	Granted - 24/10/2014
125	SOU	M\s. Britacel Silicones Ltd.	S	Granted - 27/10/2014
126	SOU	M\s. South West Port Ltd. (Berth No. 5a & 6a)	L	Granted - 05/11/2014
127	SOU	M\s. Sree Sai Champions Family Trust	M	Granted - 05/11/2014
128	NOR	M\s. Larsen & Toubro (Batching Plant for Mandovi River Cable Stay Project)	S	Granted - 05/11/2014
129	SOU	M\s. Ms Muktar Infrastructure (India) Pvt. Ltd.	L	Granted - 05/11/2014
130	NOR	M\s. Assis Light And Sound	S	Granted - 11/11/2014
131	SOU	M\s. Damodar Associates	S	Granted - 11/11/2014
132	NOR	M\s. Goa Steels Ltd.	S	Granted - 11/11/2014
133	NOR	M\s. Yash Mould	S	Granted - 17/11/2014
134	SOU	M\s. Jindal Eco Recycling	S	Granted - 27/11/2014
135	NOR	M\s. Shree Ram Mega Structure Pvt Ltd	S	Granted - 02/12/2014
136	SOU	M\s. Bosch Limited	S	Granted - 02/12/2014
137	NOR	M\s. Champions Yatch Club Pvt Ltd	S	Granted - 02/12/2014
138	NOR	M\s. Prime Paper Products	S	Granted - 02/12/2014
139	NOR	M\s. Chintamani Realtors & Chintamani Promoters	S	Granted - 05/12/2014
140	NOR	M\s. Chintamani Realtors & Promoters	S	Granted - 05/12/2014
141	NOR	M\s. Chintamani Realtors & Promoters	S	Granted - 05/12/2014
142	NOR	M\s. Bhorvanso Guest House	S	Granted - 05/12/2014
143	NOR	M\s. Hotel Project Of Santosh B. Naik	M	Granted - 05/12/2014
144	NOR	M\s. Chintamani Promotors	S	Granted - 05/12/2014
145	NOR	M\s Twenty First Century Iron & Steel Ltd	L	Granted - 05/12/2014
146	SOU	M\s Albys Agro Private Limited	L	Granted - 11/12/2014
147	SOU	M\s. Rego Food Products	S	Granted - 11/12/2014
148	SOU	M\s. Esmeralda Metals	S	Granted - 11/12/2014
149	NOR	M\s Anjuna Greens Llp	S	Granted - 17/12/2014
150	NOR	M\s. Unichem Laboratories Limited	L	Granted - 08/01/2015
151	SOU	M\s. Cipla Ltd	L	Granted - 12/01/2015
152	NOR	M\s. Polynova Industries Ltd	L	Granted - 12/01/2015
153	SOU	M\s. Powerland Agro Tractor Vehicles Pvt Ltd	S	Granted - 12/01/2015
154	NOR	M\s. Caculo Motors Pvt Ltd	S	Granted - 12/01/2015
155	NOR	M\s. De Nora India Limited	L	Granted - 24/01/2015
156	NOR	M\s. Daril Bakery & General Stores	S	Granted - 24/01/2015
157	SOU	M\s. Fette Compacting Machinery India Pvt Ltd	M	Granted - 24/01/2015
158	SOU	M\s. Santosh Flour Mill	S	Granted - 26/01/2015
159	NOR	M\s. Larsen & Toubro (Batching Plant For Mandovi River Cable Stay Project)	S	Granted - 26/01/2015
160	SOU	M\s. Ceramtec India Innovative Ceramic Engineering Pvt Ltd	L	Granted - 26/01/2015
161	NOR	M\s. Counto Metals & Mining Co. Ltd.	S	Granted - 26/01/2015
162	NOR	M\s. Sai Jyoti Distributors	S	Granted - 30/01/2015

163	NOR	Department Of Tourism (Institute Of Hotel Management & Catering Technology)	L	Granted - 30/01/2015
164	SOU	M\s. Universal Cables Ltd	S	Granted - 30/01/2015
165	NOR	M\s. Metal Kraft	S	Granted - 30/01/2015
166	SOU	M\s. Putzmeister Concrete Machines Pvt. Ltd.,	L	Granted - 11/02/2015
167	SOU	M\s. Tevapharm India Pvt. Ltd.	L	Granted - 11/02/2015
168	NOR	M\s. Shree Naina Containers Pvt.Ltd.	M	Granted - 11/02/2015
169	NOR	M\s. Lifestyle Reality & FHL Landbase Pvt Ltd	S	Granted - 11/02/2015
170	NOR	M\s South India Cashew Corporation	S	Granted - 11/02/2015
171	SOU	M\s. Noorudheen Construction Pvt Ltd	S	Granted - 11/02/2015
172	NOR	M\s. Rural Health Center (Rhc) Mandur	L	Granted - 11/02/2015
173	SOU	M\s. Joecons Enterprises	S	Granted - 11/02/2015
174	NOR	M\s. Kenkre Estates	S	Granted - 11/02/2015
175	NOR	M\s Ashok Marble & Granite	S	Granted - 11/02/2015
176	NOR	M\s. Sharayu One (Hotel, Commercial & Residential Complex)	S	Granted - 23/02/2015
177	SOU	M\s. S N Associates & Builders Pvt. Ltd. (Maple Grove)	M	Granted - 23/02/2015
178	NOR	M\s. Expat Properties (Proposed Residential Building,Complex,Villa At Sr 107\7)	M	Granted - 23/02/2015
179	NOR	M\s. Rainbow Infra (Proposed Building,Villas & Duplex On Sr No- 85\8 Bastora)	S	Granted - 23/02/2015
180	NOR	M\s. Parvatkar Industries	S	Granted - 23/02/2015
181	SOU	M\s. Lupin Limited	L	Granted - 04/03/2015
182	SOU	M\s. Varun Beverages Limited	L	Granted - 08/03/2015
183	SOU	M\s. Merad Construction	S	Granted - 08/03/2015
184	SOU	M\s. Mevilton Construction	L	Granted - 09/03/2015
185	SOU	M\s. Beleza By The Beach (Best Location Properties Pvt. Ltd)	M	Granted - 09/03/2015
186	NOR	M\s. Priority Constructions (Orchard Avenue)	S	Granted - 10/03/2015
187	SOU	M\s. Mobile Screening Plant At Colomba	S	Granted - 10/03/2015
188	NOR	M\s. Sudarshan Dry Docks	S	Granted - 11/03/2015
189	NOR	M\s. Bicholim Municipal Council	S	Granted - 11/03/2015
190	NOR	M\s. M. K. Aromatics (Project Goa Polymer Engineering)	L	Granted - 11/03/2015
191	NOR	M\s. Riverside Resorts & Holiday Homes Pvt. Ltd. (Rio Royale)	L	Granted - 11/03/2015
192	SOU	M\s. Kayji Real Estate Pvt. Ltd.	S	Granted - 11/03/2015
193	SOU	M\s. Siemens Ltd(E T T S)	L	Granted - 11/03/2015
194	SOU	M\s. S Kumar Industries	S	Granted - 11/03/2015
195	NOR	M\s. Mrf Ltd.	L	Granted - 12/03/2015
196	NOR	M\s. Mrf Ltd.	L	Granted - 12/03/2015
197	NOR	M\s. Mrf Ltd.	L	Granted - 12/03/2015
198	NOR	M\s. Ifb Industries Ltd.	S	Granted - 12/03/2015
199	NOR	M\s. Omkar Cashew Processing Unit	S	Granted - 12/03/2015
200	NOR	M\s. Ram Cleaners & Developers Pvt Ltd	S	Granted - 12/03/2015
201	NOR	M\s. Residential Scheme For Kenkre Estates	S	Granted - 19/03/2015
202	NOR	M\s. Muktar Automobiles Pvt Ltd (Unit Iv)	S	Granted - 19/03/2015
203	NOR	M\s Foodybreaks	S	Granted - 19/03/2015

204	NOR	M\s. Kineco Kaman Composites-India Private Limited	S	Granted - 19/03/2015
205	NOR	M\s. Themepark Design House	S	Granted - 19/03/2015
206	SOU	M\s. M.D. Ice Plant	L	Granted - 19/03/2015
207	SOU	M\s. Bharat Petroleum Corporation Ltd	S	Granted - 23/03/2015
208	NOR	M\s. Shantadurga Workshop	S	Granted - 25/03/2015
209	NOR	M\s. Rututek Enterprises	S	Granted - 25/03/2015
210	NOR	M\s. Shantadurga Workshop	S	Granted - 25/03/2015
211	NOR	M\s. Rututek Enterprises	S	Granted - 25/03/2015

ANNEXURE III
NWMP DATA FOR THE YEAR 2014 - 2015

Table 3 a -RIVER CHAPORA NEAR ALORNA FORT, PERNEM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.88	7.03	6.39	6.53	6.95	6.56	6.83	7.5	7.87	6.62	6.28	7.68
2	Temperature ˚C	32	31.5	31.9	31.9	27	26.4	28	28.5	26.8	25.5	27	27.4
3	Conductivity µs/cm	8395	2148	653.44	551	57	52.54	1386	63	65.44	61.2	1106	46300
4	Dissolved Oxygen mg/l	5.2	6.3	6.7	6.6	7.8	7.6	6.99	7.3	7.1	7.9	7.4	7.3
5	Turbidity (NTU)	3.38	4.25	3.57	3.35	11.6	6.07	21.7	2.43	2.82	2.76	2.55	4.03
6	Nitrite Nitrogen mg/l	0.007	0.004	0.003	0.009	0.005	0.005	0.001	0.002	0.002	0.002	0.009	0.003
7	Nitrogen(Nitrate) mg/l	0.05	0.08	0.02	0.08	0.15	0.13	0.28	0.17	0.175	0.06	0.062	0.04
8	Phosphate mg/l	0.05	0.013	BDL	0.004	0.03	0.022	0.039	0.036	0.004	0.124	0.002	BDL
9	BOD mg/l	1.8	1.9		0.5	0.9	0.5	0.71	0.4	2.4	1.5	1	1.3
10	COD mg/l	17	5	2	4	10	16	65	11	12	7	2	3.0
11	Chloride mg/l	16391	1.96	162.9	121.41	3	4.89	124.9	4	1249.6	2.91	337.48	7.3
12	Fecal Coliform MPN/100 ml	3300	4900	3300	2300	4900	4900	4900	3300	1300	1300	2300	1300
13	Total Coliform MPN/100 ml	7000	11000	7000	3300	7900	7000	7900	4600	1700	1700	4600	2300
14	Ammonia mg/l	0.04	0.03	0.06	0.36	0.07	0.016	0.027	0.014	0.013	BDL	0.06	0.05
15	Total Dissolved Solids(mg/l)	13661	-	-	-	51	126	110	10	74	41	665	194
16	Total Fixed Solids (mg/l)	9191	-	-	-	92	28	32	100	24	20	531	31
17	Total Suspended Solid (mg/l)	52	-	-	-	12	4	12	28	12	2	15	78
18	Hardness(mg/l)	1800	-	-	-	20	8	20	20	46	24	120	18
19	Fluoride(mg/l)	0.72	-	-	-	0.01	0.01	0.14	0.43	0.33	0.27	0.01	0.07
20	Boron(mg/l)	2.21	-	-	-	1.7	0.05	17	6.7	6.9	2.11	0.19	5.5
21	Sulphate (mg/l)	101.43	-	-	-	4.45	20.4	2.1	2.2	1.4	2.25	32.66	3.7
22	Total Alkalinity(mg/l)	20	-	-	-	180	14	48	48	24	26	30	36
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	2487	-	-	-	6.7	4.9	8	6.4	6.4	5.3	156.7	169.9
25	Potassium(mg/l)	55.7	-	-	-	3	2.3	3.3	3.8	3.8	0.1	5	6.8
26	Calcium as CaCO3(mg/l)	320.6	-	-	-	12	4	18	18	44	14	28	10
27	Magnesium(mg/l)	243	-	-	-	1.9	0.97	0.5	0.49	0.5	2.43	22.36	1.9

Table 3 b - RIVER KALNA AT CHANDEL, PERNEM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.98	6.8	6.27	6.57	6.8	6.63	7.5	7.5	7.95	6.67	7.01	7.03
2	Temperature ˚C	30	29.5	29.6	29.7	26.2	26.1	27.5	27.5	25.8	25	27	27
3	Conductivity µs/cm	77.65	64.4	66.72	74.3	47.81	56.33	1394	74.8	78.79	72.8	77.3	78.01
4	Dissolved Oxygen mg/l	6.1	6.3	6.1	7.2	7.6	9	7.17	7.9	7.5	7.4	7.5	6.5
5	Turbidity (NTU)	3.25	3.63	2.78	2.36	17.7	9.64	18.9	2.07	2.86	3.39	2.51	14
6	Nitrite Nitrogen mg/l	0.002	0.003	0.001	0.005	0.007	0.005	0.003	0.002	0.002	0.009	0.003	0.008
7	Nitrogen(Nitrate) mg/l	0.52	0.03	0.04	0.05	0.05	0.09	0.19	0.07	0.092	0.046	0.058	0.04
8	Phosphate mg/l	0.03	0.007	0.002	0.01	0.01	0.021	0.034	0.038	0.011	0.005	BDL	0.001
9	BOD mg/l	1.5	2		1	1	2.8	0.91	1.1	1.2	2	2.4	1.2
10	COD mg/l	1	2	1	2	9	19	17	11	10	7	5	20
11	Chloride mg/l	5.5	3.42	4.0	3.4	4.5	5.87	4	5	7.5	4.37	10.12	5.4
12	Fecal Coliform MPN/100 ml	4900	7900	4900	7900	4900	4900	7900	4900	2300	1300	3300	7900
13	Total Coliform MPN/100 ml	7900	13000	7900	13000	13000	7900	13000	7900	3300	2300	7900	14000
14	Ammonia mg/l	0.072	0.01	0.01	0.167	0.04	0.064	0.018	0.014	0.028	BDL	0.08	0.07
16	Total Dissolved Solids(mg/l)	159	-	-	-	29	62	75	9	49	45	65	99
17	Total Fixed Solids (mg/l)	782	-	-	-	81	28	30	54	18	26	51	22
18	Total Suspended Solid (mg/l)	8	-	-	-	37	2	8	27	7	2	16	49
19	Hardness(mg/l)	24	-	-	-	6	8	20	20	60	56	28	34

20	Fluoride(mg/l)	0.17	-	-	-	BDL	0.01	0.1	0.45	0.64	0.16	0.01	0.1
21	Boron(mg/l)	0.14	-	-	-	2.02	0.04	17	8.3	8.4	0.9	BDL	5.1
22	Sulphate (mg/l)	2.09	-	-	-	6.66	18.7	2.6	1.9	1.4	2.13	2.53	5.3
23	Total Alkalinity(mg/l)	12	-	-	-	200	20	54	54	34	30	26	30
24	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
25	Sodium(mg/l)	22.1	-	-	-	6.2	5	11.1	10.9	6.3	5.8	6.1	6.7
26	Potassium(mg/l)	47.6	-	-	-	2.2	2.5	3.2	4.2	3.7	0	0.1	0.3
27	Calcium as CaCO3(mg/l)	7.2	-	-	-	2	4	16	16	26	12	16	18
28	Magnesium(mg/l)	1.5	-	-	-	1	0.97	0.9	0.97	8.3	10.7	2.92	3.9

Table 3 c - RIVER MAPUSA ON CULVERT ON HIGHWAY MAPUSA-PANAJI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.9	7.3	6.89	6.61	6.3	6.49	6.79	6.58	7.29	6.35	6.55	6.99
2	Temperature ˚C	31	33.6	32	31.7	28.3	27.9	28.8	29.5	26.3	25.7	28	28
3	Conductivity ms/cm	16.91	18.45	13.49	0.945	0.115	87.07	2052	549	3.076	5.51	10830	7500
4	Dissolved Oxygen mg/l	4.34	8.3	6.2	4.5	3.7	4.6	3.81	5.8	5.2	5	5.6	3.3
5	Turbidity (NTU)	1.81	2.78	3.11	10.2	12.4	5.92	2.74	3.99	2	1.26	1.39	3.75
6	Nitrite Nitrogen mg/l	0.01	0.004	0.003	0.006	0.011	0.006	BDL	0.013	0.008	0.003	0.004	0.02
7	Nitrogen(Nitrate) mg/l	1.39	0.26	0.045	0.37	0.16	0.13	0.45	0.25	0.199	0.029	0.042	0.06
8	Phosphate mg/l	0.02	0.035	0.08	0.04	0.02	0.027	0.072	0.06	0.026	0.013	0.009	0.03
9	BOD mg/l	1.67	2.9	1.3	2	1	1.7	1.2	1.6	2.6	2.8	1.3	0.7
10	COD mg/l	5	22	19	20	9	11	11	13	30	22	35	-
11	Chloride mg/l	18244	5136.7	25367	170	14.5	11.25	124.9	1399.6	1499.5	1554.1	3133.78	9297
12	Fecal Coliform MPN/100 ml	4900	13000	7900	4900	4900	3300	4900	4600	7900	3300	3300	7900
13	Total Coliform MPN/100 ml	13000	22000	13000	7000	11000	4900	11000	7000	17000	4900	4900	13000
14	Ammonia mg/l	0.08	0.01	0.09	0.72	0.07	0.033	0.011	0.013	0.11	0.014	0.14	0.009
15	Total Dissolved Solids(mg/l)	5349	-	-	-	80	160	126	26	139	2755	6388	4750
16	Total Fixed Solids (mg/l)	4327	-	-	-	105	26	28	132	39	1855	5051	3591
17	Total Suspended Solid (mg/l)	31	-	-	-	5	6	18	34	23	139	31	97
18	Hardness(mg/l)	3000	-	-	-	10	14	84	84	3600	556	1360	3200
19	Fluoride(mg/l)	0.83	-	-	-	0.01	0.01	0.1	0.41	0.5	0.32	0.09	0.13
20	Boron(mg/l)	0.14	-	-	-	0.79	0.04	16	6.6	6.7	4.37	0.49	3.3
21	Sulphate (mg/l)	235.22	-	-	-	7.6	8.93	14	12.8	86.9	127.4	329.59	184.3
22	Total Alkalinity(mg/l)	25	-	-	-	140	14	94	94	46	52	48	68
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	4621	-	-	-	14.2	8.3	129.4	85.9	4334	984.1	1639	1878
25	Potassium(mg/l)	112.4	-	-	-	3.2	3	9	6.1	16.5	28.9	61.4	79.4
26	Calcium as CaCO3(mg/l)	160.3	-	-	-	8	8	78	78	1600	126	6	1200
27	Magnesium(mg/l)	631.8	-	-	-	0.5	1.46	1.5	1.46	486	104.5	329.02	486

Table 3 d - RIVER ASSANORA AT ASSANORA 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.58	6.4	6.88	6.6	6.35	5.69	7.2	6.28	6.9	6.65	6.48	6.64
2	Temperature ˚C	29	28	28	27.9	27	28.3	26	27.6	29.5	27	27.8	28
3	Conductivity µs/cm	63.4	63.41	73.6	56.6	44.97	51.7	2.64	65.7	64.3	58.11	62.16	61.0
4	Dissolved Oxygen mg/l	6.6	6.5	6.43	6.8	7.8	6.6	7.2	6	6.4	6.36	5.7	6.1
5	Turbidity (NTU)	3.25	11	17.6	6.56	5.38	5.07	6.5	5.11	6.16	3.92	2.95	3.02
6	Nitrite Nitrogen mg/l	0.004	0.003	0.0039	0.004	0.003	0.002	0.001	0.002	0.003	0.003	0.002	0.002
7	Nitrogen(Nitrate) mg/l	0.07	0.077	0.4733	0.191	0.134	0.12	0.11	0.104	0.06	0.3	0.044	0.11
8	Phosphate mg/l	0.026	0.018	0.033	0.006	0.007	0.005	BDL	0.007	0.004	0.01	0.01	0.016
9	BOD mg/l	1	2.2	1.33	0.4	1.7	0.6	1.6	1.3	0.8	0.9	0.9	0.5
10	COD mg/l	7	5	1	4	4	3	6	4	3	1	3	8
11	Chloride mg/l	3.5	6.27	7.49	3.4	4.87	5.87	2	3.37	4	6.5	7.28	13
12	Fecal Coliform	2300	2300	2400	2400	3300	2300	2300	3300	1300	3300	1300	2300

	MPN/100 ml												
13	Total Coliform MPN/100 ml	3300	4900	3500	3500	4900	3300	3300	4900	2200	4900	2300	3300
14	Ammonia mg/l	BDL	0.08	0.075	0.006	0.002	0.022	0.01	0.02	0.02	0.04	0.043	0.072
15	Total Dissolved Solids(mg/l)	32	-	-	-	30	32		39	259	150	45	38
16	Total Fixed Solids (mg/l)	181	-	-	-	8	9		15	225	48	10	21
17	Total Suspended Solid (mg/l)	3	-	-	-	29	15		2	4	6	1	5
18	Hardness(mg/l)	16	-	-	-	0	4	14	20	22	14	30	24
19	Fluoride(mg/l)	0.3	-	-	-	0.206	0.02	0.008	BDL	0.2	0.1	0.04	0.01
20	Boron(mg/l)	2.1	-	-	-	0.295	1.23	1.03	1.48	0.81	0.3	0.29	0.48
21	Sulphate (mg/l)	3.72	-	-	-	2.3	1.97	1.31	2.92	0.11	0.9	3.2	2.3
22	Total Alkalinity(mg/l)	140	-	-	-	12	20	26	40	200	70	24	24
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	19.6	-	-	-	6.1	5.3	5.7	3.6	3.7	10.2	4.8	4.1
25	Potassium(mg/l)	15	-	-	-	2.4	2.6	3	0.5	1.3	4.2	0.2	1.5
26	Calcium as CaCO3(mg/l)	12	-	-	-	0	0	12	12	4	10	16	12
27	Magnesium(mg/l)	1	-	-	-	0	0.97	0.486	1.94	4.4	0.9	3.4	2.92

Table 3 e - RIVER VALVANTI AT SANQUELIM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.81	6.29	6.68	6.4	6.6	5.53	7	5.65	6.88	6.6	6.78	6.96
2	Temperature ˚C	34	31	27	28.4	28	27.8	27	28.3	29.4	27.6	28	28
3	Conductivity µs/cm	62.5	70.19	84.6	45.9	49.39	52.83	2.652	66.1	64.8	67.18	68.65	70.25
4	Dissolved Oxygen mg/l	6.1	6.3	7.18	7.3	7.3	7.3	7.8	6.9	7.3	6.3	7.9	6.5
5	Turbidity (NTU)	2.38	4.66	11.3	9.87	4.9	3.82	4.46	2.97	2.22	2.38	2.25	2.91
6	Nitrite Nitrogen mg/l	0.003	0.002	0.0038	0.003	0.002	0.001	0.001	0.002	0.039	0.002	0.002	0.003
7	Nitrogen(Nitrate) mg/l	0.09	0.06	0.3422	0.154	0.135	0.17	0.06	0.087	0.08	0.1	0.07	0.10
8	Phosphate mg/l	0.004	0.084	0.009	0.009	0.004	0.004	BDL	0.004	0.002	0.01	0.033	0.017
9	BOD mg/l	1.1	2.9	1.41	0.3	0.6	0.3	2	1.6	0.8	1	1.2	2.1
10	COD mg/l	6	11	1	2	1	2	8	5	12	3	3	9
11	Chloride mg/l	2.5	6.75	8.49	3.89	3.89	1.46	4.86	2.89	4	4.5	7.28	12
12	Fecal Coliform MPN/100 ml	13000	7900	7900	7900	7000	7900	7000	7900	7900	7900	4900	7900
13	Total Coliform MPN/100 ml	24000	13000	11000	13000	11000	11000	14000	17000	13000	14000	7900	11000
14	Ammonia mg/l	0.02	0.083	0.023	0.04	0.017	0.016	0.006	0.02	0.02	0.04	0.01	0.055
15	Total Dissolved Solids(mg/l)	31	-	-	-	33	58	-	55	170	91	51	47
16	Total Fixed Solids (mg/l)	69	-	-	-	14	39	-	30	167	61	16	32
17	Total Suspended Solid (mg/l)	1	-	-	-	4	16	-	3	3	3	2	5
18	Hardness(mg/l)	16	-	-	-	0	8	20	18	14	24	28	28
19	Fluoride(mg/l)	0.38	-	-	-	0.137	0.12	0.03	BDL	0.19	0.1	0.03	0.02
20	Boron(mg/l)	19.1	-	-	-	0.153	1.48	1.2	1.4	0.97	0.2	0.17	0.5
21	Sulphate (mg/l)	3.3	-	-	-	2.6	2.07	1.79	2.24	0.27	3.3	2.31	2.72
22	Total Alkalinity(mg/l)	140	-	-	-	16	22	28	34	260	36	28	24
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	15.3	-	-	-	5.3	5.6	6.1	5.2	4.2	9.7	5.2	1.3
25	Potassium(mg/l)	15.2	-	-	-	2.5	2.6	3.7	0.5	1.2	4.2	0.4	1.5
26	Calcium as CaCO3(mg/l)	10	-	-	-	0	2	10	14	10	18	18	10
27	Magnesium(mg/l)	1.5	-	-	-	0	1.46	2.43	0.97	1	1.5	2.4	4.37

Table 3 f - RIVER MADEI AT DABOSE, VALPOI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.25	6.93	7.2	6.5	7.16	6.06	7.47	6.2	6.84	6.8	7.14	6.82
2	Temperature ˚C	34	31	27	25.5	27	25.8	30	26.8	28.3	28	28.5	29
3	Conductivity µs/cm	137.1	128.09	72	47.6	43.04	61.04	3.22	74.5	102.5	95.1	94.65	158.34

4	Dissolved Oxygen mg/l	6.4	6.5	7.62	7.6	8	7.7	7.8	7.3	7.8	7.2	7.4	6.5
5	Turbidity (NTU)	2.6	3.97	32.2	21	4.23	5.23	10.3	2.44	2.31	1.84	1.21	2.94
6	Nitrite Nitrogen mg/l	0.002	0.002	0.0104	0.005	0.002	0.002	0.001	0.001	0.004	0.001	0.001	0.002
7	Nitrogen(Nitrate) mg/l	0.09	BDL	0.2749	0.093	0.063	0.07	0.03	0.027	BDL	0.01	0.02	0.07
8	Phosphate mg/l	0.003	0.012	0.009	0.012	0.006	0.001	0.07	BDL	0.001	0.008	0.01	0.002
9	BOD mg/l	1.5	2.1	2.72	0.7	1.1	0.3	1.4	0.5	1.8	1.3	1.2	1.8
10	COD mg/l	8	6	14	13	4	1	9	4	11	43	4	6
11	Chloride mg/l	5.5	6.75	7.99	6.75	3.89	4.89	4.86	2.89	5.5	8	6.31	15
12	Fecal Coliform MPN/100 ml	780	780	4900	4900	4900	1300	2300	1300	230	230	230	330
13	Total Coliform MPN/100 ml	1400	1300	7900	7900	7000	2300	3300	1700	330	330	330	490
14	Ammonia mg/l	0.05	0.045	0.139	0.089	0.015	0.001	0.004	0.01	0.01	0.17	0.01	0.04
15	Total Dissolved Solids(mg/l)	72	-	-	-	29	23		76	9176	65	70	96
16	Total Fixed Solids (mg/l)	90	-	-	-	12	18		10	6716	10	21	79
17	Total Suspended Solid (mg/l)	5	-	-	-	3	16		3	13	3	15	11
18	Hardness(mg/l)	48	-	-	-	0	8	22	22	32	36	40	22
19	Fluoride(mg/l)	0.49	-	-	-	BDL	0.05	0.02	BDL	0.18	0.1	0.01	0.02
20	Boron(mg/l)	1.3	-	-	-	0.189	3.59	0.57	2.43	1.1	0.08	0.27	2.46
21	Sulphate (mg/l)	3.34	-	-	-	6	1.16	2.15	4.92	0.21	1	1.25	8.73
22	Total Alkalinity(mg/l)	300	-	-	-	16	26	28	46	340	58	38	40
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	14.1	-	-	-	5.2	5.6	5.8	4.6	5.8	7.6	5.5	5.4
25	Potassium(mg/l)	14.9	-	-	-	2.4	2.7	2.9	0.4	2.3	3.9	0	2.1
26	Calcium as CaCO3(mg/l)	30	-	-	-	0	2	14	14	14	20	20	8.0
27	Magnesium(mg/l)	4.4	-	-	-	0	1.46	1.944	1.94	4.4	3.9	4.9	3.40

Table 3 g - RIVER KHANDEPAR, OPA, PONDA 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.43	7.4	7.3	7.08	6.45	6.77	6.97	7.05	7.15	6.07	6.89	7.52
2	Temperature ˚C	34.5	32.9	32.4	28	19	27.5	28.9	29.2	27.8	28	28.4	30.6
3	Conductivity µs/cm	108.5	115.14	101.8	61.12	42.8	48.44	1398	66.1	80.35	83.4	78.75	93.11
4	Dissolved Oxygen mg/l	7.5	6.3	6.2	7	7.7	8	7.8	7.8	7	7.29	7.4	7.6
5	Turbidity (NTU)	2.41	2.85	3.08	9.55	44.2	5.85	4.21	2.01	2.33	2.79	2.15	2.81
6	Nitrite Nitrogen mg/l	0.002	0.002	0.003	0.004	0.01	0.003	0.006	0.002	0.004	0.003	0.001	0.003
7	Nitrogen(Nitrate) mg/l	0.02	0.016	0.01	0.12	0.89	0.1	0.11	0.041	0.44	0.097	0.06	0.04
8	Phosphate mg/l	0.002	0.019	0.008	0.02	0.63	0.005	ND	0.002	0.005	0.002	0.004	0.013
9	BOD mg/l	1.5	0.7	0.8	0.46	1.4	5.4	4.7	4.7	0.7	0.5	0.7	2.7
10	COD mg/l	9	80	11	2	17	7	7	6	14	5	9	6
11	Chloride mg/l	8	8.497	6.9	5.3	1.5	2.5	3.5	7	4.4	9.29	9.29	10
12	Fecal Coliform MPN/100 ml	230	2400	1300	2400	2400	790	490	490	230	230	230	230
13	Total Coliform MPN/100 ml	460	5400	2200	5400	5400	2400	790	790	490	490	330	330
14	Ammonia mg/l	0.04	0.046	0.03	0.09	0.05	0.01	0.163	6.088	0.077	0.01	0.02	0.026
15	Total Dissolved Solids(mg/l)	64	-	-	-	20	20	81	259	190	55	51	94
16	Total Fixed Solids (mg/l)	92	-	-	-	18	72	16	225	192	27	41	18
17	Total Suspended Solid (mg/l)	3	-	-	-	10	5	15	4	15	49	11	3
18	Hardness(mg/l)	36	-	-	-	8	18	18	72	42	26	28	22
19	Fluoride(mg/l)	0.42	-	-	-	0.15	0.1	BDL	0.28	0.009	0.11	0.29	0.46
20	Boron(mg/l)	145.5	-	-	-	1.4	2.46	5.51	2.99	0.176	0.54	0.2	8.62
21	Sulphate (mg/l)	3.13	-	-	-	6.9	1.64	1.19	0.66	3.33	2.77	1.87	3.6
22	Total Alkalinity(mg/l)	540	-	-	-	18	100	380	260	30	36	30	260
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	17.1	-	-	-	6.8	5	5.2	4.2	3.6	6.5	5.5	6.1
25	Potassium(mg/l)	15.1	-	-	-	2.7	2	2.6	0.3	1.4	3.7	0.1	1.7
26	Calcium as CaCO3(mg/l)	26	-	-	-	4	8	6	14	20	18	20	13
27	Magnesium(mg/l)	2.4	-	-	-	0.97	2.4	2.9	14.1	5.346	1.94	1.94	2.2

Table 3 h - RIVER KHANDEPAR AT CODLI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.31	7.3	6.9	6.83	6.59	6.59	6.85	6.95	7.2	6.48	7.16	7.4
2	Temperature ˚C	34	32	32.4	29	21	26.7	28.5	29	26.3	27	29	30.8
3	Conductivity µs/cm	88.3	83.35	89.2	53.48	41.7	156.6	1403	61.7	65.93	71.12	65.43	100.1
4	Dissolved Oxygen mg/l	7	6.1	7.4	7.36	7.2	8	7.6	7.1	7.6	7.98	7.8	7.7
5	Turbidity (NTU)	2.08	2.66	1.8	5.72	21.5	19.4	2.17	1.69	1.58	1.54	1.48	2.57
6	Nitrite Nitrogen mg/l	0.002	0.002	0.003	0.002	0.006	0.005	0.006	0.002	0.001	0.001	0.001	0.003
7	Nitrogen(Nitrate) mg/l	0.01	0.13	0.12	0.13	0.08	0.341	0.162	0.025	0.42	0.082	0.07	0.05
8	Phosphate mg/l	0.002	BDL	0.006	0.003	0.003	0.028	0.002	BDL	0.001	0.001	0.002	0.006
9	BOD mg/l	0.8	1.3	1	0.58	1.1	1.1	1.7	0.7	0.8	0.8	1	1.7
10	COD mg/l	9	80	9	2	4	33	29	13	17	5	11	5
11	Chloride mg/l	25	4.998	5.4	5	1.5	26.5	4	4.5	3.91	8.81	8.81	8.5
12	Fecal Coliform MPN/100 ml	130	1300	790	3500	3500	1300	2400	330	230	330	330	490
13	Total Coliform MPN/100 ml	230	1700	1700	9200	9200	5400	5400	460	460	790	490	1300
14	Ammonia mg/l	0.05	0.028	0.03	0.003	0.02	0.05	0.046	0.015	0.305	0.01	0.01	0.046
15	Total Dissolved Solids(mg/l)	48	-	-	-	25	13	279	170	37	43	43	134
16	Total Fixed Solids (mg/l)	81	-	-	-	22	96	92	167	29	36	37	52
17	Total Suspended Solid (mg/l)	1	-	-	-	20	41	14	3	10	30	11	2
18	Hardness(mg/l)	38	-	-	-	16	30	20	28	32	16	22	30
19	Fluoride(mg/l)	0.51	-	-	-	0.5	0.11	BDL	0.15	BDL	0.04	0.54	0.53
20	Boron(mg/l)	224	-	-	-	0.5	2.53	5.37	4.62	0.79	0.54	0.61	8.59
21	Sulphate (mg/l)	6.21	-	-	-	3.98	7.86	1.21	0.05	3.89	2.46	2.21	2.84
22	Total Alkalinity(mg/l)	400	-	-	-	20	120	280	340	24	40	24	320
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	21	-	-	-	5.6	17.8	5.4	2.4	3.3	6.9	5.1	6
25	Potassium(mg/l)	15.2	-	-	-	2.5	3.6	2.5	0.2	1.1	3.7	0.3	1.9
26	Calcium as CaCO3(mg/l)	22	-	-	-	6	20	10	10	18	16	16	16
27	Magnesium(mg/l)	3.9	-	-	-	2.4	2.4	2.4	4.4	3.4	0	1.46	3.4

Table 3 I - RIVER KUSHAWATI NEAR BUND AT KEVONA, RIVONA, SANGUEM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.84	7.25	7.08	6.3	6.11	6.51	7.63	6.9	6.72	6.81	6.91	6.59
2	Temperature ˚C	32	31	29.8	26.8	26.9	27.6	29	27	27	25	26	27
3	Conductivity µs/cm	160.2	181.2	114.9	120.24	84.78	56.08	1405	74.64	92.1	119	135.2	148.9
4	Dissolved Oxygen mg/l	6.4	6.5	6.6	6.3	6	7.6	7.3	7.9	7.4	7	7.5	5.9
5	Turbidity (NTU)	1.32	2.82	5.82	5.58	27.3	11.7	4.03	3.3	3.43	2.39	0.96	1.45
6	Nitrite Nitrogen mg/l	0.001	0.003	0.004	0.002	0.004	0.001	0.001	0.001	0.002	0.002	0.003	0.003
7	Nitrogen(Nitrate) mg/l	0.01	0.07	0.08	2.11	0.73	0.18	0.12	0.15	0.219	0.2	0.1	0.16
8	Phosphate mg/l	0.01	0.004	0.01	0.02	0.02	0.008	0.03	0.017	0.001	0.07	0.005	BDL
9	BOD mg/l	1.8	1.1	0.6	0.6	1.3	1.1	0.7	1.8	0.5	1.5	1.8	1.8
10	COD mg/l	1	6	6	3	12	15	14	6	19	10	6	2
11	Chloride mg/l	6.3	8.997	4.89	7.83	11.4	9.9	10	9	3.37	5.5	5	9.23
12	Fecal Coliform MPN/100 ml	4900	4900	4900	7900	7000	3300	3300	790	4900	3500	1300	1300
13	Total Coliform MPN/100 ml	7900	7900	7900	13000	11000	4600	7000	1300	13000	9200	2200	1700
14	Ammonia mg/l	0.28	0.028	0.02	0.04	0.02	0.01	0.002	0.033	0.06	0.006	0.03	0.19
15	Total Dissolved Solids(mg/l)	12	-	-	-	118	105	100	24	55	93	99	100
16	Total Fixed Solids (mg/l)	57.1	-	-	-	99	82	12	18	36	85	80	-
17	Total Suspended Solid (mg/l)	4	-	-	-	6	7	75	3	32	15	20	7
18	Hardness(mg/l)	62	-	-	-	18	20	26	42	40	44	30	70
19	Fluoride(mg/l)	0.47	-	-	-	0.51	0.44	0.15	0.32	0.284	0.2	0.2	0.05
20	Boron(mg/l)	0.15	-	-	-	6.63	17.6	18	20.1	0.62	0.09	2.4	0.95

21	Sulphate (mg/l)	1.38	-	-	-	1.9	2.6	0.67	1.3	1.771	1.8	2.4	2.9
22	Total Alkalinity(mg/l)	12	-	-	-	22	82	30	156	34	72	58	62
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	17.2	-	-	-	21.1	7.4	13.4	43.5	6.1	6.5	7.38	8.5
25	Potassium(mg/l)	14.9	-	-	-	4	2.7	3	4.8	3.3	4	0.4	2.1
26	Calcium as CaCO3(mg/l)	16	-	-	-	8	18	20	40	1.1	24	18	14
27	Magnesium(mg/l)	5.3	-	-	-	2.4	0.5	1.5	0.49	5.35	4.9	2.9	9

Table 3 j - RIVER TALPONA AT CANACONA 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.51	6.45	6.53	6.67	7.3	6.15	6	7.43	7.24	6.19	6.83	6.9
2	Temperature ˚C	36.5	34	32.2	27.1	26.7	27.4	29.4	29.2	27	28.4	28	28.1
3	Conductivity µs/cm	76.4	75.14	69.01	51.99	45.26	45.71	2.394	52.74	53.7	54.64	58.8	74.77
4	Dissolved Oxygen mg/l	6.9	8.9	7.8	7.3	7.3	6.6	7.5	7.5	7.8	7.4	7.6	6.3
5	Turbidity (NTU)	1.51	3.91	4.93	31.2	29.5	78.1	2.72	2.38	1.29	1.75	1.81	1.93
6	Nitrite Nitrogen mg/l	0.001	0.003	0.002	0.003	0.009	0.001	0.002	0.001	0.002	0.002	BDL	0.002
7	Nitrogen(Nitrate) mg/l	0.03	0.04	0.10	0.22	0.113	0.13	0.08	0.272	0.057	0.01	0.01	0.33
8	Phosphate mg/l	0.005	0.01	BDL	0.02	0.033	0.013	0.33	0.009	0.076	0.004	0.006	0.001
9	BOD mg/l	1.6	3.3	2.4	0.9	0.2	1.3	0.6	1.4	0.9	1.2	1.7	1.8
10	COD mg/l	12	17	8	2	3	14	3	BDL	8	12	12	2
11	Chloride mg/l	4.86	8.81	3.86	5.3	3.26	4.4	4.4	3.9	3.4	6	5.8	9.29
12	Fecal Coliform MPN/100 ml	2300	4900	780	4900	7000	4900	1300	1100	170	790	230	240
13	Total Coliform MPN/100 ml	3300	7000	1300	7900	9400	7900	2300	2200	330	1100	330	920
14	Ammonia mg/l	0.02	0.02	0.07	0.02	0.03	0.054	0.01	0.053	0.048	0.02	0.01	0.09
15	Total Dissolved Solids(mg/l)	26	-	-	-	37	35	40	38	35	329	345	56
16	Total Fixed Solids (mg/l)	88.49	-	-	-	10	13	19	16	10	512	681	38
17	Total Suspended Solid (mg/l)	5	-	-	-	66	94	2	2		6	7	4
18	Hardness(mg/l)	18	-	-	-	0	0	10	14	24	18	17	24
19	Fluoride(mg/l)	0.46	-	-	-	0.039	BDL	BDL	BDL	0.35	0.07	0.2	-
20	Boron(mg/l)	0.09	-	-	-	0.24	1.94	0.873	1.51	8.51	0.56	2.2	1.58
21	Sulphate (mg/l)	1.86	-	-	-	5	6.42	2.54	1.65	3.33	6.02	1.6	2.33
22	Total Alkalinity (mg/l)	2	-	-	-	10	30	26	22	20	200	34	26
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0		0	0	0	0
24	Sodium(mg/l)	17.9	-	-	-	5.5	4.6	6	3.7	3.7	6.8	5.2	9.1
25	Potassium(mg/l)	15.1	-	-	-	2.3	2.2	2.6	0.4	1.1	3.8	0.3	2.2
26	Calcium as CaCO3(mg/l)	4.8	-	-	-	0	0	6	8	12	8	8	14
27	Magnesium(mg/l)	1.5	-	-	-	0	0	1	1.46	2.92	2.4	2.1	2.43

Table 3 k - RIVER SAL AT PAZORCONI, CUNCOLIM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.1	6.22	6.09	7.2	6.1	6.18	6.5	6.82	7.05	6.02	6.55	6.12
2	Temperature ˚C	32.3	31.5	30.3	27.8	28	28.1	28.5	27.9	28	27.7	27	28
3	Conductivity µs/cm	70.1	180.54	86.15	69.76	65.18	89.77	2.39	80.18	78.97	78.76	78.8	80.83
4	Dissolved Oxygen mg/l		6.6	6	6.1	7.2	7	6.5	7	6.2	5.2	4.8	5.5
5	Turbidity (NTU)	13.7	5.83	17.5	12.4	9.17	86.03	9.47	8.61	6.31	8.5	7.01	6.22
6	Nitrite Nitrogen mg/l	0.02	0.005	0.006	0.009	0.005	0.001	0.007	0.005	0.005	0.27	0.02	0.004
7	Nitrogen(Nitrate) mg/l	0.38	0.09	0.13	0.35	0.289	0.41	0.26	0.284	0.277	0.008	0.2	1.13
8	Phosphate mg/l	0.01	0.02	0.003	0.02	0.029	0.007	0.015	0.013	0.005	0.004	0.01	0.015
9	BOD mg/l		4	1.6	0.5	1.2	2	1.1	1.7	1.6	1.5	2.9	1.4
10	COD mg/l	4	16	10	7	8	2	4	4	10	11	12	8
11	Chloride mg/l	4.86	8.32	6.75	8.68	6.8	11.7	10.8	7.3	7.28	8	1500	12.23
12	Fecal Coliform MPN/100 ml	7900	4900	4900	7900	11000	4900	11000	13000	7900	4900	4900	3300
13	Total Coliform MPN/100 ml	11000	13000	7900	13000	17000	7900	22000	22000	17000	7900	7000	4900
14	Ammonia mg/l	0.3	0.05	0.16	0.05	0.083	0.013	0.032	0.05	0.146	0.04	0.1	BDL
15	Total Dissolved	55	-	-	-	44	64	60	57	60	99	111	152

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
	Solids(mg/l)												
16	Total Fixed Solids (mg/l)	95.9	-	-	-	18	22	25	23	20	92	98	31
17	Total Suspended Solid (mg/l)	14	-	-	-	20	24	14	78		5	7	4
18	Hardness(mg/l)	28	-	-	-	0	0	16	27.2	20	220	16	22
19	Fluoride(mg/l)	6.48	-	-	-	BDL	0.22	0.1	BDL	0.05	0.17	0.05	-
20	Boron(mg/l)	0.08	-	-	-	0.646	1.1	0.7	2	0.89	0.45	2.8	0.82
21	Sulphate (mg/l)	2.85	-	-	-	4.76	5.94	5.7	6.51	12.4	10.46	4.7	3.23
22	Total Alkalinity(mg/l)	0	-	-	-	14	30	20	22	16	160	28	26
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	-	0	0	0	0
24	Sodium(mg/l)	15.3	-	-	-	7.6	10	9.9	6	6.4	7.3	6.2	12.8
25	Potassium(mg/l)	15.1	-	-	-	2.6	2.8	3.7	0.9	1.7	4.1	0.6	2
26	Calcium as CaCO3(mg/l)	4.8	-	-	-	0	0	12	10	10	140	10	10
27	Magnesium(mg/l)	3.9	-	-	-	0	0	1	4	2.43	19.4	1.5	2.92

Table 3 l - RIVER SAL AT MOBOR 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.62	7.82	6.5	7.5	6.74	7.86	7.4	7.85	8.15	6.77	8.12	7.75
2	Temperature ˚C	32.9	30	28.3	25.7	28.5	29.5	31	29	28	27.6	28.9	29
3	Conductivity µs/cm	46000	48500	18250	3020	15.22	44700	48570	51690	52900	54820	52080	51700
4	Dissolved Oxygen mg/l	5.3	4.2	5.3	5.6	6.89	4.9	3.7	5.2	6.2	6.9	6.5	6.2
5	Turbidity (NTU)	19.1	53.6	13	27.9	8.98	3.7	3.14	6.42	4.27	2.62	3.92	3.03
6	Nitrite Nitrogen mg/l	0.009	0.04	0.0102	0.022	0.01	0.055	0.01	0.0014	0.003	0.002	0.01	0.005
7	Nitrogen(Nitrate) mg/l	0.02	0.05	0.15	0.25	0.2	0.08	0.15	0.2	0.098	0.02	0.08	0.09
8	Phosphate mg/l	0.03	0.14	0.06	0.06	0.02	0.039	0.03	0.092	0.028	0.02	0.003	0.03
9	BOD mg/l	1.3	2.4	2.2	0.3	-	1.4	1.2	0.9	1.1	0.2	2.1	1.8
10	COD mg/l	38	51	25	17	23	20		22			-	-
11	Chloride mg/l	17241	17119.7	6748	1000	5298	4124	24851.9	30526.7	22118	22618	13496	27444.7
12	Fecal Coliform MPN/100 ml	780	11000	4900	7900	4900	3300	49	2300	780	490	460	330
13	Total Coliform MPN/100 ml	1300	17000	13000	11000	9400	4900	940	4600	11000	790	700	460
14	Ammonia mg/l	0.06	0.29	0.21	0.11	0.1	0.003	0.04	0.011	0.062	0.06	0.32	0.05
15	Total Dissolved Solids(mg/l)	14164	-	-	-	350	320	76762	37520	48517	20566	21559	15324
16	Total Fixed Solids (mg/l)	28328	-	-	-	110	105		30510	281	16000	16418	6734
17	Total Suspended Solid (mg/l)	62	-	-	-	35	40	200	114	108	69	74	42
18	Hardness(mg/l)	5600	-	-	-	2400	20	6900	7000	14000	12500	3600	9200
19	Fluoride(mg/l)	BDL	-	-	-	0.76	1.45	1.54	1.378	1049	1.57	0.53	1.21
20	Boron(mg/l)	1.7	-	-	-	3.87	3.1	4.69	7.881	5.33	1.8	3.68	2.94
21	Sulphate (mg/l)	1278.7	-	-	-	1926.5	2189	2176.8	2973.6	1766.3	1610.8	659.37	101.9
22	Total Alkalinity(mg/l)	58	-	-	-	44	30	114	106	98	188	840	114
23	Phenolphthalein Alkalinity(mg/l)	2	-	-	-	0	0	0.3	0.7	0	0	0	14
24	Sodium(mg/l)	1700	-	-	-	2433	7482	8782	1495	10591	10232	4837	7184
25	Potassium(mg/l)	319.8	-	-	-	147.6	348.3	360.5	208.1	273.9	272.1	156.9	318.2
26	Calcium as CaCO3(mg/l)	400.8	-	-	-	1200	18	1000	1300	1200	3000	800	4400
27	Magnesium(mg/l)	1117.8	-	-	-	291.6	0.5	1433.7	1385	3110.4	2308.5	680.4	1166.4

Table 3 m - HARWALE WATERFALL 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.92	6.7	6.12	6.63	6.09	6.61	7.31	5.74	7.0	6.87	6.88	7.24
2	Temperature ˚C	33.2	31.3	29.1	27.8	28	28	29.4	27.4	28.9	27.9	27.8	28
3	Conductivity µs/cm	102.2	85.3	69.12	55.53	50.6	57.1	2.94	76	79.2	97.76	100	99.03
4	Dissolved Oxygen mg/l	7	6.8	7.8	7.8	7.56	7.4	7	7.3	7.9	7.3	7.3	7.3
5	Turbidity (NTU)	3.85	5.85	5.71	19.3	7.98	6.33	7.58	5.48	4.09	3.87	3.36	3.28
6	Nitrite Nitrogen mg/l	0.003	0.004	0.005	0.002	0.004	0.002	0.002	0.002	0.01	0.002	0.003	0.003

7	Nitrogen(Nitrate) mg/l	0.3	0.25	0.49	0.32	0.39	0.304	0.24	0.265	0.23	0.4	0.01	0.16
8	Phosphate mg/l	0.01	0.005	0.003	0.006	0.011	0.02	BDL	0.008	0.009	0.02	0.01	0.002
9	BOD mg/l	1.34		1.8	0.9	1.91	0.3	0.8	1.1	0.7	0.3	0.9	1.4
10	COD mg/l	13	6	9	7	10	11	12	4	1	3	5	13
11	Chloride mg/l	15.2	7.34	6.36	5.34	5.87	4.4	5.34	3.86	3	9	8.74	12
12	Fecal Coliform MPN/100 ml	13000	13000	13000	13000	13000	7900	7900	4900	3300	3300	3300	4900
13	Total Coliform MPN/100 ml	24000	24000	24000	24000	17000	11000	11000	7000	4900	4600	4900	7900
14	Ammonia mg/l	0.16	0.006	0.01	0.037	0.024	0.008	0.007	0.02	0.03	0.07	0.07	0.02
15	Total Dissolved Solids(mg/l)	7010	-	-	-	67	54	-	184	710	92	65	62
16	Total Fixed Solids (mg/l)	6988	-	-	-	32	23	-	159	708	79	20	43
17	Total Suspended Solid (mg/l)	6	-	-	-	5	7	-	12	BDL	10	4	4
18	Hardness(mg/l)	38	-	-	-	6	8	20	20	26	36	40	36
19	Fluoride(mg/l)	0.17	-	-	-	0.52	0.06	0.05	BDL	0.1	0.08	0.004	0.02
20	Boron(mg/l)	8.23	-	-	-	0.49	6.58	9.03	1.45	1.62	0.1	0.24	0.44
21	Sulphate (mg/l)	5.19	-	-	-	2.87	1.66	2.1	2.45	0.3	1.2	2.72	0.85
22	Total Alkalinity(mg/l)	20	-	-	-	12	20	24	38	260	66	34	40
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	10.7	-	-	-	3.4	6.7	5.4	3.7	3.36	9.6	6.1	3.9
25	Potassium(mg/l)	15	-	-	-	1.8	2.8	2.7	0.4	1.2	4.3	0.2	1.5
26	Calcium as CaCO3(mg/l)	16	-	-	-	0	0	12	14	12	26	26	20
27	Magnesium(mg/l)	34.1	-	-	-	1.46	1.9	1.94	1.4	3.4	2.4	3.4	3.89

Table 3 n - RIVER BICHOLIM, BARAZAN NAGAR, BICHOLIM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.44	6.3	6.08	6.4	6.3	6.45	7.26	6.45	7.55	7.53	6.9	7.12
2	Temperature °C	33.2	32	31.2	28	28.9	29.3	29.9	29.3	27.6	29.5	27	29
3	Conductivity µs/cm	181.3	147.43	126.85	80.7	176.81	83.6	4.64	84.2	105.18	136.67	132.38	175
4	Dissolved Oxygen mg/l	7	5.3	6	6.6	4.77	7.1	7.2	7.7	8.2	10.3	7.9	6.8
5	Turbidity (NTU)	3.76	9.1	13.6	12	5.04	4.37	8.06	3.85	3.05	6.94	8.5	15.8
6	Nitrite Nitrogen mg/l	0.007	0.009	0.011	0.002	0.096	0.004	0.004	0.003	0.008	0.04	0.007	0.013
7	Nitrogen(Nitrate) mg/l	0.23	0.34	0.73	0.3	0.96	0.45	0.33	0.162	0.226	0.11	0.13	0.15
8	Phosphate mg/l	0.008	0.01	0.012	0.005	0.016	0.028	BDL	0.009	0.018	0.035	0.01	0.02
9	BOD mg/l	2.23	1	2.1	1.2	1.5	1.3	1.1	1.4	1.5	4.2	1.8	4.0
10	COD mg/l	13	7	3	6	10	6	8	24	6	7	12	19.0
11	Chloride mg/l	15.2	12.2	11.74	8.7	17.12	9.29	9.71	8.81	9.29	13.21	15.17	14.7
12	Fecal Coliform MPN/100 ml	17000	17000	13000	11000	7900	7900	11000	7900	7900	13000	13000	17000
13	Total Coliform MPN/100 ml	35000	35000	17000	14000	11000	13000	17000	13000	13000	17000	22000	22000
14	Ammonia mg/l	0.17	0.05	0.07	0.04	0.136	0.004	0.01	0.141	0.029	0.034	0.01	0.002
15	Total Dissolved Solids(mg/l)	100	-	-	-	168	147	-	46	303	32838	435	400
16	Total Fixed Solids (mg/l)	45	-	-	-	65	54	-	10	140	20386	217	200
17	Total Suspended Solid (mg/l)	9	-	-	-	8	12	-	11	10	22	10	10
18	Hardness(mg/l)	64	-	-	-	34	14	28	28	34	44	48	56
19	Fluoride(mg/l)	0.16	-	-	-	0.56	0.03	0.02	0.03	0.03	0.133	0.01	0.58
20	Boron(mg/l)	0.36	-	-	-	0.04	8.42	6.98	18.59	3.69	35.353	3.2	5.4
21	Sulphate (mg/l)	5.96	-	-	-	5.32	1.45	1.95	2	2.02	6.8	217	5.6
22	Total Alkalinity(mg/l)	32	-	-	-	28	13	34	32	46	16	46	52
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	5.3	-	-	-	3.3	5.7	7.1	5.2	7.8	2408	8.3	13.1
25	Potassium(mg/l)	14.7	-	-	-	1.8	2.2	3.2	0.6	3.9	113	0.5	0.4

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
26	Calcium as CaCO3(mg/l)	38	-	-	-	32	6	22	14	22	24	26	54
27	Magnesium(mg/l)	54.8	-	-	-	0.49	1.9	1.46	3.4	2.92	4.86	5.3	0.5

Table 3 o - MAYEM LAKE AT MAYEM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.42	6.53	6.01	7.3	6.18	6.52	6.1	6.38	6.84	7.51	6.47	7.07
2	Temperature ˚C	35.3	34.1	31.1	28.5	28	29	31.6	28.5	30.4	27.5	29	28.5
3	Conductivity µs/cm	44.2	43.9	38.57	36.54	36.15	41.46	1.896	41.56	40.34	39.52	40.61	46500
4	Dissolved Oxygen mg/l	6.9	6.7	9.7	8.2	7.81	5.3	7.5	6.1	6.8	7.8	7.8	7.41
5	Turbidity (NTU)	5.34	9.2	8.67	19.3	3.93	1.58	2.08	3.42	1.84	3.31	3.83	3.65
6	Nitrite Nitrogen mg/l	0.004	0.008	0.007	0.038	0.004	0.001	0.002	0.002	0.002	0.003	0.001	0.003
7	Nitrogen(Nitrate) mg/l	0.006	0.1	0.02	0.07	0.23	0.045	0.1	0.03	0.001	0.42	0.04	0.01
8	Phosphate mg/l	0.009	0.03	0.03	0.007	0.011	0.001	0.01	0.01	0.018	0.01	0.004	0.006
9	BOD mg/l	2.34	1.9	2.9	3.8	0.31	0.5	1.5	0.6	0.9	1.3	1.6	1.8
10	COD mg/l	27	29	22	12	11	6	13	17	7	13	7	4.0
11	Chloride mg/l	8.3	6.34	4.89	3.89	5.38	6.36	5.83	6.36	6.85	5.87	9.29	6.2
12	Fecal Coliform MPN/100 ml	13000	13000	11000	4900	7000	3300	4600	4900	1300	1300	4900	3300
13	Total Coliform MPN/100 ml	22000	35000	14000	7900	9400	4900	7000	7000	2300	2300	7900	4900
14	Ammonia mg/l	0.16	0.03	0.02	0.01	0.013	0.064	0.006	0.054	0.007	0.025	0.01	0.007
15	Total Dissolved Solids(mg/l)	26	-	-	-	59	46	-	72	109	321	89	99
16	Total Fixed Solids (mg/l)	14	-	-	-	30	21	-	26	62	223	58	64
17	Total Suspended Solid (mg/l)	5	-	-	-	10	13	-	8	10	16	8	13
18	Hardness(mg/l)	12	-	-	-	6	6	12	20	14	400	10	20
19	Fluoride(mg/l)	0.14	-	-	-	0.51	0.12	0.02	0.03	0.02	0.176	0.08	0.1
20	Boron(mg/l)	0.11	-	-	-	0.03	6.87	0.63	37.31	4.01	4.066	3.48	7.0
21	Sulphate (mg/l)	7.79	-	-	-	1.73	1.26	2.03	0.91	0.9	1.66	58	1.9
22	Total Alkalinity(mg/l)	10	-	-	-	8	8	160	18	28	8	16	24
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	18.9	-	-	-	2.9	5.7	5.1	2.4	6.4	5.2	5.7	7.5
25	Potassium(mg/l)	15.2	-	-	-	1.8	2.2	2.5	0.1	3.8	1.4	0.4	1.1
26	Calcium as CaCO3(mg/l)	8	-	-	-	0	0	8	4	12	200	4	12
27	Magnesium(mg/l)	10.1	-	-	-	1.46	1.5	0.97	3.89	0.49	48.6	1.5	1.9

Table 3 p - CUMBHARJUA CANAL, CORLIM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.26	6.98	7.21	7.13	6.11	5.48	6.66	6.2	7.04	6.46	6.78	6.93
2	Temperature ˚C	32.2	31.9	30	29.8	29.2	28	29.8	29.1	29.6	28.4	27.7	29
3	Conductivity µs/cm	47900	43600	41600	15000	2318	296.2	10290	10860	22160	38440	34650	81080
4	Dissolved Oxygen mg/l	3.4	4.2	5	6.3	5.4	6.3	5.5	5.8	5.6	5.7	5.3	5.2
5	Turbidity (NTU)	13.4	145	11.6	9.59	4.9	3.6	7.28	16.7	6.24	10.01	8.04	13.7
6	Nitrite Nitrogen mg/l	0.03	0.019	0.013	0.021	0.003	0.003	0.007	0.006	0.006	0.01	0.02	0.004
7	Nitrogen(Nitrate) mg/l	0.6	0.085	0.03	0.07	0.1	0.15	0.1	0.061	0.053	0.45	0.03	0.002
8	Phosphate mg/l	0.02	0.03	0.01	0.03	0.006	0.016	0.016	0.028	0.034	0.02	0.02	0.002
9	BOD mg/l	2	5.7	3.4	2.3	6.6	1.4	1.3	1.2	1.7	1.5	1.4	1.7
10	COD mg/l	68	42	33	60	6	7				57	-	-
11	Chloride mg/l	17220	18294	20547	445	124.96	199.9	3913.7	4158.3	9295	16829	42987	17318
12	Fecal Coliform MPN/100 ml	450	17000	7900	7900	7900	2300	4900	4600	3300	2300	790	460
13	Total Coliform MPN/100 ml	450	35000	13000	11000	13000	3300	11000	7000	7900	4900	1400	790
14	Ammonia mg/l	0.2	0.09	0.02	0.09	0.05	0.012	0.04	0.08	0.076	0.04	0.01	0.075
15	Total Dissolved Solids(mg/l)	35979	-	-	-	80	90	6586	7347	10152	24468	27169	33443
16	Total Fixed Solids (mg/l)	27383	-	-	-	50	60	1581	2182	4595	24397	16077	22635

17	Total Suspended Solid (mg/l)	30	-	-	-	10	20	52	46	43	105	95	40
18	Hardness(mg/l)	5900	-	-	-	88	14	958	1068	3800	14	2300	6000
19	Fluoride(mg/l)	1.11	-	-	-	0.79	1.14	0.9	0.13	0.97	1.305	0.3	0.67
20	Boron(mg/l)	16.93	-	-	-	1.83	1.2	9.38	9.12	3.91	27.765	4.7	
21	Sulphate (mg/l)	1338.1	-	-	-	22.83	4	302.6	462	499.1	1549.7	715	1176.9
22	Total Alkalinity(mg/l)	120	-	-	-	16	200	42	58	82	24	90	108
23	Phenolphthalein Alkalinity(mg/l)	4	-	-	-	0	0	0	0	0	0.2	0	0
24	Sodium(mg/l)	1856	-	-	-	144.4	55.5	1429	572.7	4149	4972	7789	4742
25	Potassium(mg/l)	301.4	-	-	-	8.9	4.2	76.1	62	128.1	195.2	169.2	226.6
26	Calcium as CaCO3(mg/l)	900	-	-	-	20	8	180	190	1400	8	2750	1000
27	Magnesium(mg/l)	1215	-	-	-	16.5	1.5	189.1	213.4	583.2	1.458	4920	1215

Table 3 q - RIVER ZUARI AT PANCHAWADI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.16	7.1	6.65	7.6	6.43	6.81	6.9	6.55	6.6	6.65	7.07	6.63
2	Temperature ˚C	32.5	33	31.4	28	21	28.6	29.4	30.7	28	27	28.8	28.6
3	Conductivity µs/cm	6370	21350	21790	214.1	72.6	74.32	1626	72.8	9.35	11990	14670	13310
4	Dissolved Oxygen mg/l	5.8	4	5.5	6.3	7.6	7.8	8.1	6	5.7	5.59	5.7	5.7
5	Turbidity (NTU)	8.96	6.8	14.2	10.6	13	45.7	3.96	5.37	6.6	4.85	3.59	9.09
6	Nitrite Nitrogen mg/l	0.006	0.05	0.007	0.005	0.09	0.003	0.003	0.003	0.001	0.061	0.02	0.034
7	Nitrogen(Nitrate) mg/l	0.03	0.077	0.02	0.14	0.17	0.08	0.119	BDL	0.45	0.064	0.03	0.33
8	Phosphate mg/l	0.009	0.008	0.45	0.01	0.02	0.109	0.045	0.004	0.012	0.003	0.01	0.135
9	BOD mg/l	2.2	0.7	3.6	1.4	2.6	1.4	2	0.6	1.8	1.3	1.4	2
10	COD mg/l	9		33	5	7	11	14	8	11		-	18
11	Chloride mg/l	3546.8	7748	8683.5	44	8.5	10	17745	1250	3253.2	5870.5	5870.5	5123
12	Fecal Coliform MPN/100 ml	2300	2300	2300	4900	7000	4900	7000	4900	780	1100	1700	1300
13	Total Coliform MPN/100 ml	4900	4900	3300	7900	11000	7900	11000	7900	1300	1400	3300	2300
14	Ammonia mg/l	0.04	0.042	0.09	0.03	0.03	0.12	0.149	0.112	0.038	0.032	0.12	0.147
15	Total Dissolved Solids(mg/l)	4399	-	-	-	43	62	30930	710	8725	7058	10176	8060
16	Total Fixed Solids (mg/l)	3013	-	-	-	40	184	24197	708	4597	1659	7409	5077
17	Total Suspended Solid (mg/l)	22	-	-	-	17	60	150	BDL	50	35	4	29
18	Hardness(mg/l)	900	-	-	-	16	10	400	74	1004	3600	1000	400
19	Fluoride(mg/l)	0.26	-	-	-	0.87	0.07	0.72	0.04	0.106	0.36	0.87	0.73
20	Boron(mg/l)	0.76	-	-	-	1.07	2.36	4.6	2.48	0.132	6.33	1.57	9.49
21	Sulphate (mg/l)	64.5	-	-	-	5.6	9.9	117.6	BDL	499.1	410.5	419.7	1931
22	Total Alkalinity(mg/l)	42	-	-	-	24	100	1000	340	45	50	38	400
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	435.2	-	-	-	37.6	9.3	6675	94.9	1019	1949	2758	1292
25	Potassium(mg/l)	32.1	-	-	-	4.3	2.8	282.3	5.5	53.4	70	93	62.5
26	Calcium as CaCO3(mg/l)	200	-	-	-	12	6	360	16	170	1200	400	200
27	Magnesium(mg/l)	851.4	-	-	-	0.97	1	9.7	14.1	202.6	583.2	145.8	48.6

Table 3 r - RIVER ZUARI AT CORTALIM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.44	7.81	6.4	6.57	7.1	7.30	6.96	7.42	7.76	7.88	7.63	6.94
2	Temperature ˚C	32.5	32	29	27.5	27.5	28.0	29	30	27	28	28	28
3	Conductivity µs/cm	45300	49700	40420	1001	768.02	11	25560	38300	46600	48370	44800	43100
4	Dissolved Oxygen mg/l	5.7	5.3	4.8	5.6	7.3	7.2	5	5.9	5.4	5.1	5	4.9
5	Turbidity (NTU)	25.5	25.8	21.1	136	49.8	23.3	9.35	10.7	5.88	6.77	7.39	43.4
6	Nitrite Nitrogen mg/l	0.039	0.043	0.071	0.052	0.028	0.01	0.01	0.018	0.02	0.04	0.03	0.01
7	Nitrogen(Nitrate) mg/l	0.028	0.105	0.24	0.57	0.18	BDL	0.06	0.15	0.02	0.13	0.05	0.05
8	Phosphate mg/l	0.037	0.057	0.04	0.02	0.028	0.06	0.07	0.03	0.03	0.07	0.05	0.02
9	BOD mg/l	2.1	1.8	1.4	0.9	3.2	2.6	2.8	0.4	2.9	1.4	0.7	1.5
10	COD mg/l	37	16	40	9	-	16.0	-	-	-	-	-	-
11	Chloride mg/l	16998	3763.9	15120	250	205	#####	10296	14472.8	18843.8	19494	18744	21126

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
12	Fecal Coliform MPN/100 ml	3300	2300	7900	13000	4900	7900	4900	4900	1300	780	780	1300
13	Total Coliform MPN/100 ml	7900	4900	13000	17000	13000	13000	7900	7900	1700	1300	1300	2300
14	Ammonia mg/l	0.063	0.15	0.13	0.07	0.25	0.01	0.05	0.25	0.27	0.008	0.05	0.07
15	Total Dissolved Solids(mg/l)	42424	-	-	-	490	420	25708	27013	30797	22076	25321	30170
16	Total Fixed Solids (mg/l)	52654	-	-	-	106	110	22685	21768	28358	15121	19788	26157
17	Total Suspended Solid (mg/l)	20	-	-	-	17	20	36	38	94	46	64	81
18	Hardness(mg/l)	3300	-	-	-	46	64	3100	64000	2400	11500	10500	6500
19	Fluoride(mg/l)	1.4	-	-	-	ND	0.67	1.05	1.64	1.96	1.4	0.5	0.75
20	Boron(mg/l)	4.1	-	-	-	1.02	2.5	22.36	61.92		2.1	3.5	3.81
21	Sulphate (mg/l)	1278.7	-	-	-	93.42	173.3	420.5	659.24	2848.7	1585.6	1395.7	2589
22	Total Alkalinity(mg/l)	54	-	-	-	140	66	76	96	98	174	106	70
23	Phenolphthalein Alkalinity(mg/l)	4	-	-	-	0	0	0	0	0	0	0	4
24	Sodium(mg/l)	1671	-	-	-	138.4	1579	4262	1280	4841	9596	9302	5906
25	Potassium(mg/l)	314.7	-	-	-	9.1	100.2	206.2	176.8	246	246	276.1	247
26	Calcium as CaCO3(mg/l)	400.8	-	-	-	20	30	600	900	1000	3500	4000	2000
27	Magnesium(mg/l)	558.9	-	-	-	6.3	8.2	607.5	15333	340.2	1944	1579.5	1093

Table 3 s - CREEK AT DANDO MOLLO, VELSAO, MORMUGAO 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	8.22	8.22	6.7	6.46	7.07	7.8	7.08	6.96	7.54	7.67	7.57	6.72
2	Temperature ˚C	34.3	30	27.6	28	29.7	29	31	30	28.4	27	29	29
3	Conductivity µs/cm	41.4	11060	19690	7930	580.01	2568	3276	4.62	19720	18090	9140	8300
4	Dissolved Oxygen mg/l	12.6	8.2	5.7	5.3	5.8	6.8	6.1	3.9	7.2	6.4	8.1	9.7
5	Turbidity (NTU)	6.45	2.3	15.1	24.8	6.46	4.87	3.68	5.41	4.43	1.69	1.37	1.63
6	Nitrite Nitrogen mg/l	0.28	0.236	0.115	0.06	0.03	0.011	0.07	0.007	0.08	0.11	0.2	0.58
7	Nitrogen(Nitrate) mg/l	3.56	2.52	4.84	3.68	0.86	0.09	7.68	0.39	3.03	3.7	10.4	13.37
8	Phosphate mg/l	0.51	0.138	1.6	0.45	0.033	0.108	0.58	0.019	0.21	0.8	0.2	0.15
9	BOD mg/l	7.1	4.2	2.6	0.7	0.9	2	1.6	3.5	2.6	1.9	2.1	2.8
10	COD mg/l	39	15	15	21	5	25		18		25	-	-
11	Chloride mg/l	14916	3278.24	6873	2800	125	999.6	1165.6	1408.43	6945.01	7497.7	4373.6	3521
12	Fecal Coliform MPN/100 ml	4900	7900	7900	13000	13000	13000	7900	11000	3300	7900	4600	3300
13	Total Coliform MPN/100 ml	7900	13000	11000	22000	17000	22000	14000	14000	7900	11000	7000	4900
14	Ammonia mg/l	0.31	0.523	2.49	0.33	0.23	0.2	0.63	0.97	4.2	0.003	14.3	1.98
15	Total Dissolved Solids(mg/l)	60078	-	-	-	455	450	1802	2504	12243	13592	15696	5644
16	Total Fixed Solids (mg/l)	49740	-	-	-	181	150	825	1942	13512	8582	10019	4736
17	Total Suspended Solid (mg/l)	41	-	-	-	4	5	9	14	26	18	17	20
18	Hardness(mg/l)	4700	-	-	-	74	22	400	8000	5900	7000	5000	3500
19	Fluoride(mg/l)	1.43	-	-	-	0.03	0.94	0.17	0.44	1.36	1	0.3	0.36
20	Boron(mg/l)	9.94	-	-	-	1.72	4.6	2.95	9.8	2.12	2.6	2.7	1.39
21	Sulphate (mg/l)	92.76	-	-	-	15.66	1377	51.3	69.77	288.7	235.66	303.2	79
22	Total Alkalinity(mg/l)	109	-	-	-	500	36	28	84	86	74	32	84
23	Phenolphthalein Alkalinity(mg/l)	16	-	-	-	0	0	0	0	0	0	0	8
24	Sodium(mg/l)	1657	-	-	-	97.7	394.2	327.5	343.4	2028	3256	1326	1102
25	Potassium(mg/l)	312	-	-	-	6.9	28.7	23.2	28.6	112	113	48.2	59.2
26	Calcium as CaCO3(mg/l)	900	-	-	-	48	12	68	150	600	1500	3000	1000
27	Magnesium(mg/l)	923.4	-	-	-	6.3	2.4	80.67	1907.55	1287.9	1336.5	486	607

Table 3 t - RIVER MANDOVI AT PANAJI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.76	7.64	6.57	7.9	7.08	6.63	7.88	7.19	7.68	7	7.07	7.68
2	Temperature ˚C	31	32.6	31.8	31	28	29.1	29.3	31.5	28.7	27.8	29	28.2
3	Conductivity µs/cm	5051	49000	47140	42600	190.32	344	39190	36400	33320	43900	55600	46400
4	Dissolved Oxygen mg/l	4.6	4.9	4.6	6.1	7.7	7.1	4.6	5.5	4.9	5.5	5.3	5.7
5	Turbidity (NTU)	3.67	4.58	5.16	9.23	29.4	17.1	10.4	15.4	5.09	7.95	30.7	5.75
6	Nitrite Nitrogen mg/l	0.104	0.008	0.009	0.002	0.011	0.007	0.053	0.025	0.003	0.044	0.009	0.005
7	Nitrogen(Nitrate) mg/l	0.11	0.064	0.06	0.004	0.15	0.14	0.29	0.07	0.101	0.029	0.09	0.01
8	Phosphate mg/l	0.008	0.188	0.007	0.02	0.026	0.026	0.043	0.03	0.01	0.032	0.014	0.02
9	BOD mg/l	2.79	1.7	1.4	1.8	1.3	0.4	0.8	1.7	109	1.9	1.7	1.5
10	COD mg/l					11	4	45			-	-	-
11	Chloride mg/l	21734	18698.1	18712	15895	611.5	99.9	16120	17245	17994	16998	20441.9	26792
12	Fecal Coliform MPN/100 ml	450	1300	2300	1300	7900	3300	1700	3300	330	4900	3300	1700
13	Total Coliform MPN/100 ml	780	2300	3300	1700	17000	4900	2300	7000	490	7900	4600	3300
14	Ammonia mg/l	0.021	0.054	0.15	0.13	0.086	0.01	0.035	0.015	0.033	0.011	0.14	0.01
15	Total Dissolved Solids(mg/l)	46095	-	-	-	90	80	75	17	108	21950	32248	34537
16	Total Fixed Solids (mg/l)	30025	-	-	-	60	50	35	81	51	17749	20695	26905
17	Total Suspended Solid (mg/l)	154	-	-	-	12	18	15	47	20	2	215	14
18	Hardness(mg/l)	6000	-	-	-	12	20	5600	56	14800	6800	5840	13800
19	Fluoride(mg/l)	1.3	-	-	-	0.49	0.61	1.16	1	1.3	1.32	0.27	0.34
20	Boron(mg/l)	0.18	-	-	-	0.17	1.1	19	9.2	9.6	10	0.4	4.8
21	Sulphate (mg/l)	2835.6	-	-	-	8.93	7.6	337.5	544.5	910.6	1606.1	2332	1304.6
22	Total Alkalinity(mg/l)	18	-	-	-	12	40	204	102	66	88	96	94
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	1843	-	-	-	79.3	61.6	6739	11391	6265	9191	7534	8127.1
25	Potassium(mg/l)	342.4	-	-	-	3.1	5.3	286.8	276.4	180.5	278.2	214.8	265.7
26	Calcium as CaCO3(mg/l)	801.6	-	-	-	10	14	2200	52	3600	940	26	1800
27	Magnesium(mg/l)	972	-	-	-	0.49	1.5	826.2	0.97	2721.6	1424	1412	2916

Table 3 u - RIVER MANDOVI AT TONCA MARCELA 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.2	6.25	6.11	7.25	6.2	6.36	6.75	6.45	7.02	6.6	7.15	6.99
2	Temperature ˚C	33	32.3	29.5	27	27	27	29	28.7	27.5	27	29	27
3	Conductivity µs/cm	39100	35570	1287	91.3	105.47	150.5	1868	6470	16680	23260	27860	30500
4	Dissolved Oxygen mg/l	5.2	4.8	7	7.6	7.2	7	6.8	6.2	5.4	6.4	6.2	5.1
5	Turbidity (NTU)	4.46	5.68	13	12.5	9.61	11.6	7.04	7.85	7.35	7.44	5.12	3.38
6	Nitrite Nitrogen mg/l	0.115	0.06	0.005	0.002	0.004	0.005	0.004	0.005	0.006	0.01	0.003	0.01
7	Nitrogen(Nitrate) mg/l	0.28	1.09	0.25	0.15	0.14	0.261	0.106	0.043	0.061	0.31	1.75	0.03
8	Phosphate mg/l	0.02	0.01	0.013	0.006	0.007	0.077	0.009	0.017	0.008	0.02	0.01	0.006
9	BOD mg/l	1.16	1.2	1.9	0.5	0.9	1.1	0.9	1.2	0.5	1.7	1.1	1.3
10	COD mg/l	25	23	13	7	15	10	12			35	-	-
11	Chloride mg/l	18223	13893.6	733.8	849.91	2568.4	636	244.6	2935.3	8561	8120.9	12230.3	12484
12	Fecal Coliform MPN/100 ml	1300	2300	4900	3300	4600	7900	4900	4900	2300	2300	4600	1300
13	Total Coliform MPN/100 ml	2300	4600	7900	4900	7000	13000	11000	9400	4600	3300	7000	2200
14	Ammonia mg/l	0.09	0.05	0.118	0.048	0.03	0.035	0.021	0.152	0.068	0.06	0.003	0.008
15	Total Dissolved Solids(mg/l)	25377	-	-	-	293	274	251	4195	16657	13129	20486	20017
16	Total Fixed Solids (mg/l)	20579	-	-	-	224	212	42	1191	11520	9119	5384	5000
17	Total Suspended Solid (mg/l)	116	-	-	-	13	15	4	25	25	77	12	10
18	Hardness(mg/l)	4600	-	-	-	4	14	44	628	1800	2800	3000	5600
19	Fluoride(mg/l)	1.46	-	-	-	0.5	0.11	0.77	0.09	0.77	1.01	0.31	0.87
20	Boron(mg/l)	2.43	-	-	-	0.16	5.84	10.02	11.92	5.31	2.5	16.63	6.1
21	Sulphate (mg/l)	3638.9	-	-	-	3.44	4.23	11.38	295.9	303.6	580.8	813.93	780

22	Total Alkalinity(mg/l)	46	-	-	-	12	22	26	48	68	52	58	70
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0.2	0	0
24	Sodium(mg/l)	1497	-	-	-	83.2	4.3	88.5	422.6	3103	2836	5165	2583
25	Potassium(mg/l)	271.9	-	-	-	2.5	2.1	5.9	37	101.7	130.1	152	167.2
26	Calcium as CaCO3(mg/l)	600	-	-	-	0	8	16	106	400	600	600	2000
27	Magnesium(mg/l)	4454.2	-	-	-	0.97	1.5	6.8	126.9	340	534.6	583	878.8

Table 3 v - RIVER SELAULIM LAKE AT SELAULIM, SANGUEM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.64	7.5	6.49	6.63	6.51	6.94	7.86	7.12	6.85	7.05	7.27	7.24
2	Temperature ˚C	31	30	29.4	27.2	27.4	29.5	32	29.5	29	27	27.2	27.5
3	Conductivity µs/cm	48.7	53.8	50.5	49.75	44.18	44.07	1370	42.72	44.9	44.09	42.2	99.03
4	Dissolved Oxygen mg/l	7.8	6.8	6.2	7.6	7.7	8.3	7.8	7.8	7.5	6.4	7.6	7..8
5	Turbidity (NTU)	1.24	1.79	2.24	3.46	1.73	2.68	1.13	1.36	1.24	1.02	1.22	3.28
6	Nitrite Nitrogen mg/l	0.001	0.001	0.002	0.003	0.001	0.004	0.001	BDL	0.001	0.001	0.001	0.001
7	Nitrogen(Nitrate) mg/l	BDL	BDL	0.08	0.26	0.14	0.04	0.08	0.1	0.073	0.04	0.02	0.46
8	Phosphate mg/l	0.01	0.095	0.012	0.01	0.02	0.003	0.032	0.006	0.002	0.01	0.01	0.003
9	BOD mg/l	1.8	1.5	0.3	1.2	0.4	1.4	0.5	1.8	0.9	0.7	1.2	3.8
10	COD mg/l	5	13	9	5	11	7	13	1	18	1	-	-
11	Chloride mg/l	5.3	24.49	5.87	3.91	10.93	4.5	10.5	9	1.93	3	5	14.6
12	Fecal Coliform MPN/100 ml	790	130	130	130	130	78	78	23	2	2	-	4.5
13	Total Coliform MPN/100 ml	2400	210	170	240	240	130	140	79	4	4.5	4.5	7.8
14	Ammonia mg/l	0.13	0.04	0.008	0.08	0.02	0.013	0.005	0.046	0.19	0.07	0.01	0.06
15	Total Dissolved Solids(mg/l)	22	-	-	-	84	54	50	27	26	201	191	48
16	Total Fixed Solids (mg/l)	75	-	-	-	67	40	10	13	9	73	68	-
17	Total Suspended Solid (mg/l)	3	-	-	-	4	9	38	3	2	3	4	2
18	Hardness(mg/l)	12	-	-	-	10	40	8400	78	14	20	62	18
19	Fluoride(mg/l)	0.54	-	-	-	0.57	0.62	0.1	0.47	0.063	0.1	0.05	0.004
20	Boron(mg/l)	0.69	-	-	-	6.5	15.2	25	13.7	1.23	0.1	2.6	0.76
21	Sulphate (mg/l)	2.46	-	-	-	3.11	1.9	0.4	1.1	0.897	0.9	12.5	6.4
22	Total Alkalinity(mg/l)	BDL	-	-	-	18	64	30	242	38	20	28	20
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	17.8	-	-	-	4.3	5786	453	24.3	3.2	6.9	12.1	3.8
25	Potassium(mg/l)	15.8	-	-	-	2.1	4.1	12.8	4.2	1.1	4	0.6	1.5
26	Calcium as CaCO3(mg/l)	3.21	-	-	-	4	32	1800	22	10	8	6	3
27	Magnesium(mg/l)	0.97	-	-	-	1.5	2	1603.8	13.6	0.97	2.9	13.6	2.4

Table 3 w - RIVER SAL AT RUMDER, NUVEM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.5	7.08	5.9	5.9	6.13	6.5	6.94	6.45	6.4	7.71	6.76	7.49
2	Temperature ˚C	32.1	31	26.6	25.6	28.5	28.3	32.7	28	29	26.1	29	28.7
3	Conductivity µs/cm	150.6	156.5	74.85	62.8	78	80.5	1362	124.96	127.08	126.84	141.79	128.4
4	Dissolved Oxygen mg/l	2.9	4.7	5	5.6	5.51	6.1	5.5	0.4	4	4	3.5	4.0
5	Turbidity (NTU)	9.75	10.2	65.9	27.8	17	27.6	19.5	20.9	13.1	14.3	21	7.71
6	Nitrite Nitrogen mg/l	0.003	0.05	0.028	0.027	0.01	0.062	BDL	0.044	0.006	0.002	0.011	0.003
7	Nitrogen(Nitrate) mg/l	BDL	0.21	0.56	0.31	0.3	0.51	1.93	1.28	0.086	0.09	0.261	0.08
8	Phosphate mg/l	0.008	0.02	0.09	0.07	0.02	0.075	0.01	0.105	0.033	0.04	0.182	0.01
9	BOD mg/l	1.4	4.7	1.7	1.2	NA	2.1	0.8		3	3.2	2.4	3.1
10	COD mg/l	12	24	4	7	9	16	4	14	19	18	-	19
11	Chloride mg/l	22.3	14205	17.99	125	1199.6	99.9	13.7	14.19	18.99	20	10	23.48
12	Fecal Coliform MPN/100 ml	7900	17000	17000	7900	4900	7900	2300	4900	780	790	1700	2300
13	Total Coliform MPN/100 ml	17000	35000	35000	11000	7000	13000	4900	7900	1300	1100	3300	3300
14	Ammonia mg/l	0.03	0.58	0.12	0.85	0.06	0.026	0.06	0.368	0.34	0.001	0.488	0.16
15	Total Dissolved	84	-	-	-	38	35	155	160	28	610	707	56

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
	Solids(mg/l)												
16	Total Fixed Solids (mg/l)	168	-	-	-	25	20	-	115	16	498	533	13
17	Total Suspended Solid (mg/l)	20	-	-	-	14	12	61	84	20	6	11	11
18	Hardness(mg/l)	2500	-	-	-	24	82	20	32	1200	32	78	40
19	Fluoride(mg/l)	0.66	-	-	-	0.4	0.86	0.02	0.061	0.37	0.16	0.72	0.27
20	Boron(mg/l)	0.05	-	-	-	0.9	3.7	0.64	4.661	4.57	2.1	3.44	3.03
21	Sulphate (mg/l)	6.32	-	-	-	7.1	3.9	1.9	8.21	22.88	2	15.17	1.42
22	Total Alkalinity(mg/l)	24	-	-	-	20	96	26	40	36	56	740	38
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	10.5	-	-	-	11.2	12	9.8	9.1	18.6	17.8	42	9.5
25	Potassium(mg/l)	14.5	-	-	-	3	4.1	3.8	4	5.3	5.2	2.7	2.5
26	Calcium as CaCO3(mg/l)	481	-	-	-	14	42	14	18	800	24	36	24
27	Magnesium(mg/l)	315.9	-	-	-	2.4	9.7	1.46	3.4	97.2	1.9	10.2	3.9

Table 3 x - RIVER SAL AT ORLIM BRIDGE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.37	7.14	6.36	5.71	7.46	7	6.85	7.78	7.1	6.98	7.24	6.74
2	Temperature ˚C	33.3	31	27.3	25.1	29.5	30.7	32.7	30	29	27.8	28	29
3	Conductivity µs/cm	16860	15320	1244	159.1	356	397	5.448	5093	25440	29250	29430	15060
4	Dissolved Oxygen mg/l	6.8	7.1	3.6	5	3.84	5.2	4.4	3.8	5.1	5.7	4.7	5.5
5	Turbidity (NTU)	8.43	11.1	46.8	22	9.41	10.6	4.61	6.93	8.55	7.53	4.55	4.94
6	Nitrite Nitrogen mg/l	0.033	0.003	0.035	0.035	0.01	0.028	0.02	0.04	0.012	0.01	0.005	0.020
7	Nitrogen(Nitrate) mg/l	0.07	0.07	0.35	0.41	0.35	0.44	0.87	0.69	0.196	0.19	0.006	0.14
8	Phosphate mg/l	0.06	0.04	0.1	0.05	0.01	0.045	0.02	0.036	0.009	0.03	BDL	0.05
9	BOD mg/l	4.7	3.4	2.6	1.3	NA	2.6	2.2	1.6	2.4	2.5	3	3.0
10	COD mg/l	27	12	10	12	13	29	9	18			13	-
11	Chloride mg/l	6265.1	22340.6	1999	26	28	124.9	1311.08	1761.16	1.2496	11996	20744	12719.5
12	Fecal Coliform MPN/100 ml	2300	17000	7900	4900	4900	4900	2300	7000	3300	2300	2300	1300
13	Total Coliform MPN/100 ml	4900	28000	17000	7900	7900	13000	3300	11000	4900	3300	3300	3300
14	Ammonia mg/l	0.64	0.16	0.79	0.03	0.07	0.023	0.07	0.255	0.126	0.09	0.157	0.45
15	Total Dissolved Solids(mg/l)	13394	-	-	-	190	172	2624	3185	3452	47899	49500	10886
16	Total Fixed Solids (mg/l)	17828	-	-	-	80	70	-	2415	36	19000	19856	3727.0
17	Total Suspended Solid (mg/l)	26	-	-	-	25	30	33	16	19	154	166	31
18	Hardness(mg/l)	2200	-	-	-	42	22	600	2300	8000	9500	8600	1116
19	Fluoride(mg/l)	1.19	-	-	-	0.65	0.68	0.22	0.388	1.12	1.25	0.46	0.65
20	Boron(mg/l)	0.16	-	-	-	2.9	3.2	3.56	4.915	4.9	3.4	13.64	4.07
21	Sulphate (mg/l)	657.3	-	-	-	10.5	12.3	82.56	160.56	517.1	652.1	1474.72	99.1
22	Total Alkalinity(mg/l)	54	-	-	-	24	56	54	58	68	152	1060	104
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	883	-	-	-	60.5	70.6	659.8	374.8	5320	575	10811	2002
25	Potassium(mg/l)	122.5	-	-	-	6	6.3	40.9	33.2	159.4	173.4	300.5	102.6
26	Calcium as CaCO3(mg/l)	280.6	-	-	-	24	12	86	1000	2800	2500	1600	300
27	Magnesium(mg/l)	364.5	-	-	-	4.4	2.4	124.9	315.9	1263.6	1701	1701	198.3

Table 3 y - RIVER SAL AT KHAREBAND, MARGAO 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	Sam	Samp	6.06	5.8	6.2	6.45	7.04	6.56	7.01	6.8	6.75	6.9

2	Temperature ˚C	ple	le not	26.9	25.7	29.6	28.4	30.1	29	31	26.7	28.7	28.9
3	Conductivity µs/cm	not	collec	114.5	89.5	107.9	116.4	1445	163.72	456.35	302.5	592.4	267.3
4	Dissolved Oxygen mg/l	colle	ted	2.1	4.2	3.36	5.2	2.8	1.7	1	1.4	1.4	1.1
5	Turbidity (NTU)	cted		56.9	18.7	8.62	12.9	12	18.7	16.3	26	19.6	14
6	Nitrite Nitrogen mg/l			0.036	0.034	0.02	0.003	0.01	0.0007	0.011	0.05	0.011	0.004
7	Nitrogen(Nitrate) mg/l			0.47	0.5	3.7	0.61	3.54	2.12	0.081	2.5	0.278	0.09
8	Phosphate mg/l			0.09	0.06	0.02	0.069	0.05	0.091	0.23	0.13	BDL	0.10
9	BOD mg/l			1.1	1.3	NA	2.5	2.5		3.2	32	1.2	0.9
10	COD mg/l			8	11	12	13	21	21		81	15	11
11	Chloride mg/l			12.5	10	200	99.9	25.9	18.59	2499.2	43.5	22	42.6
12	Fecal Coliform MPN/100 ml			13000	7900	7000	3300	13000	4900	13000	24000	35000	17000
13	Total Coliform MPN/100 ml			24000	13000	11000	4900	17000	7900	17000	35000	54000	35000
14	Ammonia mg/l			0.27	0.11	0.07	0.012	0.23	0.055	0.059	0.01	0.104	0.59
15	Total Dissolved Solids(mg/l)			-	-	60	50	134	194	88	178	153	451
16	Total Fixed Solids (mg/l)			-	-	40	32	-	147	41	123	98	94
17	Total Suspended Solid (mg/l)			-	-	13	10	15	45	38	36	21	14
18	Hardness(mg/l)			-	-	30	42	34	44	2000	58	38	100
19	Fluoride(mg/l)			-	-	0.6	0.61	0.08	0.184	0.21	0.4	0.73	0.25
20	Boron(mg/l)			-	-	1	3.6	3.82	4.322	4.43	2	17.29	6.2
21	Sulphate (mg/l)			-	-	6.4	3.4	3.51	8.78	9.15	13.1	10.46	13.2
22	Total Alkalinity(mg/l)			-	-	20	90	34	42	40	80	420	58
23	Phenolphthalein Alkalinity(mg/l)			-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)			-	-	11..5	13.7	19	13.4	98.1	44.1	9.3	21.5
25	Potassium(mg/l)			-	-	4.3	3.8	5.3	3.9	7.8	6.2	1.9	3.2
26	Calcium as CaCO3(mg/l)			-	-	18	24	22	24	1200	36	24	40
27	Magnesium(mg/l)			-	-	2.9	4.3	2.92	4.86	194.4	5.3	3.4	14.6

Table 3 z - RIVER TIRACOL AT KERI, PERNEM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.96	7.95	7.08	7.07	6.77	6.68	7.49	7.6	7.5	8.29	7.89	7.17
2	Temperature ˚C	33	31.3	32	29.2	28.3	28.5	30	30.2	28.4	27	28.2	28
3	Conductivity µs/cm	53550	54200	54700	33200	2646	1850	40000	53300	45140	54770	59600	49890
4	Dissolved Oxygen mg/l	6	6.5	6.3	6.5	7.1	6.9	5.8	6.5	6.5	6.2	6.2	6.2
5	Turbidity (NTU)	6.04	8.44	7.04	5.08	10.5	7.66	2.6	7.37	3.42	29.8	7.64	8.56
6	Nitrite Nitrogen mg/l	0.004	0.005	0.0004	0.047	0.007	0.006	0.061	0.014	0.004	0.01	0.01	0.004
7	Nitrogen(Nitrate) mg/l	0.001	0.01	0.034	0.08	0.07	0.07	0.81	0.06	0.104	0.027	0.14	0.007
8	Phosphate mg/l	0.03	0.01	0.01	0.02	0.01	0.025	0.042	0.026	0.09	0.04	0.02	0.03
9	BOD mg/l	1.9	2.2	2.3	2	2.3	1.2	1.4	2.2	4	0.9	4.2	1.1
10	COD mg/l			28		8	7	36				-	-
11	Chloride mg/l	17970	19669.4	22493	12475	499.85	1200	21243	15995	16245	18091	20640	20369
12	Fecal Coliform MPN/100 ml	450	450	780	490	790	2400	790	790	230	790	490	490
13	Total Coliform MPN/100 ml	450	780	1100	700	1300	5400	1300	1100	490	1700	700	790
14	Ammonia mg/l	0.02	0.014	0.003	0.02	0.04	0.002	0.002	0.061	0.15	0.07	0.15	0.003
15	Total Dissolved Solids(mg/l)	50144	-	-	-	102	150	200	28	174	42721	37669	51340
16	Total Fixed Solids (mg/l)	33439	-	-	-	95	92	110	169	93	31751	19752	39080
17	Total Suspended Solid (mg/l)	102	-	-	-	18	20	28	83	32	178	174	203
18	Hardness(mg/l)	7000	-	-	-	254	130	7800	5600	12000	6750	6400	15400
19	Fluoride(mg/l)	BDL	-	-	-	0.54	0.49	1.36	1.2	1.4	1.57	0.27	0.9
20	Boron(mg/l)	8.6	-	-	-	3.67	0.6	16	13.1	11.3	4.08	3.09	4.9
21	Sulphate (mg/l)	2607.5	-	-	-	954.09	301.6	892.3	979.3	992.9	2873	2873	1467.6
22	Total Alkalinity(mg/l)	128	-	-	-		180	242	204	90	92	84	100
23	Phenolphthalein Alkalinity(mg/l)	8	-	-	-	0	0	0	0	0	6	8	0
24	Sodium(mg/l)	1957	-	-	-	422.9	314.3	8496	10171	8533	10486	10486	4344
25	Potassium(mg/l)	384	-	-	-	24.7	17.9	335	251.7	232.2	31.6	315.6	227.3

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
26	Calcium as CaCO3(mg/l)	480.96	-	-	-	58	24	2200	2200	2800	1000	1000	1600
27	Magnesium(mg/l)	1409.4	-	-	-	47.6	25.8	1360	826.2	2235.6	1397	1312	3353

Table 3 aa - RIVER CHAPORA NEAR SIOLIM BRIDGE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.77	7.66	7.37	7.3	6.45	6.99	6.83	7.81	7.64	7.76	6.95	6.91
2	Temperature ˚C	31	32.9	32.7	29.8	26.9	28.6	28	29.3	28.3	28	28.5	28
3	Conductivity µs/cm	52380	35100	34900	26430	293.7	207.7	1386	48750	25510	39770	45000	32020
4	Dissolved Oxygen mg/l	5.5	5.7	6	6.5	7.1	7.3	6.99	5.4	6.2	5.5	6.4	6.2
5	Turbidity (NTU)	4.5	14.2	4.58	8.25	10.3	9.06	21.7	3.12	2.65	5.71	2.38	7.13
6	Nitrite Nitrogen mg/l	0.007	0.007	0.001	0.025	0.005	0.006	0.001	0.011	0.005	0.01	0.01	0.004
7	Nitrogen(Nitrate) mg/l	0.01	0.03	0.03	0.1	0.1	0.07	0.28	0.06	0.14	0.15	0.15	0.01
8	Phosphate mg/l	0.03	0.008	0.02	0.028	0.01	0.028	0.039	0.031	0.02	0.04	0.021	0.03
9	BOD mg/l	0.9	2.6	2.1	1.8	0.5	0.9	0.71	2.1	2.5	1.9	1.8	-
10	COD mg/l			29	40	3	4	65				-	-
11	Chloride mg/l	18698	18940.9	17495	9589	2	699.8	124.9	13121	13121	17909	18091	13771
12	Fecal Coliform MPN/100 ml	4900	3300	4900	7900	7900	7900	4900	4900	11000	13000	7900	4900
13	Total Coliform MPN/100 ml	13000	7900	13000	17000	14000	13000	7900	7900	17000	22000	11000	7000
14	Ammonia mg/l	0.02	0.04	0.07	0.02	0.01	0.011	0.027	0.005	0.17	0.22	0.19	0.003
15	Total Dissolved Solids(mg/l)	40000	-	-	-	110	105	110	112	125	30623	34536	29926
16	Total Fixed Solids (mg/l)	31060	-	-	-	95	82	32	88	89	22151	22648	18802
17	Total Suspended Solid (mg/l)	56	-	-	-	15	15	12	22	29	30	147	99
18	Hardness(mg/l)	6500	-	-	-	18	16	20	4800	8000	5000	4800	5200
19	Fluoride(mg/l)	BDL	-	-	-	0.57	0.43	0.14	1.1	1.2	1.33	0.24	0.92
20	Boron(mg/l)	8.4	-	-	-	1.04	0.6	17	13.2	13.7	2.81	1.88	5.7
21	Sulphate (mg/l)	2650.5	-	-	-	6.79	3.9	2.1	883.2	311.2	2206	2206	957.1
22	Total Alkalinity(mg/l)	124	-	-	-	26	106	48	186	60	76	70	78
23	Phenolphthalein Alkalinity(mg/l)	6	-	-	-	0	0	0	0	0	0	4	0
24	Sodium(mg/l)	1885	-	-	-	48.3	35.3	8	9432	4841	6639	6639	3145
25	Potassium(mg/l)	389.4	-	-	-	5	4	3.3	231.2	150.1	188	187.5	177
26	Calcium as CaCO3(mg/l)	521.04	-	-	-	14	6	18	2000	2400	750	800	1600
27	Magnesium(mg/l)	1263.6	-	-	-	0.97	2.4	0.5	680.4	1360.8	1033	972	878

Table 3 ab - RIVER SINQUERIM, CANDOLIM SIDE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.6	7.6	7.26	7.89	6.87	7.46	7.49	7.55	7.44	8.33	6.88	6.59
2	Temperature ˚C	34	33	33.8	27	28	28.3	30.5	29.8	28.7	28	29	29
3	Conductivity µs/cm	52220	54800	53500	49340	2843	32700	40250	50630	48580	54440	58500	48140
4	Dissolved Oxygen mg/l	6	5.3	5.2	5.9	7.12	5.8	6.22	5.2	5	5.9	6.1	5.2
5	Turbidity (NTU)	3.8	17.5	12	24.2	25.1	4.87	6.29	7.11	8.44	3.3	4.09	8.68
6	Nitrite Nitrogen mg/l	0.007	0.01	0.003	0.021	0.01	0.221	0.122	0.03	0.009	0.02	0.005	0.005
7	Nitrogen(Nitrate) mg/l	BDL	0.03	0.04	0.116	0.1	BDL	0.01	0.05	0.1	0.04	0.2	0.02
8	Phosphate mg/l	0.024	0.02	0.004	0.04	0.02	0.03	0.069	0.029	0.02	0.02	0.012	0.02
9	BOD mg/l	1.6	1.7	1.3	2.2	2	1.7	2.05	1.4	2.3	1.2	1.6	1.3
10	COD mg/l					14	34	48				-	-
11	Chloride mg/l	18212	26954.4	20744	19669	1624.5	14396	16870	17495	18119	20155	24768	18557
12	Fecal Coliform MPN/100 ml	2300	4900	2300	4900	4900	4900	2300	4900	3300	2300	1300	1300
13	Total Coliform MPN/100 ml	4900	7900	4900	7900	7000	7000	3300	7900	4900	3300	2300	2300
14	Ammonia mg/l	0.02	0.03	0.03	0.006	0.05	0.009	0.026	0.007	0.08	0.09	0.14	0.007
15	Total Dissolved Solids(mg/l)	39900	-	-	-	201	180	150	156	163	40830	44038	55947
16	Total Fixed Solids	25973	-	-	-	150	90	80	76	81	36078	31519	29408

	(mg/l)												
17	Total Suspended Solid (mg/l)	86	-	-	-	38	25	20	31	34	30	145	82
18	Hardness(mg/l)	6400	-	-	-	264	88	5000	16	14000	6500	6400	6200
19	Fluoride(mg/l)	0.32	-	-	-	0.14	1.3	1.03	1.1	1.3	1.49	0.27	0.73
20	Boron(mg/l)	10.5	-	-	-	1.3	17.8	19	21.4	19.7	4.03	2.52	3.7
21	Sulphate (mg/l)	2521.5	-	-	-	1503.2	1710	388.9	832.8	379.8	3196.2	3196	957.1
22	Total Alkalinity(mg/l)	120	-	-	-	32	40	230	20	88	94	86	88
23	Phenolphthalein Alkalinity(mg/l)	4	-	-	-	0	0	0	0	0	4	6	0
24	Sodium(mg/l)	1856	-	-	-	462.2	5509	7121	11362	9609	8490	8490	3942
25	Potassium(mg/l)	352.4	-	-	-	28.3	283.5	297.9	282.5	245	328	328.3	184.4
26	Calcium as CaCO3(mg/l)	641.28	-	-	-	58	22	4000	10	5600	1250	1100	4000
27	Magnesium(mg/l)	1166.4	-	-	-	50	16	243	1.5	2041.2	1276	1287	534.6

Table 3 ac - RIVER SINQUERIM, NEAR GANPATI TEMPLE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.17	7.51	7.41	7.69	6.84	7.46	7.37	7.44	7.52	8.35	6.8	7.34
2	Temperature ˚C	33	33.4	33.2	28	28	28.1	30.7	29.9	29.6	28	29	29.3
3	Conductivity µs/cm	52890	54500	53700	49120	2758	35900	40420	50960	49360	54180	58820	48440
4	Dissolved Oxygen mg/l	6	5.5	5	5.5	7.1	5.3	5.16	5.85	4.8	5.3	5.7	5.1
5	Turbidity (NTU)	5.24	14.8	10.7	24.8	19.3	3.9	21	8.11	17.2	11	7.79	9.01
6	Nitrite Nitrogen mg/l	0.009	0.011	0.005	0.033	0.006	0.377	0.031	0.034	0.012	0.02	0.004	0.005
7	Nitrogen(Nitrate) mg/l	0.07	0.04	0.04	0.15	0.13	BDL	0.5	0.07	0.011	0.09	0.14	0.03
8	Phosphate mg/l	0.05	0.007	0.011	0.062	0.03	0.03	0.089	0.036	0.03	0.15	0.021	0.01
9	BOD mg/l	1.2	1.4	1.4	1.1	2.1	1.4	1.43	1.8	2	1.7	1.3	0.9
10	COD mg/l					9	20	59				-	-
11	Chloride mg/l	18941	16876.9	28866	18941	624.8	99.9	16870	19619	20993	22462	24040	22830
12	Fecal Coliform MPN/100 ml	7900	7900	7900	3200	3300	7900	7900	3300	2300	3300	2300	2300
13	Total Coliform MPN/100 ml	17000	13000	17000	4600	4900	14000	17000	4900	3300	4600	3300	3300
14	Ammonia mg/l	0.05	0.002	0.05	0.035	0.08	0.028	0.021	0.006	0.15	0.27	0.1	0.003
15	Total Dissolved Solids(mg/l)	40224	-	-	-	121	120	110	128	158	42260	40932	38452
16	Total Fixed Solids (mg/l)	33294	-	-	-	114	70	75	65	71	31602	19838	19252
17	Total Suspended Solid (mg/l)	56	-	-	-	32	20	22	24	26	71	145	165
18	Hardness(mg/l)	7200	-	-	-	270	7600	5000	28	12000	6500	6500	7800
19	Fluoride(mg/l)	BDL	-	-	-	0.68	1.3	1.03	1.3	1.2	1.51	0.28	0.78
20	Boron(mg/l)	9.8	-	-	-	1.3	3.7	19	11	11.9	4.36	2.63	5.5
21	Sulphate (mg/l)	2569.3	-	-	-	1867	2040	388.9	846.6	1400.26	3131	3131	1765.4
22	Total Alkalinity(mg/l)	122	-	-	-	36	90	230	56	98	94	84	100
23	Phenolphthalein Alkalinity(mg/l)	6	-	-	-	0	0	0	0	0	0	8	0
24	Sodium(mg/l)	1996	-	-	-	459	6131	7121	10064	10192	10114	10114	4626
25	Potassium(mg/l)	381.7	-	-	-	30	306.8	297.9	253.8	248.2	293	293.2	252.3
26	Calcium as CaCO3(mg/l)	601.2	-	-	-	52	3800	4000	26	4400	1250	900	200
27	Magnesium(mg/l)	1385.1	-	-	-	52.9	923	243	0.49	1846.8	1276	1360	1409

Table 3 ad - RIVER MANDOVI AT IFFI JETTY 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	8	7.68	6.59	7.77	7.09	6.72	8.12	8.01	7.6	7.47	8.69	7.89
2	Temperature ˚C	31.5	32.9	31.2	31	28	28.9	29.2	29.2	29.1	28.2	29	27
3	Conductivity µs/cm	49340	51300	49860	50200	506.68	2662	46810	51500	50500	72600	52450	52300
4	Dissolved Oxygen mg/l	6.3	5.7	5.6	8.6	7.5	7.4	6	6.5	5	6.7	6.8	5.9
5	Turbidity (NTU)	13.4	12.9	19.9	13.4	34.3	11.6	5.1	7.91	3.6	30.3	1.83	10.4
6	Nitrite Nitrogen mg/l	0.003	BDL	0.009	0.14	0.014	0.008	0.057	0.016	0.018	0.022	0.005	0.008
7	Nitrogen(Nitrate) mg/l	0.13	BDL	0.05	0.02	0.16	0.14	0.28	0.06	0.057	0.035	0.07	0.02
8	Phosphate mg/l	0.03	0.15	0.03	0.03	0.048	0.024	0.041	0.018	0.001	0.001	0.016	0.05
9	BOD mg/l	3.2	1.2	1.9	4.2	1.6	1	1.2	5	3.1	1.8	0.5	1.1

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
10	COD mg/l					55	5	68				32	-
11	Chloride mg/l	17970	20397.9	19813	17595	366.9	1999	20119	20244	21892.2	10127	22601.5	29316
12	Fecal Coliform MPN/100 ml	1300	2300	2300	4900	7000	7900	2300	2300	2300	1700	790	790
13	Total Coliform MPN/100 ml	3300	3300	4900	7000	11000	13000	4900	3300	4900	3300	2400	1300
14	Ammonia mg/l	0.01	0.03	0.14	0.09	0.106	0.013	0.031	0.063	0.013	0.049	0.028	0.006
15	Total Dissolved Solids(mg/l)	46770	-	-	-	250	212	180	20	22997	46361	53483	-
16	Total Fixed Solids (mg/l)	29216	-	-	-	169	170	120	224	18306	34313	32695	-
17	Total Suspended Solid (mg/l)	187	-	-	-	18	22	21	161	24	21	143	-
18	Hardness(mg/l)	6000	-	-	-	30	234	6200	5000	7200	9400	6600	9400
19	Fluoride(mg/l)	1.4	-	-	-	0.44	0.55	1.15	1.1	1.55	0.57		0.84
20	Boron(mg/l)	0.52	-	-	-	0.21	15.2	21	14.8	15.46	3.25		7.5
21	Sulphate (mg/l)	2125.6	-	-	-	20.43	114	617.8	1002.1	330.5	1023.2	1809.37	1503.1
22	Total Alkalinity(mg/l)	18	-	-	-	18	20	226	230	130	96	112	98
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	16	0.2	0
24	Sodium(mg/l)	18.55	-	-	-	78.3	434.9	8226	11242	10324	10474	6827	4698
25	Potassium(mg/l)	344.4	-	-	-	6.1	25.5	328.4	276.1	221	267	253.9	250
26	Calcium as CaCO3(mg/l)	200.4	-	-	-	16	50	2600	4000	1800	2000	1100	1600
27	Magnesium(mg/l)	1336.5	-	-	-	3.4	44.7	874.8	243	1312.2	1798.2	1336.5	1895

Table 3 ae - RIVER MANDOVI NEAR HOTEL MARIOTT 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	8	7.76	6.77	7.62	6.93	6.56	8.07	8.39	7.63	7.7	8.88	7.93
2	Temperature ˚C	31.5	32.7	31	33	27.8	27.8	29	29.4	28.9	28.5	29	27.2
3	Conductivity µs/cm	50720	51.8	49260	50200	421.26	3960	45730	51100	51500	72300	52700	52800
4	Dissolved Oxygen mg/l	6.3	5.9	5.8	6	7.8	7.3	5.9	6.6	5.4	5.7	6.6	6.1
5	Turbidity (NTU)	6.16	5.89	6.77	18	34.1	12	13.9	14.5	4.63	10.1	3.55	13.4
6	Nitrite Nitrogen mg/l	0.002	0.009	0.011	0.004	0.014	0.007	0.085	0.018	0.029	0.03	0.01	0.008
7	Nitrogen(Nitrate) mg/l	0.08	0.078	0.08	0.02	0.32	0.12	0.19	0.05	0.041	0.06	0.03	0.02
8	Phosphate mg/l	0.008	0.205	0.01	0.03	0.035	0.023	0.045	0.023	0.001	0.001	0.024	0.03
9	BOD mg/l	2.8	1.8	2.3	2.4	1.9	1.7	1.8	4.4	1.9	0.5	1	1.2
10	COD mg/l					13	7	61				58	-
11	Chloride mg/l	21734	19669.4	20547	19394	733.8	2199	103.9	25992	37791.5	18317	23090.7	25155
12	Fecal Coliform MPN/100 ml	450	780	1300	7900	7900	4900	3300	1300	490	330	130	2400
13	Total Coliform MPN/100 ml	780	1300	1700	13000	13000	7900	4900	2300	700	460	230	9200
14	Ammonia mg/l	0.02	0.078	0.01	0.11	0.095	0.015	0.039	0.005	0.015	0.053	0.03	0.004
15	Total Dissolved Solids(mg/l)	46095	-	-	-	157	100	90	35	21172	76010	45875	-
16	Total Fixed Solids (mg/l)	30025	-	-	-	121	80	70	105	15667	45282	33521	-
17	Total Suspended Solid (mg/l)	154	-	-	-	17	32	30	72	16	26	142	-
18	Hardness(mg/l)	6000	-	-	-	26	360	5600	5000	1800	14000	6900	7800
19	Fluoride(mg/l)	1.3	-	-	-	0.24	0.45	1.02	1.3	1.44	0.15		0.06
20	Boron(mg/l)	0.18	-	-	-	0.21	8.3	22	10.9	13.39	3.32		7.2
21	Sulphate (mg/l)	2835.6	-	-	-	18.72	45.1	543.4	1432.3	419.8	1108.6	1383.97	1411
22	Total Alkalinity(mg/l)	18	-	-	-	20	40	224	202	134	94	102	92
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	8	0.2	0
24	Sodium(mg/l)	1843	-	-	-	63.4	614	8083	12084	10013	10679	7136	5147
25	Potassium(mg/l)	342.4	-	-	-	5.2	37.4	324.1	275.9	246	269	258	250.4
26	Calcium as CaCO3(mg/l)	801.6	-	-	-	20	74	2000	2400	1400	2800	900	2000
27	Magnesium(mg/l)	972	-	-	-	1.46	69.4	874.8	631.8	1117.8	2721	1458	1409

Table 3 af - RIVER MANDOVI AT AMONA 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.1	6.21	6.04	6.86	6.03	6.52	6.79	6.25	6.99	6.33	7.17	7.11
2	Temperature ˚C	33.5	32.7	29.4	27	27.2	27.5	29.2	28.1	28	28.1	29	27.5
3	Conductivity µs/cm	36200	33950	829.6	249.48	164.9	181.7	1620	1764	9211	19750	25940	28970
4	Dissolved Oxygen mg/l	5.5	5.9	6.5	7.1	7.1	6.6	6.9	6.5	6.5	6.6	6.1	6
5	Turbidity (NTU)	7.04	8.7	11.2	15	20.2	8.28	7.01	8.06	12.5	48.9	7.33	8.61
6	Nitrite Nitrogen mg/l	0.078	0.03	0.005	0.002	0.009	0.002	0.005	0.004	0.006	0.021	0.005	0.01
7	Nitrogen(Nitrate) mg/l	0.33	0.88	0.28	0.147	0.14	0.26	0.118	0.04	0.084	0.17	1.63	0.03
8	Phosphate mg/l	0.01	0.02	0.01	0.01	0.025	0.002	0.012	0.018	0.013	0.048	0.01	0.03
9	BOD mg/l	1.3	1.4	1.6	1.1	0.3	0.6	0.8	0.5	0.8	1.9	1	1.9
10	COD mg/l	25	17	5	14	13	7	7	9		32	-	-
11	Chloride mg/l	20914	13502.2	244.6	364.25	1589.9	391.4	122.3	1834.5	3180	5479.1	13697.8	11859
12	Fecal Coliform MPN/100 ml	3300	7900	7900	13000	11000	4900	7000	4600	7900	11000	4900	5200
13	Total Coliform MPN/100 ml	4900	13000	11000	17000	14000	9400	11000	9400	13000	17000	7900	9200
14	Ammonia mg/l	0.14	0.07	0.08	0.04	0.033	0.012	0.029	0.122	0.063	0.036	0.002	0.006
15	Total Dissolved Solids(mg/l)	25417	-	-	-	298	284	151	1090	7367	16274	18670	19010
16	Total Fixed Solids (mg/l)	20469	-	-	-	214	177	106	251	3202	10171	4883	5000
17	Total Suspended Solid (mg/l)	109	-	-	-	8	7	4	15	25	65	14	16
18	Hardness(mg/l)	5000	-	-	-	4	16	12	182	1800	2300	2200	4200
19	Fluoride(mg/l)	1.51	-	-	-	0.5	0.07	0.75	0.06	0.52	0.89	0.27	0.71
20	Boron(mg/l)	33.15	-	-	-	0.16	4.02	15.06	5.26	2.2	37.212	16.75	5.0
21	Sulphate (mg/l)	1191.7	-	-	-	3.44	3.87	24.38	127.5	158.7	161.04	1012.45	560
22	Total Alkalinity(mg/l)	46	-	-	-	12	26	22	36	58	14	58	64
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0.2	0	0
24	Sodium(mg/l)	1455	-	-	-	83.2	21.1	38	190.9	1440	8.9	5052	3062
25	Potassium(mg/l)	242.4	-	-	-	2.5	4	4.1	10	51.5	1.9	122.5	158.8
26	Calcium as CaCO3(mg/l)	400	-	-	-	0	6	12	34	600	600	800	1600
27	Magnesium(mg/l)	4902.8	-	-	-	0.97	2.4	0	36	291.6	413	340.2	632

Table 3 ag - RAIA LAKE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	8.13	7.91	6.02	6.47	6.35	6.6	7.27	6.68	6.73	6.91	6.86	6.68
2	Temperature ˚C	34	34.9	31.1	27.4	27.3	29.3	31.9	28.3	29.1	27	28	28.9
3	Conductivity µs/cm	112.7	175.2	105.3	87.65	71.63	70.86	1406	90.47	83.9	99.68	94.69	111.2
4	Dissolved Oxygen mg/l	6.8	7.6	7.5	5.2	5.7	6	5.2	6	4	5	5.5	6.5
5	Turbidity (NTU)	21.3	108	56.2	8.83	8.19	2.71	2.45	0.49	2.21	3.06	2.43	6.47
6	Nitrite Nitrogen mg/l	0.004	0.023	0.04	0.007	0.01	0.001	0.001	0.002	0.042	0.001	0.002	0.003
7	Nitrogen(Nitrate) mg/l	0.2	BDL	0.34	0.15	0.22	0.01	0.01	0.01	0.117	0.05	0.02	0.02
8	Phosphate mg/l	0.005	0.1	0.097	0.02	0.017	0.013	0.004	0.004	0.004	0.01	0.007	0.01
9	BOD mg/l	5	7.8	2.7	1.6	1.6	1.6	3.7	1.3	1.9	2.1	1.7	2.5
10	COD mg/l	10	56	27	13	8	11	12	22	28	12	14	15
11	Chloride mg/l	17.97	40.49	14.2	8.81	12.83	1	9.5	8.5	6.27	7	10.5	18.0
12	Fecal Coliform MPN/100 ml	7900	13000	4900	1300	1300	3300	3300	1300	2400	230	230	230
13	Total Coliform MPN/100 ml	13000	24000	13000	2300	2300	4600	4600	2200	5400	330	490	490
14	Ammonia mg/l	0.52	0.13	0.13	0.08	0.029	0.006	0.015	0.032	0.03	0.16	0.04	0.29
15	Total Dissolved Solids(mg/l)	76	-	-	-	57	52	55	59	51	68	75	68
16	Total Fixed Solids (mg/l)	159.3	-	-	-	27	22	12	21	24	48	42	-
17	Total Suspended Solid (mg/l)	19.25	-	-	-	10	11	40	13	14	1	3	21
18	Hardness(mg/l)	16	-	-	-	10	84	16	44	24	24	24	26
19	Fluoride(mg/l)	0.57	-	-	-	0.49	0.57	0.22	0.42	0.163	0.2	0.06	0.03
20	Boron(mg/l)	0.44	-	-	-	6.61	11.9	19	7.1	1.09	0.06	2.1	1.72
21	Sulphate (mg/l)	15.11	-	-	-	9.69	3.1	1.3	4.1	2.231	1.6	2.8	3.8

22	Total Alkalinity(mg/l)		-	-	-	114	86	60	160	40	48	36	28
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	0.6	-	-	-	6.7	8.5	8.9	27.4	6.1	11.3	9.3	9.5
25	Potassium(mg/l)	14.3	-	-	-	2.8	3.3	3.3	4.8	3.1	5.6	2.9	4.3
26	Calcium as CaCO3(mg/l)	4.8	-	-	-	6	42	12	16	10	12	14	3
27	Magnesium(mg/l)	0.97	-	-	-	1	10.2	0.9	6.8	3.4	2.9	2.4	4.4

Table 3 ah - SAIPEM LAKE, NAVELIM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	Sample not collected as the water was dirty and stagnant	Sample not collected as the water was dirty and stagnant	6.4	6.65	6.75	7	7.14	7.03	7.19	7.6		
2	Temperature ˚C			27.4	27.8	30.1	29	30	30.2	29.3	28.3		
3	Conductivity µs/cm			267.43	264.9	209.81	256.2	1613	329	400	388.45		
4	Dissolved Oxygen mg/l			3.6	4.1	2.3	2	1	2.62	1	1		
5	Turbidity (NTU)			40.1	10.2	14.9	19.4	92	18.2	53.6	28.5		
6	Nitrite Nitrogen mg/l			0.09	0.24	0.211	0.002	0.01	0.09	0.03	0.006		
7	Nitrogen(Nitrate) mg/l			1.38	0.81	12.5	0.65	5.16	0.11	0.03	2.8		
8	Phosphate mg/l			0.08	0.06	0.451	0.161	1.7	0.114	0.16	0.77		
9	BOD mg/l			2.3	1.4	1.5	10	83	9	23	2.5		
10	COD mg/l			17	12	9	23	160	30	40	6		
11	Chloride mg/l			22.18	350	90	199.9	31.57	32.05	45.17	43.5		
12	Fecal Coliform MPN/100 ml			7900	4900	4600	7900	13000	13000	13000	13000		
13	Total Coliform MPN/100 ml			11000	7900	7000	13000	22000	17000	17000	22000		
14	Ammonia mg/l			0.79	0.53	0.81	0.27	1.58	13.5	0.17	0.004		
15	Total Dissolved Solids(mg/l)			-	-	226	210	968	230	241	2286		
16	Total Fixed Solids (mg/l)			-	-	69	80	460	205	219	197		
17	Total Suspended Solid (mg/l)			-	-	16	18	1462	12	142	43		
18	Hardness(mg/l)			-	-	40	16	72	154	70	68		
19	Fluoride(mg/l)			-	-	0.06	0.58	0.22	0.19	0.15	0.26		
20	Boron(mg/l)			-	-	0.86	5.5	4.47	6	0.2	0.7		
21	Sulphate (mg/l)			-	-	10.51	16.6	13.84	199.7	5.56	6.1		
22	Total Alkalinity(mg/l)			-	-	300	32	84	92	92	26		
23	Phenolphthalein Alkalinity(mg/l)			-	-	0	0	0	0	0	0		
24	Sodium(mg/l)			-	-	17.9	25.3	26	25	31	35.4		
25	Potassium(mg/l)			-	-	6.2	8	8.9	6.4	8	8.1		
26	Calcium as CaCO3(mg/l)			-	-	36	6	60	54	50	46		
27	Magnesium(mg/l)			-	-	1	2.4	2.916	24.3	4.86	5.3		

Table 3 ai - CURTORIM LAKE, CURTORIM 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	8.04	8.24	5.59	6.13	6.22	6.67	7.08	6.85	6.76	6.79	6.9	6.71
2	Temperature ˚C	34	33.8	30.9	27.6	27.5	28.5	31.7	28	29	26	28.7	28
3	Conductivity µs/cm	162.5	183.6	109.7	64.47	63.26	97.89	1480	105.25	111.6	128.25	121	132.4
4	Dissolved Oxygen mg/l	6.4	8.8	5.7	5.7	4.7	4	3.2	5	6.9	2.2	4.2	4.9
5	Turbidity (NTU)	8.85	40	39.4	26.4	8.11	5.59	20.2	4.35	8.42	6.42	5.97	5.41
6	Nitrite Nitrogen mg/l	0.002	0.02	0.02	0.015	0.04	0.002	0.623	0.002	0.536	0.002	0.003	0.002
7	Nitrogen(Nitrate) mg/l	0.15	BDL	0.07	0.06	0.14	BDL	0.13	0.01	0.167	0.12	BDL	BDL
8	Phosphate mg/l	0.01	0.18	0.05	0.05	0.03	0.009	0.012	0.007	0.002	0.04	0.04	0.02
9	BOD mg/l	3	7.6	2.4	1.9	1.7	2	2.5	2.2	4.6	4	2.5	4.6
10	COD mg/l	11	24	21	9	27	16	17	18	30	9	17	12
11	Chloride mg/l	18.94	29.49	16.6	6.36	16.63	8.5	17	15	7.71	13	14	19.4
12	Fecal Coliform MPN/100 ml	1300	2300	7900	7900	4900	3300	2300	7900	2300	2300	1300	2300
13	Total Coliform MPN/100 ml	2300	4900	21000	17000	7900	4900	4600	13000	3300	3300	2300	3300
14	Ammonia mg/l	0.4	0.06	0.03	0.06	0.016	0.005	0.018	0.057	0.006	0.01	0.1	0.31
15	Total Dissolved	89	-	-	-	75	82	80	82	110	84.2	84	105

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
	Solids(mg/l)												
16	Total Fixed Solids (mg/l)	172.71	-	-	-	57	50	13	45	57	52	49	-
17	Total Suspended Solid (mg/l)	21.35	-	-	-	15	12	50	17	65	6	8	13
18	Hardness(mg/l)	34	-	-	-	10	82	40	56	32	30	40	38
19	Fluoride(mg/l)	0.62	-	-	-	0.51	0.68	0.07	0.34	0.068	0.2	0.1	0.14
20	Boron(mg/l)	0.09	-	-	-	6.61	2.4	19	9.7	1.21	0.06	2.4	1.66
21	Sulphate (mg/l)	17.26	-	-	-	11.14	3.8	3.5	2	8.81	2.7	2.5	5.3
22	Total Alkalinity(mg/l)	10	-	-	-	9	24	98	176	46	78	40	48
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	3.9	-	-	-	5.7	10.2	20.5	31.1	7.3	13.7	16.8	10
25	Potassium(mg/l)	14.2	-	-	-	2.2	3.4	8.5	6.8	4.5	6	6.3	4.1
26	Calcium as CaCO3(mg/l)	8	-	-	-	4	22	38	18	13	14	18	8
27	Magnesium(mg/l)	3.4	-	-	-	1.5	14.6	0.5	9.2	3.4	3.9	5.3	4.4

Table 3 aj - RIVER ZUARI AT MADKAI JETTY 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.5	7.1	7.14	7.35	7	7.19	7.18	7.35	7.6	7.2	7.62	6.7
2	Temperature ˚C	32.1	31.5	30.4	28	23	28.8	30.7	30.9	28.9	28.1	29.8	28.8
3	Conductivity µs/cm	46800	48070	51600	34460	536	5260	39720	43200	44650	50440	48500	61390
4	Dissolved Oxygen mg/l	4.7	3	5.2	6.5	7.1	7.6	7.2	5.1	5.6	6	5.5	5.5
5	Turbidity (NTU)	14.5	15.1	16	11.6	30.6	82.8	9.92	6.61	9.63	16.2	41.5	27.9
6	Nitrite Nitrogen mg/l	0.05	0.003	0.008	0.01	0.01	0.043	0.006	0.025	0.049	0.097	0.017	0.022
7	Nitrogen(Nitrate) mg/l	0.14	BDL	0.01	0.11	0.14	4	0.078	0.016	BDL	0.055	0.037	4.23
8	Phosphate mg/l	0.05	0.06	0.21	0.04	0.02	0.15	0.007	0.058	0.066	0.014	0.071	0.096
9	BOD mg/l	1.1	0.4	3	3	1.5	1.3	0.8	2.8	1.8	1.6	1.3	1.7
10	COD mg/l	31		44		16	21	30	34	38		-	32
11	Chloride mg/l	16022	18244	7949.7	3302.5	130.5	1625	375	17995	18443.2	22626	20424.5	22243
12	Fecal Coliform MPN/100 ml	450	1300	1700	7900	7900	4900	4900	4900	1300	1300	1300	1300
13	Total Coliform MPN/100 ml	450	1700	2200	13000	13000	7900	7900	7900	2300	1700	2300	2300
14	Ammonia mg/l	0.07	0.04	0.07	0.12	0.07	0.15	0.151	0.199	0.246	0.038	0.063	0.092
15	Total Dissolved Solids(mg/l)	26085	-	-	-	280	3013	648	8512	56982	3402	31614	27650
16	Total Fixed Solids (mg/l)	17110	-	-	-	192	2600	468	281856	23716	2985	18912	15718
17	Total Suspended Solid (mg/l)	158	-	-	-	30	725	15	86	55	123	60	157
18	Hardness(mg/l)	6800	-	-	-	52	300	26	5200	5600	6800	5200	2400
19	Fluoride(mg/l)	1.1	-	-	-	0.25	ND	BDL	1.14	0.239	1.21	0.99	0.73
20	Boron(mg/l)	13.6	-	-	-	1.3	5.23	5.56	5.4	5.022	3.24	3.56	11.92
21	Sulphate (mg/l)	1983.7	-	-	-	17.8	10.5	73	7.55	1808.4	952.5	2603.5	2314.1
22	Total Alkalinity(mg/l)	122	-	-	-	24	80	280	1020	80	106	84	860
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0.2	4	0	0
24	Sodium(mg/l)	1788	-	-	-	100.3	38.5	49.6	1405	4761	10504	10070	6190
25	Potassium(mg/l)	308.9	-	-	-	7.1	53.2	4.7	193.2	243.2	252.3	247.8	277.6
26	Calcium as CaCO3(mg/l)	1000	-	-	-	20	92	22	1000	1100	1600	1600	600
27	Magnesium(mg/l)	6557	-	-	-	7.8	50.5	1	1020.6	1093.5	1263.6	874.8	437.4

Table 3 ak - RIVER ZUARI AT BORIM BRIDGE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.29	7.7	6.86	6.82	6.72	6.66	6.66	6.05	6.7	7.17	7.35	6.3
2	Temperature ˚C	33.4	33	32	29	20	28.1	30	29.2	29.4	27.6	29.2	29.1
3	Conductivity µs/cm	17850	33570	35200	10380	370	148.5	7100	11850	25490	31850	32300	38490
4	Dissolved Oxygen mg/l	6.3	4.4	6	5.7	6.8	7.7	7.5	5.9	5.7	5.8	5.5	5.5
5	Turbidity (NTU)	65.1	6.04	9.65	11	20.8	13.2	8.37	8.89	11.8	5.64	7.84	22
6	Nitrite Nitrogen mg/l	0.02	0.007	0.003	0.02	0.006	0.007	0.004	0.005	0.003	0.128	0.034	0.058

7	Nitrogen(Nitrate) mg/l	0.28	BDL	0.03	0.14	0.09	0.01	0.09	BDL	0.33	0.088	0.022	0.36
8	Phosphate mg/l	0.06	0.01	0.01	0.02	0.008	0.014	0.047	0.026	0.017	0.003	0.021	0.192
9	BOD mg/l	1.3	1.2	3.5	1.4	1.6	2.3	1.9	3.1	1.3	1.9	1.6	1.9
10	COD mg/l	19		30		10	8	13	34	23		-	25
11	Chloride mg/l	7460.5	12996	12964	11340	88.5	34.99	1710	4124	415.8	13576	12964.1	29741
12	Fecal Coliform MPN/100 ml	450	2300	2300	13000	13000	13000	7900	7900	1300	1700	2300	2300
13	Total Coliform MPN/100 ml	450	3300	3300	17000	17000	22000	17000	14000	2300	3300	3300	3300
14	Ammonia mg/l	0.07	0.04	0.08	0.08	0.09	0.03	0.044	0.217	0.038	0.006	0.02	0.063
15	Total Dissolved Solids(mg/l)	12648	-	-	-	180	100	3987	9176	35779	19179	19386	28913
16	Total Fixed Solids (mg/l)	9297	-	-	-	16	141	3177	6716	15281	3152	14171	14734
17	Total Suspended Solid (mg/l)	125	-	-	-	18	8	45	13	82	61	11	97
18	Hardness(mg/l)	2100	-	-	-	40	14	680	162	2700	3800	3800	1000
19	Fluoride(mg/l)	0.43	-	-	-	0.76	0.11	0.13	0.41	0.182	0.95	1.04	0.72
20	Boron(mg/l)	1.23	-	-	-	1.3	2.75	5.54	6.05	3.61	2.86	2.85	19.55
21	Sulphate (mg/l)	282	-	-	-	8.1	5.49	0.57	0.02	1313.3	793.6	1477.6	2592
22	Total Alkalinity(mg/l)	64	-	-	-	24	120	400	540	56	68	62	680
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0.1	0	0	0
24	Sodium(mg/l)	837.1	-	-	-	68.5	22.8	891.4	646	144.5	6119	5034	3802
25	Potassium(mg/l)	104.5	-	-	-	6.2	3.3	47.8	76.2	8.4	179.5	146.3	180.1
26	Calcium as CaCO3(mg/l)	300	-	-	-	16	10	80	100	500	1000	600	200
27	Magnesium(mg/l)	2027.1	-	-	-	5.8	1	146	15.1	534.6	680.4	777.6	194.4

Table 3 al - CARAMBOLIM LAKE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	Sample not collected as lake was dry	6.48	Sample not collected because of stagnant water and inaccessibility to collection point.	7.37	6.7	6.37	6.46	6.36	7.32	7.48	8.1	7.29
2	Temperature ˚C		29		28.2	28	28	29.7	28.5	28.1	24.1	28	27
3	Conductivity µs/cm		424340		179.3	277.83	96.8	1498	129.3	170.1	157.6	176.94	169.8
4	Dissolved Oxygen mg/l		1.4		4.8	5.7	3.2	3.4	4.5	3.2	0.9	3.7	3.9
5	Turbidity (NTU)		14.3		51.6	15.6	2.61	11.09	8.48	5.15	7.96	3.78	4.2
6	Nitrite Nitrogen mg/l		0.048		0.02	0.007	0.019	0.062	0.225	0.001	0.001	0.003	0.003
7	Nitrogen(Nitrate) mg/l		BDL		BDL	0.04	0.16	0.067	BDL	0.012	0.028	0.003	0.03
8	Phosphate mg/l		0.11		0.11	0.002	0.016	0.103	0.005	0.002	0.002	0.006	0.008
9	BOD mg/l		2.4		4.2	1	2.7		2.7	2.5	2.5	0.6	1.9
10	COD mg/l		74		21	7	5	14	22	18	15	21	4.0
11	Chloride mg/l		92.97		40	7.5	6.99	13.21	5	23.48	22.5	25.93	22.6
12	Fecal Coliform MPN/100 ml		35000		7900	11000	13000	7900	1300	13000	7900	4900	1700
13	Total Coliform MPN/100 ml		92000		13000	17000	24000	13000	2200	17000	13000	7000	3500
14	Ammonia mg/l		1.76		0.12	0.07	0.002	0.042	0.018	0.012	0.045	0.01	0.009
15	Total Dissolved Solids(mg/l)		-		-	203	250	187	16	148	19422	94	-
16	Total Fixed Solids (mg/l)		-		-	110	150	124	244	83	75	21	-
17	Total Suspended Solid (mg/l)		-		-	15	15	38	137	9	15	26	-
18	Hardness(mg/l)		-		-	34	20	26	62	52	1400	54	60
19	Fluoride(mg/l)		-		-	0.54	0.42	0.77	0.21	0.23	0.51		0.92
20	Boron(mg/l)		-		-	1.27	0.9	6.56	14.8	0.46	0.52		4.6
21	Sulphate (mg/l)		-		-	6.95	3.1	3.56	96.1	55.7	64.38	4.88	4.7
22	Total Alkalinity(mg/l)		-		-	28	224	44	226	64	60	48	48
23	Phenolphthalein Alkalinity(mg/l)		-		-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)		-		-	9.3	8.3	9.1	116.9	12.4	14.3	25.5	47.4
25	Potassium(mg/l)		-		-	2.4	4.7	7.9	7.1	2.9	4.5	4	4.1
26	Calcium as CaCO3(mg/l)		-		-	24	16	18	26	36	800	34	52
27	Magnesium(mg/l)		-		-	2.43	1	1.94	8.7	3.9	145.8	4.86	1.9

Table 3 am - ANJUNEM LAKE 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	8.47	7.18	6.89	6.4	7.45	5.62	7.35	5.25	7.12	6.79	7.28	7.28
2	Temperature ˚C	34.6	32	28	27	27	28.7	31	28.4	29.1	26.8	28	30
3	Conductivity µs/cm	48.9	50.36	52.1	46.6	43.1	47.34	2.749	44.6	46.6	48.43	47.01	57.29
4	Dissolved Oxygen mg/l	7.9	7.2	6.8	7.3	8.5	8.3	8.8	7.3	7	6.4	7.2	7.2
5	Turbidity (NTU)	3.24	3.4	18.3	5.36	2.35	2.36	1.89	1.28	0.82	1.27	2.41	1.25
6	Nitrite Nitrogen mg/l	0.002	0.001	0.006	0.002	0.004	0.002	0.002	0.001	0.002	BDL	0.143	0.002
7	Nitrogen(Nitrate) mg/l	0.09	BDL	0.004	0.205	0.069	0.03	0.31	0.005	0.04	0.05		0.06
8	Phosphate mg/l	0.009	0.02	0.035	0.005	0.006	0.003	BDL	0.004	0.003	0.008	0.011	0.001
9	BOD mg/l	1.1	1.9	1.7	0.3	0.7	0.5	1.7	0.9	0.5	0.3	1.1	1.1
10	COD mg/l	9	14	3	3	6	4	9	11	16	5	10	9
11	Chloride mg/l	1	5.79	9.99	4.8	4.37	4.89	6.8	1.93	1	4	5.83	10
12	Fecal Coliform MPN/100 ml	230	330	330	230	230	130	130	45	13	33	79	33
13	Total Coliform MPN/100 ml	330	490	490	330	490	240	220	78	23	79	130	49
14	Ammonia mg/l	0.03	0.05	0.05	0.086	0.022	0.026	0.001	0.02	0.02	0.07	0.008	0.029
15	Total Dissolved Solids(mg/l)	26	-	-	-	30	11		103	8512	106	34	34
16	Total Fixed Solids (mg/l)	42	-	-	-	8	10		56	28856	85	12	25
17	Total Suspended Solid (mg/l)	8	-	-	-	6	15		6	86	2	2	5
18	Hardness(mg/l)	12	-	-	-	0	6	14	12	12	30	22	24
19	Fluoride(mg/l)	0.58	-	-	-	0.137	0.05	0.008	BDL	0.17	0.2	0.04	0.04
20	Boron(mg/l)	4.1	-	-	-	2.88	0.66	0.51	1.25	0.9	0.1	BDL	0.50
21	Sulphate (mg/l)	7.64	-	-	-	2.78	1.26	2.85	3.62	0.34	0.8	0.86	0.54
22	Total Alkalinity(mg/l)	100	-	-	-	14	18	14	30	180	48	16	26
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	20.2	-	-	-	5.8	5.5	6.7	3.1	3.6	7.1	5.2	3.9
25	Potassium(mg/l)	15.3	-	-	-	2.4	2.6	2.7	0.2	1.1	3.9	0.4	1.5
26	Calcium as CaCO3(mg/l)	10	-	-	-	0	0	8	8	4	14	16	8
27	Magnesium(mg/l)	0.5	-	-	-	0	1.46	1.458	0.97	1.9	3.9	1.5	3.89

Table 3 an - RIVER MANDOVI AT RIBANDAR-CHODAN FERRY, PANAJI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.86	7.68	7.26	7.6	6.86	5.63	8	7.48	7.62	7.7	7.59	6.84
2	Temperature ˚C	31.5	32.2	32	33	28.1	27.3	29.7	28.9	28.6	26.9	27.3	30
3	Conductivity µs/cm	46300	47370	51100	25690	662.5	168.5	39.27	37200	35100	66900	66800	57660
4	Dissolved Oxygen mg/l	5.8	5.7	5.3	6.7	6.5	6.7	5.4	6.4	6.5	5.2	6.4	6.2
5	Turbidity (NTU)	8.52	6.45	9.48	4.47	27.5	12.6	11.3	10.6	4.65	11.3	10.4	7.98
6	Nitrite Nitrogen mg/l	0.02	0.005	0.006	0.001	0.01	0.005	0.118	0.017	0.05	0.07	0.003	0.003
7	Nitrogen(Nitrate) mg/l	0.02	0.05	0.04	BDL	0.23	0.16	0.06	0.06	0.068	0.103	0.01	0.41
8	Phosphate mg/l	0.02	0.01	0.04	0.01	0.036	0.021	0.037	0.027	0.002	0.001	0.03	BDL
9	BOD mg/l	2.4	2.9	0.8	0.8	1.4	0.6	1.2	2.4	1.8	0.6	1.2	3.2
10	COD mg/l	76	32	54		10	1	74	-	-	-	-	-
11	Chloride mg/l	72.2	16870	21770	9897	611.5	99.9	15995	16245	21769.9	8218.7	23493	19079
12	Fecal Coliform MPN/100 ml	780	7000	3300	1300	7900	4900	3300	3300	2300	3300	1100	780
13	Total Coliform MPN/100 ml	780	11000	4900	2300	11000	7900	7000	4900	4600	4600	1700	1700
14	Ammonia mg/l	0.14	0.07	0.08	0.19	0.109	0.005	0.025	0.009	0.01	0.057	0.005	0.098
15	Total Dissolved Solids(mg/l)	28879	-	-	-	327	350	310	27	18156	53149	41268	47026
16	Total Fixed Solids (mg/l)	22788	-	-	-	270	280	270	368	12510	26321	20965	23694
17	Total Suspended Solid (mg/l)	17	-	-	-	13	25	20	32	19	22	27	30
18	Hardness(mg/l)	5400	-	-	-	40	14	4800	5600	4800	8200	9500	8000
19	Fluoride(mg/l)	1.18	-	-	-	0.55	0.42	1.13	1.2	1.55	0.49	0.5	0.8
20	Boron(mg/l)	24.46	-	-	-	0.22	1.2	19	15.2	2.73	3.3	6.9	9.85

21	Sulphate (mg/l)	1263.9	-	-	-	14.49	3.1	594.9	636.1	252.3	1023.2	909.5	1522.9
22	Total Alkalinity(mg/l)	108	-	-	-	18	20	186	224	98	92	90	122
23	Phenolphthalein Alkalinity(mg/l)	12	-	-	-	0	0	0	0	0	6	0	0
24	Sodium(mg/l)	1667	-	-	-	27.1	27.3	6797	7828	9871	10034	8287	5386
25	Potassium(mg/l)	299.3	-	-	-	2.1	3.7	287.4	216.5	225	249.2	220.8	255.8
26	Calcium as CaCO3(mg/l)	700	-	-	-	22	12	2000	2000	600	4400	2250	2000
27	Magnesium(mg/l)	1142.1	-	-	-	4.37	0.5	680.4	874.8	1020.6	923.4	1761.8	1458

Table 3 ao - BOREWELL/TUBE WELL/ OPEN WELL IN ZUARI INDUSTRIES LTD, ZUARINAGAR 2014-2015

Sr. No	Parameters	Apr-14	Oct-14
1	pH	Sample not Collected since borewell was dismantled	6.3
2	Temperature ˚C		30
3	Conductivity µs/cm		1542
4	Dissolved Oxygen mg/l		6.4
5	Turbidity (NTU)		0.79
6	Nitrite Nitrogen mg/l		BDL
7	Nitrogen(Nitrate) mg/l		0.09
8	Phosphate mg/l		0.04
9	BOD mg/l		1.5
10	COD mg/l		2
11	Chloride mg/l		8.26
12	Fecal Coliform MPN/100 ml		NIL
13	Total Coliform MPN/100 ml		<1.8
14	Ammonia mg/l		0.02
15	Total Dissolved Solids(mg/l)		1018
16	Total Fixed Solids (mg/l)		63
17	Total Suspended Solid (mg/l)		2
18	Hardness(mg/l)		66
19	Fluoride(mg/l)		0.02
20	Boron(mg/l)		2.82
21	Sulphate (mg/l)		0.67
22	Total Alkalinity(mg/l)		76
23	Phenolphthalein Alkalinity(mg/l)		0
24	Sodium(mg/l)		8.3
25	Potassium(mg/l)		3.5
26	Calcium as CaCO3(mg/l)		36
27	Magnesium(mg/l)		7.29

Table 3 ap - BOREWELL/TUBE WELL/OPEN WELL AT SANCOALE INDUSTRIAL ESTATE 2014-2015

Sr. No	Parameters	Apr-14	Oct-14
1	pH	6.15	7.31
2	Temperature ˚C	31.6	29
3	Conductivity µs/cm	94.2	1439
4	Dissolved Oxygen mg/l	6.7	7.8
5	Turbidity (NTU)	171	3.92
6	Nitrite Nitrogen mg/l	0.01	0.002
7	Nitrogen(Nitrate) mg/l	0.07	1.11
8	Phosphate mg/l	0.03	0.04
9	BOD mg/l	0.6	0.7
10	COD mg/l	4	3
11	Chloride mg/l	16.15	12.6
12	Fecal Coliform MPN/100 ml	NIL	17
13	Total Coliform MPN/100 ml	<1.8	33
14	Ammonia mg/l	0.003	0.02
15	Total Dissolved Solids(mg/l)	368	978
16	Total Fixed Solids (mg/l)	234	52
17	Total Suspended Solid (mg/l)	4	3
18	Hardness(mg/l)	40	36
19	Fluoride(mg/l)	0.41	0.24
20	Boron(mg/l)	0.25	0.29
21	Sulphate (mg/l)	1.41	0.72
22	Total Alkalinity(mg/l)	31	36
23	Phenolphthalein Alkalinity(mg/l)	0	0

Sr. No	Parameters	Apr-14	Oct-14
24	Sodium(mg/l)	8.9	9.5
25	Potassium(mg/l)	15.1	3
26	Calcium as CaCO3(mg/l)	12	20
27	Magnesium(mg/l)	6.8	3.88

Table 3 aq - BOREWELL/TUBE WELL/ OPEN WELL AT VERNA INDUSTRIAL ESTATE 2014-2015

Sr. No	Parameters	Apr-14	Oct-14
1	pH	7.04	6.86
2	Temperature ˚C	31.8	32
3	Conductivity µs/cm	249.9	1486
4	Dissolved Oxygen mg/l	3.9	4.7
5	Turbidity (NTU)	0.77	1.32
6	Nitrite Nitrogen mg/l	0.001	BDL
7	Nitrogen(Nitrate) mg/l	1.31	0.02
8	Phosphate mg/l	0.02	0.01
9	BOD mg/l	0.8	0.6
10	COD mg/l	3	9
11	Chloride mg/l	19	12.2
12	Fecal Coliform MPN/100 ml	NIL	4.5
13	Total Coliform MPN/100 ml	2	11
14	Ammonia mg/l	0.001	0.01
15	Total Dissolved Solids(mg/l)	364	250
16	Total Fixed Solids (mg/l)	324	-
17	Total Suspended Solid (mg/l)	5	33
18	Hardness(mg/l)	100	90
19	Fluoride(mg/l)	0.52	0.11
20	Boron(mg/l)	0.22	0.96
21	Sulphate (mg/l)	17.95	12.33
22	Total Alkalinity(mg/l)	99	80
23	Phenolphthalein Alkalinity(mg/l)	0	0
24	Sodium(mg/l)	4	10.6
25	Potassium(mg/l)	14.1	6.1
26	Calcium as CaCO3(mg/l)	46	40
27	Magnesium(mg/l)	13.1	12.15

Table 3 ar - BOREWELL/ TUBE WELL/ OPEN WELL KUNDAIM INDUSTRIAL ESTATE 2014-2015

Sr. No	Parameters	Apr-14	Oct-14
1	pH	6.63	6.05
2	Temperature ˚C	31	29.7
3	Conductivity µs/cm	208.1	1479
4	Dissolved Oxygen mg/l	4.8	3.8
5	Turbidity (NTU)	48.4	3.37
6	Nitrite Nitrogen mg/l	0.007	0.001
7	Nitrogen(Nitrate) mg/l	3.51	1.12
8	Phosphate mg/l	0.3	0.012
9	BOD mg/l	1.6	0.1
10	COD mg/l	4	9
11	Chloride mg/l	54.9	16.5
12	Fecal Coliform MPN/100 ml	NIL	NIL
13	Total Coliform MPN/100 ml	<1.8	<1.8
14	Ammonia mg/l	0.06	0.01
15	Total Dissolved Solids(mg/l)	97	173
16	Total Fixed Solids (mg/l)	106	98
17	Total Suspended Solid (mg/l)	16	7
18	Hardness(mg/l)	70	5600
19	Fluoride(mg/l)	BDL	0.11
20	Boron(mg/l)	2.6	19
21	Sulphate (mg/l)	170.6	0.1
22	Total Alkalinity(mg/l)	700	56
23	Phenolphthalein Alkalinity(mg/l)	0	0
24	Sodium(mg/l)	9.5	30.4
25	Potassium(mg/l)	14.1	7
26	Calcium as CaCO3(mg/l)	58	5200
27	Magnesium(mg/l)	2.9	97

Table 3 as- BORE WELL/ TUBE WELL / OPENWELL IN CORLIM INDUSTRIAL ESTATE 2014-2015

Sr. No	Parameters	Apr-14	Oct-14
1	pH	5.4	6.1
2	Temperature ˚C	30	28.5
3	Conductivity µs/cm	45.4	1420
4	Dissolved Oxygen mg/l	7.8	7.3
5	Turbidity (NTU)	0.49	0.43
6	Nitrite Nitrogen mg/l	0.002	0.001
7	Nitrogen(Nitrate) mg/l	0.13	0.26
8	Phosphate mg/l	0.04	0.007
9	BOD mg/l	1.1	0.2
10	COD mg/l	3	10
11	Chloride mg/l	14.73	13.5
12	Fecal Coliform MPN/100 ml	23	49
13	Total Coliform MPN/100 ml	79	170
14	Ammonia mg/l	0.03	0.015
15	Total Dissolved Solids(mg/l)	467	400
16	Total Fixed Solids (mg/l)	289	223
17	Total Suspended Solid (mg/l)	3	3
18	Hardness(mg/l)	14	16
19	Fluoride(mg/l)	0.2	0.1
20	Boron(mg/l)	0.18	19
21	Sulphate (mg/l)	1.74	2.2
22	Total Alkalinity(mg/l)	18	20
23	Phenolphthalein Alkalinity(mg/l)	0	0
24	Sodium(mg/l)	11.2	164.6
25	Potassium(mg/l)	15.1	9
26	Calcium as CaCO3(mg/l)	8	10
27	Magnesium(mg/l)	1.5	1.5

Table 3 at - BOREWELL/TUBE WELL/OPEN WELL IN PILERNE INDUSTRIAL ESTATE 2014-2015

Sr. No	Parameters	Apr-14	Oct-14
1	pH	6.95	5.9
2	Temperature ˚C	31	31.6
3	Conductivity µs/cm	155.04	1497
4	Dissolved Oxygen mg/l	6.9	2.01
5	Turbidity (NTU)	3.09	5.66
6	Nitrite Nitrogen mg/l	0.02	BDL
7	Nitrogen(Nitrate) mg/l	1.19	0.28
8	Phosphate mg/l	0.43	0.046
9	BOD mg/l	0.3	0.15
10	COD mg/l	2	11
11	Chloride mg/l	17.48	11.9
12	Fecal Coliform MPN/100 ml	23	NIL
13	Total Coliform MPN/100 ml	79	<1.8
14	Ammonia mg/l	0.027	0.009
15	Total Dissolved Solids(mg/l)	119	120
16	Total Fixed Solids (mg/l)	99	89
17	Total Suspended Solid (mg/l)	10	7
18	Hardness(mg/l)	38	56
19	Fluoride(mg/l)	BDL	0.23
20	Boron(mg/l)	0.77	17
21	Sulphate (mg/l)	1.74	11.5
22	Total Alkalinity(mg/l)	28	102
23	Phenolphthalein Alkalinity(mg/l)	0	0
24	Sodium(mg/l)	18.9	19
25	Potassium(mg/l)	14.5	7.5
26	Calcium as CaCO3(mg/l)	8.82	52
27	Magnesium(mg/l)	3.9	0.9

Table 3 au - BORE WELL/TUBE WELL/ OPEN WELL IN CUNCOLIM INDUSTRIAL ESTATE 2014-2015

Sr. No	Parameters	Apr-14	Oct-14
1	pH	7.02	7
2	Temperature ˚C	32.2	29.2
3	Conductivity µs/cm	328	13.63

Sr. No	Parameters	Apr-14	Oct-14
4	Dissolved Oxygen mg/l	4.4	3.1
5	Turbidity (NTU)	4.1	0.37
6	Nitrite Nitrogen mg/l	0.002	0.001
7	Nitrogen(Nitrate) mg/l	0.15	BDL
8	Phosphate mg/l	0.01	0.005
9	BOD mg/l	3	0.1
10	COD mg/l	1	BDL
11	Chloride mg/l	13.1	9.8
12	Fecal Coliform MPN/100 ml	2	13
13	Total Coliform MPN/100 ml	13	33
14	Ammonia mg/l	0.05	0.027
15	Total Dissolved Solids(mg/l)	243	210
16	Total Fixed Solids (mg/l)	190	-
17	Total Suspended Solid (mg/l)	9	-
18	Hardness(mg/l)	132	132
19	Fluoride(mg/l)	0.54	0.174
20	Boron(mg/l)	0.08	0.725
21	Sulphate (mg/l)	1.4	9.2
22	Total Alkalinity(mg/l)	24	124
23	Phenolphthalein Alkalinity(mg/l)	0	-
24	Sodium(mg/l)	1.6	11.1
25	Potassium(mg/l)	14.5	4.3
26	Calcium as CaCO3(mg/l)	34.47	132
27	Magnesium(mg/l)	11.18	16

Table 3 av- BOREWELL/TUBE WELL/OPEN WELL IN BETHORA INDUSTRIAL ESTATE 2013-2014

Sr. No	Parameters	Apr-13	Oct-13
1	pH	6.61	4.74
2	Temperature ˚C	32	31
3	Conductivity µs/cm	972.75	159.21
4	Dissolved Oxygen mg/l	6.7	5.2
5	Turbidity (NTU)	0.42	0.64
6	Nitrite Nitrogen mg/l	0.001	0.002
7	Nitrogen(Nitrate) mg/l	0.326	1.37
8	Phosphate mg/l	0.003	0.01
9	BOD mg/l	0.4	1.1
10	COD mg/l	3	10
11	Chloride mg/l	9.5	7
12	Fecal Coliform MPN/100 ml	NIL	450
13	Total Coliform MPN/100 ml	180	680
14	Ammonia mg/l	0.015	0.001
15	Total Dissolved Solids(mg/l)	54	204
16	Total Fixed Solids (mg/l)	105	68
17	Total Suspended Solid (mg/l)	2	3
18	Hardness(mg/l)	18	14
19	Fluoride(mg/l)	0.67	BDL
20	Boron(mg/l)	1.81	1.53
21	Sulphate (mg/l)	1.98	0.3
22	Total Alkalinity(mg/l)	160	240
23	Phenolphthalein Alkalinity(mg/l)	0	0
24	Sodium(mg/l)	10.8	10.1
25	Potassium(mg/l)	15.3	3.7
26	Calcium as CaCO3(mg/l)	18	6
27	Magnesium(mg/l)	0.5	1.9

Table 3 aw - BOREWELL/ TUBEWELL/OPENWELL IN MADKAI INDUSTRIAL ESTATE 2013-2014

Sr. No	Parameters	Apr-14	Oct-14[1]
1	pH	7.55	6.71
2	Temperature ˚C	31.5	31.6
3	Conductivity µs/cm	253.2	1404
4	Dissolved Oxygen mg/l	2.9	5

5	Turbidity (NTU)	0.61	0.41
6	Nitrite Nitrogen mg/l	0.001	0.001
7	Nitrogen(Nitrate) mg/l	0.06	1.515
8	Phosphate mg/l	0.02	0.009
9	BOD mg/l	0.4	1.5
10	COD mg/l	5.2	5
11	Chloride mg/l	9.8	13
12	Fecal Coliform MPN/100 ml	NIL	240
13	Total Coliform MPN/100 ml	<1.8	540
14	Ammonia mg/l	0.06	0.043
15	Total Dissolved Solids(mg/l)	179	228
16	Total Fixed Solids (mg/l)	99	174
17	Total Suspended Solid (mg/l)	4	3
18	Hardness(mg/l)	128	24
19	Fluoride(mg/l)	0.07	BDL
20	Boron(mg/l)	0.55	7.74
21	Sulphate (mg/l)	7.4	0.89
22	Total Alkalinity(mg/l)	120	200
23	Phenolphthalein Alkalinity(mg/l)	0	0
24	Sodium(mg/l)	16.7	9.7
25	Potassium(mg/l)	14.1	2.5
26	Calcium as CaCO3(mg/l)	60	10
27	Magnesium(mg/l)	113.4	3.4

Table 3 ax - AGRICULTURAL CANAL UPSTREAM OF CUNCOLIM INDUSTRIAL ESTATE 2013-2014

Sr. No	Parameters	Apr-14	May-14	June-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.93	6.31		5.56	6	6.49	6.4			5.88	6.72	6.84
2	Temperature ˚C	32.5	32		27	29.4	29.9	28.9			27.4	27	27.5
3	Conductivity µs/cm	51.1	54.36		65.27	65.9	54.55	22.45			45.92	52.9	67.03
4	Dissolved Oxygen mg/l	7.4	7.1		5.2	6.7	9.1	4.4			8.2	9.3	8.1
5	Turbidity (NTU)	1.92	1.99		0.89	3.91	18.8	1.6			2.16	1.29	1.83
6	Nitrite Nitrogen mg/l	0.0004	0.002		0.001	0.003	0.002	0.011			0.002	0.002	0.002
7	Nitrogen(Nitrate) mg/l	0.002	0.08		0.75	1.05	0.02	2.12			0.03	0.02	0.58
8	Phosphate mg/l	0.0003	0.004		0.01	0.165	0.04	0.01			0.001	0.008	0.002
9	BOD mg/l	0.5	2.8		0.3	0.7	4.1	1.6			1.3	1.8	1.2
10	COD mg/l	5	10		5	4	5	13			2	5	9
11	Chloride mg/l	3.4	5.87		9.64	8.26	7.3	78.8			4.5	5	10.76
12	Fecal Coliform MPN/100 ml	2300	3300		2400	3500	2400	130			2400	1700	2400
13	Total Coliform MPN/100 ml	3300	4900		3500	5400	5400	330			5400	3500	3500
14	Ammonia mg/l	0.01	0.02		0.002	0.005	0.06	0.049			0.02	0.002	0.04
15	Total Dissolved Solids(mg/l)	14	-	Canal was dry	-	44	43	-	Canal was dry	Canal was dry	60	69	49
16	Total Fixed Solids (mg/l)	81	-		-	16	15	-			32	41	50
17	Total Suspended Solid (mg/l)	4	-		-	25	58	-			3	4	2
18	Hardness(mg/l)	10	-		-	0	0	78			30	12	62
19	Fluoride(mg/l)	0.38	-		-	BDL	BDL	BDL			0.02	0.2	-
20	Boron(mg/l)	0.07	-		-	1.63	0.84	0.995			0.51	2.6	1.28
21	Sulphate (mg/l)	0.76	-		-	1.29	5.29	61.6			3.94	1.8	2.45
22	Total Alkalinity(mg/l)		-		-	14	24	28			160	30	30
23	Phenolphthalein Alkalinity(mg/l)	0	-		-	0	0	0			0	0	0
24	Sodium(mg/l)	22.5	-		-	6.6	5.6	-			6.2	6.4	10.7
25	Potassium(mg/l)	15.3	-		-	2.1	3	-			3.7	1.8	1.8
26	Calcium as CaCO3(mg/l)	3.2	-		-	0	0	26			26	5	12
27	Magnesium(mg/l)	0.5	-		-	0	0	12.6			1	1.7	12.15

Table 3 ay - AGRICULTURAL CANAL DOWNSTREAM OF CUNCOLIM INDUSTRIAL ESTATE 2013-2014

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.8	6.34	6.05	6.12	5.59	5.76	6.3	6.16	Canal	5.79	7.08	6.41
2	Temperature ˚C	33	32	32.7	29	29.2	29.9	29	28	was	27.6	27	27.3

3	Conductivity µs/cm	52.8	66.02	498.19	484.16	422.58	471.1	27.35	633.94	dry	53.71	52.3	71.66
4	Dissolved Oxygen mg/l	7.7	7.6	8.7	4.9	5.8	5.4	5	4.2		8.8	7.9	8.2
5	Turbidity (NTU)	1.7	2.05	1.32	1	12.3	2.04	0.88	0.77		1.73	1.28	1.67
6	Nitrite Nitrogen mg/l	0.0004	0.001	0.019	0.004	0.009	0.001	0.013	0.007		0.15	0.002	0.002
7	Nitrogen(Nitrate) mg/l	BDL	0.07	3.78	3.55	0.691	3.46	1.13	5.7		0.003	0.02	0.28
8	Phosphate mg/l	0.002	0.31	BDL	0.01	0.01	0.002	0.004	0.011		0.001	0.008	0.001
9	BOD mg/l	1.4	3.5	0.1	0.2	0.3	0.9	0.7	1		2.4	1.2	1.1
10	COD mg/l	14	14	6	7	4	2	6	2		4	9	11
11	Chloride mg/l	3.4	7.34	41.46	31.34	27.2	33.8	51.9	47.9		4.5	4	11.25
12	Fecal Coliform MPN/100 ml	3300	4900	3500	1300	2400	230	330	4900		3500	2400	2500
13	Total Coliform MPN/100 ml	4900	7900	9200	2400	3500	330	790	7900		9200	5400	5400
14	Ammonia mg/l	0.01	0.05	0.088	0.33	0.252	0.14	0.086	0.142		0.01	0.004	0.04
15	Total Dissolved Solids(mg/l)	30	-	-	-	283	324	410	440		65	72	21
16	Total Fixed Solids (mg/l)	87.42	-	-	-	17	245	255	265		55	58	32
17	Total Suspended Solid (mg/l)	3	-	-	-	13	2	8	16		5	6	1.0
18	Hardness(mg/l)	12	-	-	-	58	112	156	168		260	27	24
19	Fluoride(mg/l)	0.48	-	-	-	0.284	0.34	0.257	0.33		BDL	0.06	-
20	Boron(mg/l)	0.09	-	-	-	0.214	4.61	1.08	0.47		0.42	3.1	0.92
21	Sulphate (mg/l)	BDL	-	-	-	91.9	136.9	134	12.2		3.82	1.8	2.26
22	Total Alkalinity(mg/l)	2	-	-	-	16	30	42	26		180	28	22
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0			0	0	0
24	Sodium(mg/l)	22.8	-	-	-	61.2	66.9	81.4	42.3		6.3	6.8	11.7
25	Potassium(mg/l)	15.3	-	-	-	7.7	10.6	13.4	9.9		3.7	1.4	1.8
26	Calcium as CaCO3(mg/l)	4	-	-	-	13.6	46	58	80		100	14	14
27	Magnesium(mg/l)	0.5	-	-	-	5.83	16	23.8	21.4		38.9	3.1	2.43

Table 3 az - ANJUNEM LAKE 2013-2014

Sr. No	Parameters	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
1	pH	7.51	7.29	5.96	6.82	7.11	7.33	6.6	6.09	7.13	6.47	6.01	8.04
2	Temperature ˚C	33	33	30	26	30	28	31	30	27	28	31	33
3	Conductivity µs/cm	48.1	50.53	51.3	90.76	41.35	41.74	42.23	49.43	48.24	42.6	45.5	51.0
4	Dissolved Oxygen mg/l	7.5	7.5	7.5	7.1	8.2	7.7	7.8	7.2	6.1	7.8	8.2	8.2
5	Turbidity (NTU)	2.47	2.7	3.74	2.92	2.2	1.98	2.43	1.25	1.29	0.85	2.73	3.70
6	Nitrite Nitrogen mg/l	0.002	0.003	0.005	0.001	0.003	0.002	0.001	0.001	0.002	0.001	0.001	0.002
7	Nitrogen(Nitrate) mg/l	0.029	0.007	0.39	0.355	0.005	0.007	0.015	0.01	BDL	BDL	0.01	BDL
8	Phosphate mg/l	0.003	0.009	0.015	BDL	0.062	0.007	0.003	0.01	0.004	0.004	0.008	0.008
9	BOD mg/l	1.1	1.3	0.3	0.1	0.2	0.5	0.7	0.3	1.3	1.0	1.7	1.1
10	COD mg/l	5	2	1	7	3	14	6	5.2	7	6.0	10.0	6.0
11	Chloride mg/l	6.8	5.83	0.97	3.8	2.44	4.4	2.4	0.97	0.49	3.42	3.91	4.89
12	Fecal Coliform MPN/100 ml	NIL	NIL	NIL	200	20	40	450	78	170	790	790	130
13	Total Coliform MPN/100 ml	<1.8	400	400	400	45	68	780	130	540	1700	1300	350
15	Ammonia mg/l	0.014	0.03	0.132	0.029	0.016	0.047	0.019	0.02	0.03	0.03	0.02	0.02
	Total Dissolved Solids(mg/l)	26	-	-	-	30	11		103	8512	106	34	34
16	Total Fixed Solids (mg/l)	42	-	-	-	8	10		56	28856	85	12	25
17	Total Suspended Solid (mg/l)	8	-	-	-	6	15		6	86	2	2	5
18	Hardness(mg/l)	12	-	-	-	0	6	14	12	12	30	22	24
19	Fluoride(mg/l)	0.58	-	-	-	0.137	0.05	0.008	BDL	0.17	0.2	0.04	0.04
20	Boron(mg/l)	4.1	-	-	-	2.88	0.66	0.51	1.25	0.9	0.1	BDL	0.5
21	Sulphate (mg/l)	7.64	-	-	-	2.78	1.26	2.85	3.62	0.34	0.8	0.86	0.54
22	Total Alkalinity(mg/l)	100	-	-	-	14	18	14	30	180	48	16	26
23	Phenolphthalein Alkalinity(mg/l)	0	-	-	-	0	0	0	0	0	0	0	0
24	Sodium(mg/l)	20.2	-	-	-	5.8	5.5	6.7	3.1	3.6	7.1	5.2	3.9
25	Potassium(mg/l)	15.3	-	-	-	2.4	2.6	2.7	0.2	1.1	3.9	0.4	1.5
26	Calcium as CaCO3(mg/l)	10	-	-	-	0	0	8	8	4	14	16	8
27	Magnesium(mg/l)	0.5	-	-	-	0	1.46	1.458	0.97	1.9	3.9	1.5	3.89

Table 3 aab - INLET SAMPLE TO STP AT TONCA, PANAJI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	6.75	6.68	6.86	6.51	6.82	6.3	6.85	6.6	6.8	7.48	7.51	7.15
2	BOD mg/l	274.29	139	466.7	333	280	250	290	234	260	300	330	325
3	COD mg/l	360	300	840	530	490	480	640	460	470	620	650	630
4	Total Suspended Solid (mg/l)	86	310	160	234	190	220	265	99	120	72.0	121	232

Table 3 aac - OUTLET SAMPLE TO STP AT TONCA, PANAJI 2014-2015

Sr. No	Parameters	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15
1	pH	7.35	7.2	6.41	6.92	6.9	6.94	6.95	6.78	7.24	7.68	7.62	7.06
2	BOD mg/l	5.33	2.8	16.8	18	20	18.8	13	13	6	4.3	5.6	4.22
3	COD mg/l	30	19	40	50	50	50	30	40	20	60	70	70
4	Total Suspended Solid (mg/l)	11	4	16	17	18	19	14	23	8	7.0	16	13

Table 3aad 1 - DATA FOR THE MONTH OF APRIL 2014

Sr. No.	Parameters	RIVER CHAPORA NEAR ALORNA FORT	RIVER KALNA AT CHANDEL, PERNEM	RIVER MAPUSA ON CULVERT ON HIGHWAY MAPUSA-PANAJI	RIVER ASSANORA AT ASSANORA	RIVER VALVANTI AT SANQUELIM	RIVER MADEI AT DABOSE, VALPOI	RIVER KHANDEPAR , OPA, PONDA	RIVER KHANDEPAR AT CODLI	RIVER KUSHAWATI NEAR BUND AT KEVONA, RIVONA, SANGUEM	RIVER TALPONA AT CANACONA	RIVER SAL AT PAZORCONI, CUNCOLIM	RIVER SAL AT MOBOR	RIVER BICHOLIM, BARAZAN NAGAR, BICHOLIM
1	Nickel(mg/l)	0.046	0.053	0.233	BDL	BDL	BDL	0.082	0.081	BDL	BDL	BDL	BDL	BDL
2	Copper(mg/l)	0.01	BDL	0.04	BDL	0.01	BDL	BDL	BDL	0.02	BDL	0.02	0.01	0.01
3	Chromium(mg/l)	0.049	BDL	0.21	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.09	BDL
4	Cadmium(mg/l)	BDL	BDL	0.036	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.14	0.02
5	Zinc(mg/l)	BDL	0.047	BDL	0.096	BDL	BDL	BDL	0.018	BDL	BDL	BDL	BDL	BDL
6	Lead(mg/l)	BDL	BDL	0.12	BDL	BDL	BDL	BDL	BDL	BDL		BDL	0.68	BDL
7	Iron(mg/l)	0.635	1.056	0.85	0.388	2.142	0.337	0.354	0.465	0.225	0.035	0.533	0.86	0.118
8	Alpha BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9	Beta BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
10	Gamma BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11	Hexachloro benzene (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12	Heptachlor (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
13	Aldrin (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
14	Dieldrin (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
15	Endrin (mg/l)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
16	Methoxychlor (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17	P,P - DDE (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
18	O,P-DDD (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
19	O,P-DDT (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
20	P,P-DDT (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
21	Heptachlor endo-epoxide (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
22	Alpha endosulphate (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
23	β-endosulphar (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
24	carboryl (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
25	Anilofos (mg/l)	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
26	Parathion methyl (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
27	Malathion (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
28	Chloropylos (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 3aad 2 - DATA FOR THE MONTH OF APRIL 2014

Sr. NO.	Parameters	BOREWELL /TUBEWELL /OPEN WELL IN PILERNE INDUSTRIAL ESTATE	BOREWELL/TUBE WELL/ OPEN WELL IN CUNCOLIM INDUSTRIAL ESTATE	BOREWELL/TUBEWELL/OPEN WELL IN BETHORA INDUSTRIAL ESTATE	AGRICULTURAL CANAL UPSTREAM OF CUNCOLIM INDUSTRIAL ESTATE	AGRICULTURAL CANAL DOWNSTREAM OF CUNCOLIM INDUSTRIAL ESTATE	RUMDER LAKE, NUVEM	RIVER SAL AT ORLIM BRIDGE	RIVER TIRACOL AT KERI, PERNEM	RIVER CHAPORA NEAR SIOLIM BRIDGE	RIVER SINQUERIM , CANDOLIM SIDE	RIVER SINQUERIM , NEAR GANPATI TEMPLE	RIVER MANDOVI AT IFFI JETTY	RIVER MANDOVI NEAR HOTEL MARIOTT
1	Nickel(mg/l)	0.11	BDL	0.08	BDL	BDL	BDL	0.92	0.61	1.31	0.85	1.985	0.84	1.498
2	Copper(mg/l)	0.12	0.02	0.01	BDL	0.01	BDL	0.01	0.08	0.12	0.1	0.14	0.18	0.18
3	Chromium(mg/l)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.21	0.22	0.11	0.32	0.32	0.25
4	Cadmium(mg/l)	0.02	BDL	BDL	BDL	BDL	BDL	0.04	0.09	0.097	0.17	0.27	0.12	0.228
5	Zinc(mg/l)	0.496	0.03	0.14	BDL	BDL	BDL	BDL	BDL	BDL	2.08	0.16	BDL	BDL
6	Lead(mg/l)	BDL	BDL	BDL	BDL	BDL	BDL	0.16	0.9	1.004	1.32	1.93	0.44	0.927
7	Iron(mg/l)	0.98	0.3	0.93	BDL	0.15	1.26	0.36	0.46	1.64	1.17	2.28	1.35	1.016
8	Alpha BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9	Beta BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
10	Gamma BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11	Hexachloro benzene (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12	Heptachlor (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
13	Aldrin (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
14	Dieldrin (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
15	Endrin (mg/l)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
16	Methoxychlor (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17	P,P - DDE (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
18	O,P-DDD (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
19	O,P-DDT (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
20	P,P-DDT (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
21	Heptachlor endo-epoxide (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
22	Alpha endosulphate (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
23	β-endosulphar (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
24	carboryl (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
25	Anilofos (mg/l)	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
26	Parathion methyl (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
27	Malathion (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
28	Chloropylos (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table 3aad 3 - DATA FOR THE MONTH OF APRIL 2014

Sr. NO.	Parameters	RIVER MANDOVI AT AMONA	RAIA LAKE	CURTORIM LAKE, CURTORIM	RIVER ZUARI AT MADKAI JETTY	RIVER ZUARI AT BORIM BRIDGE	BOREWELL / TUBEWELL/ OPENWELL IN MADKAI INDUSTRIAL ESTATE	ANJUNEM LAKE	RIVER MANDOVI AT RIBANDAR-CHODAN FERRY, PANAJI	HARVELEM WATERFALL
1	Nickel(mg/l)	0.466	BDL	BDL	0.377	0.14	0.038	BDL	1.4	BDL
2	Copper(mg/l)	0.04	BDL	0.01	0.02	0.01	BDL	0.01	0.12	BDL
3	Chromium(mg/l)	BDL	BDL	BDL	0.041	BDL	BDL	BDL	0.19	BDL
4	Cadmium(mg/l)	0.07	BDL	BDL	0.049	BDL	BDL	BDL	1.175	BDL
5	Zinc(mg/l)	BDL	BDL	BDL	BDL	BDL	0.026	BDL	BDL	BDL
6	Lead(mg/l)	0.36	BDL	BDL	0.372	0.091	BDL	BDL	0.962	-
7	Iron(mg/l)	0.45	0.22	0.52	0.774	0.289	0.115	0.148	1.257	0.275
8	Alpha BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
9	Beta BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
10	Gamma BHC (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
11	Hexachloro benzene (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
12	Heptachlor (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
13	Aldrin (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
14	Dieldrin (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
15	Endrin (mg/l)	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
16	Methoxychlor (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
17	P,P - DDE (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
18	O,P-DDD (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
19	O,P-DDT (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
20	P,P-DDT (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
21	Heptachlor endo-epoxide (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
22	Alpha endosulphate (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
23	β-endosulphar (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
24	carboryl (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
25	Anilofos (mg/l)	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
26	Parathion methyl (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
27	Malathion (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
28	Chloropylos (mg/l)	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

ANNEXURE IV

GANESH VISARJAN DATA

Table 4 a - River Mandovi at Ferry Point 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	7.24	7.02	7.05
2	Temperature °C	29.5	28.7	28
3	Cond ms/cm	14.65	3.827	5.714
4	Turb NTU	9.15	15.7	8.86
5	DO mg/l	6.6	6.8	6.8
6	BOD mg/l	0.9	1.6	1.8
7	COD mg/l	25	18	9
8	No_3-N mg/l	0.67	0.46	0.31
9	No_2-N mg/l	0.01	BDl	0.01
10	PO_4-P mg/l	0.02	0.02	0.02
11	Ca mg/l	208.42	32.06	48.1
12	So2-4 mg/l	133.1	167.82	289.35
13	Chloride mg/l	4869.41	819.6	1859
14	NH3-N mg/l	0.1	0.02	0.035
15	Fecal Coliform MPN/100ml	3300	7900	4900
16	Total Coliform MPN/100 ml	4900	13000	7000
17	Ni mg/l	0.16	0.101	0.112
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.024	0.024	0.018
20	Cd mg/l	0.01	0.005	0.007
21	Cu mg/l	0.013	0.017	0.011
22	Co mg/l	0.202	0.096	0.118
23	Pb mg/l	0.114	0.015	0.045
24	Fe mg/l	1.119	1.159	1.537
25	Mn mg/l	0.134	0.028	0.142

Table 4 b - River Mapusa at Taricode- Mapusa 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.28	6.87	6.41
2	Temperature °C	28.5	28.4	28.3
3	Cond µs/cm	352.6	172.24	256.63
4	Turb NTU	5.78	5.25	6.2
5	DO mg/l	2	2.5	2.9
6	BOD mg/l	-	1.4	1.7
7	COD mg/l	14	5	10
8	No_3-N mg/l	0.77	0.87	0.96
9	No_2-N mg/l	0.02	0.02	BDL
10	PO_4-P mg/l	0.09	0.04	0.05
11	Ca mg/l	12.02	9.62	10.42
12	So2-4 mg/l	16.59	9.63	9.41
13	Chloride mg/l	68.46	20.73	43.5
14	NH3-N mg/l	0.28	0.08	0.079
15	Fecal Coliform MPN/100ml	17000	17000	13000
16	Total Coliform MPN/100 ml	22000	22000	17000
17	Ni mg/l	0.11	0.068	0.077
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.008	0.004	0.016
20	Cd mg/l	0.004	0.004	0.008
21	Cu mg/l	0.009	0.012	0.012
22	Co mg/l	0.03	0.077	0.061
23	Pb mg/l	0.024	0.024	0.186
24	Fe mg/l	1.495	1.41	2.705
25	Mn mg/l	0.019	0.012	0.282

Table 4 c - Carambolim Lake at Carambolim 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.96	6.51	6.03
2	Temperature °C	32	28.3	28
3	Cond µs/cm	135.66	96.92	123.28
4	Turb NTU	33.4	8.17	4.85
5	DO mg/l	3.8	4.5	2.8
6	BOD mg/l	2.3	2.8	1.8
7	COD mg/l	14	16	5
8	No_3-N mg/l	0.07	0.11	4.14
9	No_2-N mg/l	0.01	0.01	BDL
10	PO_4-P mg/l	0.01	0.01	0.03
11	Ca mg/l	13.63	9.62	11.22
12	So2-4 mg/l	6.02	8.82	10.59
13	Chloride mg/l	10.61	3.37	8.8
14	NH3-N mg/l	0.27	0.01	0.014
15	Fecal Coliform MPN/100ml	3300	7900	3300
16	Total Coliform MPN/100 ml	4900	11000	4900
17	Ni mg/l	0.038	0.138	0.15
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.04	0.04	0.022
20	Cd mg/l	0.008	0.013	0.01
21	Cu mg/l	0.015	0.014	0.014
22	Co mg/l	0.073	0.11	0.061
23	Pb mg/l	0.014	0.029	0.136
24	Fe mg/l	1.342	2.516	3.066
25	Mn mg/l	0.118	0.097	0.404

Table 4 d - Carkhamba (Mansher) Panaji – St. Cruz road 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.93	7.28	7.21
2	Temperature °C	31.5	29	30.4
3	Cond ms/cm	5.23	1.72	14.87
4	Turb NTU	10	15.5	8.49
5	DO mg/l	6.5	6.1	5
6	BOD mg/l	2.2	2.5	1.6
7	COD mg/l	17	18	14
8	No_3-N mg/l	0.31	0.13	0.57
9	No_2-N mg/l	0.09	BDL	0.01
10	PO_4-P mg/l	0.02	0.02	0.02
11	Ca mg/l	39.28	16.83	74.55
12	So2-4 mg/l	173.61	275.85	515.04
13	Chloride mg/l	1639.21	241.06	4745.3
14	NH3-N mg/l	0.19	0.04	0.016
15	Fecal Coliform MPN/100ml	13000	7900	4900
16	Total Coliform MPN/100 ml	17000	13000	7000
17	Ni mg/l	0.084	0.056	0.189
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.049	0.01	0.068
20	Cd mg/l	0.013	0.006	0.012
21	Cu mg/l	0.011	0.024	0.013
22	Co mg/l	0.117	0.08	0.11
23	Pb mg/l	0.042	0.011	0.089
24	Fe mg/l	1.421	1.603	1.57
25	Mn mg/l	0.018	0.029	0.117

Table 4 e - Near the bridge , Chereaband , Dandora, Cuncolim 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.48	6.84	6.63
2	Temperature °C	27	27	27
3	Cond µs/cm	89.1	9.43	60.5
4	Turb NTU	9.07	2.93	183
5	DO mg/l	6.1	6.5	7.2
6	BOD mg/l	0.5	0.7	1.1
7	COD mg/l	5	14	20
8	No_3-N mg/l	0.79	0.66	0.88
9	No_2-N mg/l	BDL	BDL	0.01
10	PO_4-P mg/l	0.01	0.02	0.07
11	Ca mg/l	4.01	5.61	5.61
12	So2-4 mg/l	4.92	6.44	7.43
13	Chloride mg/l	10.61	5.79	7.8
14	NH3-N mg/l	0.04	0.02	0.046
15	Fecal Coliform MPN/100ml	13000	7900	7900
16	Total Coliform MPN/100 ml	24000	13000	13000
17	Ni mg/l	0.111	0.121	0.094
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.027	0.023	0.073
20	Cd mg/l	0.012	0.018	0.008
21	Cu mg/l	0.025	0.046	0.041
22	Co mg/l	0.104	0.052	0.105
23	Pb mg/l	0.045	0.056	0.207
24	Fe mg/l	1.225	3.203	7.91
25	Mn mg/l	0.022	0.222	0.322

Table 4 f - Near Railway bridge, Khandiwada , Curchorem 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	5.98	6.07	5.6
2	Temperature °C	28.7	28	27.8
3	Cond µs/cm	62.54	49.24	110.2
4	Turb NTU	9.4	5.92	12.8
5	DO mg/l	4.3	7.8	4.8
6	BOD mg/l	0.5	0.8	0.5
7	COD mg/l	6	7	3
8	No_3-N mg/l	0.29	0.33	0.44
9	No_2-N mg/l	BDL	BDL	BDL
10	PO_4-P mg/l	0.03	0.01	0.02
11	Ca mg/l	3.21	3.21	5.61
12	So2-4 mg/l	4.46	4.61	7.58
13	Chloride mg/l	6.75	0.96	14.7
14	NH3-N mg/l	0.02	0.03	0.028
15	Fecal Coliform MPN/100ml	7900	4900	2300
16	Total Coliform MPN/100 ml	13000	7000	3300
17	Ni mg/l	0.199	-	0.081
18	Cr mg/l	BDL	-	BDL
19	Zn mg/l	0.052	-	0.03
20	Cd mg/l	0.015	-	0.02
21	Cu mg/l	0.023	-	0.019
22	Co mg/l	0.073	-	0.109
23	Pb mg/l	0.053	-	0.044
24	Fe mg/l	1.845	-	1.882
25	Mn mg/l	0.013	-	0.122

Table 4 g - Paraste, Harmalkar wada, Pernem 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.77	6.97	6.56
2	Temperature °C	27	28.3	28
3	Cond µs/cm	150.5	127.2	203.63
4	Turb NTU	14	9.31	9.3
5	DO mg/l	7.1	7.2	7.4
6	BOD mg/l	0.6	0.8	0.8
7	COD mg/l	3	17	3
8	No_3-N mg/l	0.32	0.32	0.46
9	No_2-N mg/l	0.01	BDL	0.01
10	PO_4-P mg/l	0.02	0.01	0.04
11	Ca mg/l	5.61	4.81	5.61
12	So2-4 mg/l	5.42	7	7.14
13	Chloride mg/l	26.03	15.91	38.7
14	NH3-N mg/l	0.05	0.07	0.023
15	Fecal Coliform MPN/100ml	13000	13000	7900
16	Total Coliform MPN/100 ml	17000	17000	13000
17	Ni mg/l	0.043	0.048	0.033
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.024	0.03	0.014
20	Cd mg/l	0.01	0.02	0.012
21	Cu mg/l	0.013	0.022	0.016
22	Co mg/l	0.202	0.034	0.074
23	Pb mg/l	0.114	0.011	0.533
24	Fe mg/l	1.119	1.259	1.778
25	Mn mg/l	0.134	0.007	0.028

Table 4 h - Daudkiwada River, Daudkiwada-velus, ward no. 1, Valpoi 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	7.22	6.33	6.26
2	Temperature °C	28	28.9	27
3	Cond µs/cm	66.77	58.03	69.07
4	Turb NTU	1.85	6.85	2.02
5	DO mg/l	7.6	7.3	7.6
6	BOD mg/l	0.7	0.3	0.4
7	COD mg/l	2	9	2
8	No_3-N mg/l	0.27	0.24	0.24
9	No_2-N mg/l	BDL	BDL	BDL
10	PO_4-P mg/l	0.004	0.01	BDL
11	Ca mg/l	4.81	4.01	5.61
12	So2-4 mg/l	2.95	4.28	4.42
13	Chloride mg/l	2.89	0.96	6.4
14	NH3-N mg/l	0.04	0.01	0.005
15	Fecal Coliform MPN/100ml	2300	7000	3300
16	Total Coliform MPN/100 ml	3300	11000	4900
17	Ni mg/l	0.108	0.112	0.159
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.009	0.036	0.009
20	Cd mg/l	0.019	0.013	0.008
21	Cu mg/l	0.017	0.014	0.018
22	Co mg/l	0.103	0.076	0.096
23	Pb mg/l	0.024	0.127	0.035
24	Fe mg/l	1.152	1.424	1.359
25	Mn mg/l	0.044	0.035	0.076

Table 4 i - Near bridge, Orcotto, ward no. 4, Sanguem 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.07	6.08	5.56
2	Temperature °C	30.4	29	26.7
3	Cond µs/cm	55.21	60.86	40.7
4	Turb NTU	8.12	7.31	66.3
5	DO mg/l	6.3	6.5	6.5
6	BOD mg/l	0.3	1.3	1.8
7	COD mg/l	7	7	17
8	No_3-N mg/l	0.62	0.25	0.37
9	No_2-N mg/l	0.01	BDL	0.01
10	PO_4-P mg/l	0.01	0.01	0.07
11	Ca mg/l	2.4	3.21	3.21
12	So2-4 mg/l	3.24	5.5	7.95
13	Chloride mg/l	3.86	1.45	3.9
14	NH3-N mg/l	0.07	0.01	0.044
15	Fecal Coliform MPN/100ml	2300	3300	7900
16	Total Coliform MPN/100 ml	3300	4900	11000
17	Ni mg/l	0.136	0.09	0.073
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.015	0.008	0.043
20	Cd mg/l	0.012	0.02	0.01
21	Cu mg/l	0.022	0.024	0.016
22	Co mg/l	0.111	0.094	0.075
23	Pb mg/l	0.036	0.034	0.039
24	Fe mg/l	1.576	1.784	4.511
25	Mn mg/l	0.006	0.074	0.167

Table 4 j - Pimpolcotto, ward no. 2, Sanguem 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.14	6.13	5.67
2	Temperature °C	28.4	28.5	27
3	Cond µs/cm	49.05	54.39	53.7
4	Turb NTU	7.62	9.96	36.1
5	DO mg/l	7.2	7.3	6.9
6	BOD mg/l	0.3	0.4	1.3
7	COD mg/l	2	7	2
8	No_3-N mg/l	0.52	0.4	0.92
9	No_2-N mg/l	BDL	BDL	0.01
10	PO_4-P mg/l	0.01	0.01	0.02
11	Ca mg/l	2.4	2.4	3.21
12	So2-4 mg/l	2.01	4.61	5.63
13	Chloride mg/l	22.18	1.45	6.4
14	NH3-N mg/l	0.004	0.001	0.016
15	Fecal Coliform MPN/100ml	3300	3300	4900
16	Total Coliform MPN/100 ml	4900	4900	7900
17	Ni mg/l	0.091	0.068	0.154
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.005	0.009	0.06
20	Cd mg/l	0.013	0.096	0.019
21	Cu mg/l	0.022	0.02	0.02
22	Co mg/l	0.096	0.124	0.102
23	Pb mg/l	0.048	0.043	0.054
24	Fe mg/l	1.386	1.499	2.175
25	Mn mg/l	0.022	0.097	0.098

Table 4 k - Panefond River, Kindlebag, ward no. 5, Canacona 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	6.89	7.04	6.62
2	Temperature °C	27	28	30
3	Cond ms/cm	11.09	1.59	3.84
4	Turb NTU	3.26	1.77	7.41
5	DO mg/l	6.6	6.8	7.2
6	BOD mg/l	0.8	1	0.8
7	COD mg/l	9	14	4
8	No_3-N mg/l	0.02	1.86	0.93
9	No_2-N mg/l	BDL	BDL	0.09
10	PO_4-P mg/l	0.01	0.02	0.03
11	Ca mg/l	136.27	24.05	32.06
12	So2-4 mg/l	52.25	181.33	235.34
13	Chloride mg/l	3808.75	241.06	1174.1
14	NH3-N mg/l	0.01	0.02	0.05
15	Fecal Coliform MPN/100ml	13000	13000	17000
16	Total Coliform MPN/100 ml	22000	24000	22000
17	Ni mg/l	0.129	0.069	0.115
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.05	0.006	0.008
20	Cd mg/l	0.011	0.015	0.017
21	Cu mg/l	0.025	0.027	0.109
22	Co mg/l	0.147	0.109	0.072
23	Pb mg/l	0.113	0.068	0.105
24	Fe mg/l	1.318	1.229	1.331
25	Mn mg/l	0.11	0.037	0.044

Table 4 l - Baina Beach, Vasco 2014

Sr.No	Parameters	Before Ganesh Visarjan	After Ganesh Visarjan	After 15 day of Ganesh visarjan
1	pH	7.56	8.02	7.99
2	Temperature °C	27	27	29
3	Cond ms/cm	55.1	29.19	49.6
4	Turb NTU	23.9	4.93	12.9
5	DO mg/l	6.6	7.5	6.5
6	BOD mg/l	1.9	3.4	1.2
7	COD mg/l	-	42	-
8	No_3-N mg/l	0.27	0.46	0.65
9	No_2-N mg/l	0.02	0.01	0.07
10	PO_4-P mg/l	0.08	0.07	0.08
11	Ca mg/l	817.63	200.4	392.78
12	So2-4 mg/l	1344.25	916.28	719.52
13	Chloride mg/l	20634.74	9449.55	20840.4
14	NH3-N mg/l	0.09	0.15	0.026
15	Fecal Coliform MPN/100ml	5400	3500	1300
16	Total Coliform MPN/100 ml	9200	5400	1700
17	Ni mg/l	0.89	0.384	0.811
18	Cr mg/l	BDL	BDL	BDL
19	Zn mg/l	0.16	0.085	0.142
20	Cd mg/l	0.063	0.024	0.055
21	Cu mg/l	0.054	0.105	0.02
22	Co mg/l	0.674	0.194	0.546
23	Pb mg/l	0.735	0.307	0.702
24	Fe mg/l	2.481	2.015	2.115
25	Mn mg/l	0.059	0.083	0.13

Annexure V

AMBIENT AIR QUALITY DATA

Table 5-a Station : Panaji

Month	PM 10	PM 2.5	NO_2	SO_2
	µg/m³	µg/m³	µg/m³	µg/m³
Apr-14	49.1	73.1	BDL	BDL
May-14	26.1	47.3	BDL	BDL
Jun-14	23.6	51.7	BDL	10.0
Jul-14	17.4	50.2	10.6	13.0
Aug-14	16.5	41.5	9.0	7.1
Sep-14	24.4	60.8	7.1	7.1
Oct-14	44.9	72.1	19.1	9.4
Nov-14	68.6	97.32	21.0	6.1
Dec-14	72.5	120.6	13.5	5.1
Jan-15	56.0	102.8	16.8	5.1
Feb-15	65.3	94.03	14.37	BDL
Mar-15	40.0	78.4	18.78	4.32

Table 5-b Station : Fuse Call Office,Vasco

Month	PM 10	PM 2.5	NO_2	SO_2
	µg/m³	µ g/m³	µg/m³	µg/m³
Apr-14	53.4	81.0	BDL	BDL
May-14	37.4	70.5	BDL	4.0
Jun-14	37.3	71.0	BDL	6.0
Jul-14	15.9	49.71	9.0	12.1
Aug-14	26.3	64.4	11.9	13.1
Sep-14	26.4	58.2	12.6	8.1
Oct-14	39.0	69.0	16.0	7.0
Nov-14	75.0	119.0	21.0	6.0
Dec-14	62.2	119.2	12.9	7.1
Jan-15	65.1	117.7	20.7	8.33
Feb-15	65.3	94.03	15.23	BDL
Mar-15	58.1	96.6	13.9	7.1

Table 5-c Station : Nr. Fire Brigade Station-MPT,Vasco

Month	PM 10	PM 2.5	NO_2	SO_2
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	-	-	-	-
May-14	-	-	-	-
Sep-14	-	-	-	-
Oct-14	-	-	-	-
Nov-14	-	-	-	-
Feb-15	77.7	141.4	14.0	5.4
Mar-15	72.1	135.5	13.9	7.6

Note:- No monitoring was carried from April 2014 till January 2015 at MPT ,Fire station due to anavoidable circumstance .

Table 5-d Station : Assanora

Month	SO_2	NO_2	PM10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.29	10.73	63.20	21.91
May-14	4.90	10.02	38.66	14.37
Jun-14	3.95	8.59	37.36	12.58
Jul-14	4.01	9.06	46.10	16.35

Aug-14	4.07	9.01	32.22	11.94
Sep-14	4.06	9.10	49.18	16.35
Oct-14	5.37	8.52	40.72	14.97
Nov-14	4.11	9.13	49.53	18.0
Dec-14	4.1	9.1	62.5	23.1
Jan-15	4.2	9.1	62.0	23.0
Feb-15	4.1	9.1	67.73	23.78
Mar-15	4.2	9.1	63.0	22.0

Table 5-e Station : Amona

Month	SO_2	NO_2	PM10	PM2.5
	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
Apr-14	5.68	11.63	68.94	24.19
May-14	5.27	10.44	53.82	18.09
Jun-14	4.23	9.23	76.03	28.41
Jul-14	4.22	9.12	53.65	18.90
Aug-14	4.16	9.11	44.61	15.46
Sep-14	4.25	9.09	50.88	16.33
Oct-14	6.04	10.30	57.62	17.82
Nov-14	4.26	9.35	74.76	26.39
Dec-14	4.20	9.16	81.57	29.01
Jan-15	4.3	9.2	86.9	30.7
Feb-15	4.24	9.36	82.03	29.53
Mar-15	4.04	9.15	69.34	25.43

Table 5-f Station : Bicholim

Month	SO_2	NO_2	PM 10	PM2.5
	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
Apr-14	5.54	11.33	45.09	15.33
May-14	4.87	9.81	45.34	16.44
Jun-14	3.96	8.59	47.56	16.71
Jul-14	4.14	9.09	45.42	16.03
Aug-14	4.09	9.03	39.45	14.29
Sep-14	4.05	8.95	39.60	13.26
Oct-14	5.84	9.76	50.72	19.25
Nov-14	4.26	9.29	77.44	27.54
Dec-14	4.17	9.09	81.50	30.04
Jan-15	4.1	9.0	68.1	23.8
Feb-15	4.15	9.16	72.86	26.96
Mar-15	4.2	9.1	60.1	20.9

Table 5-g Station : Codli

Month	SO_2	NO_2	PM 10	PM2.5
	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$	$\mu g/m^3$
Apr-14	5.54	11.28	56.90	19.91
May-14	5.04	10.50	43.83	17.27
Jun-14	3.65	8.56	48.03	16.95
Jul-14	4.07	8.99	40.56	14.36
Aug-14	4.08	9.05	41.45	13.45
Sep-14	4.14	8.89	43.63	13.48
Oct-14	5.95	9.84	45.79	17.06
Nov-14	4.10	9.11	54.29	20.13
Dec-14	4.13	9.12	68.56	23.86
Jan-15	4.1	9.2	64.1	21.6
Feb-15	4.06	9.09	63.63	22.31
Mar-15	4.1	9.1	59.3	18.9

Table 5-h Station : Curchorem

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.57	11.26	40.69	14.99
May-14	5.00	10.58	51.67	17.93
Jun-14	4.06	8.59	44.11	15.21
Jul-14	4.09	8.95	45.41	16.12
Aug-14	4.12	9.04	36.78	13.15
Sep-14	4.00	8.99	38.48	13.46
Oct-14	5.66	10.00	50.19	17.76
Nov-14	4.16	9.11	45.54	16.79
Dec-14	4.17	9.09	64.67	22.62
Jan-15	4.1	9.1	57.5	21.2
Feb-15	4.2	9.21	75.03	26.65
Mar-15	4.1	9.1	60.5	20.2

Table 5-i Station : Honda

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.44	11.06	44.20	14.74
May-14	4.88	9.79	44.96	15.70
Jun-14	4.20	8.61	45.10	16.46
Jul-14	4.07	8.96	44.29	15.63
Aug-14	4.12	9.07	41.51	15.29
Sep-14	4.11	9.05	46.96	16.06
Oct-14	6.01	9.95	41.92	13.89
Nov-14	4.15	9.09	46.74	16.76
Dec-14	4.14	9.11	47.67	17.50
Jan-15	4.2	9.1	62.2	23.5
Feb-15	4.15	9.18	58.86	20.9
Mar-15	4.2	9.1	64.3	22.6

Table 5-j Station : Kundaim Industrial Estate

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.61	11.56	71.67	24.33
May-14	5.08	10.47	62.77	22.47
Jun-14	3.65	8.58	52.71	18.00
Jul-14	4.10	9.06	50.32	17.42
Aug-14	4.08	9.06	38.84	14.63
Sep-14	3.75	8.09	61.64	19.30
Oct-14	6.05	9.91	75.67	25.83
Nov-14	4.30	9.30	74.53	27.50
Dec-14	4.22	9.30	81.06	29.50
Jan-15	4.3	9.3	71.8	27.2
Feb-15	4.3	9.25	84.21	28.58
Mar-15	4.3	9.2	76.9	25.1

Table 5-k Station : Mapusa

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.68	11.63	68.94	24.19
May-14	8.93	11.23	58.76	27.25

Jun-14	3.65	8.58	52.71	18.00
Jul-14	8.03	10.13	40.32	19.43
Aug-14	8.92	11.16	41.60	18.51
Sep-14	9.3	11.6	58.4	27.2
Oct-14	9.31	11.53	60.96	32.18
Nov-14	9.10	11.23	67.72	31.55
Dec-14	8.92	10.96	72.76	33.58
Jan-15	9.08	11.09	63.72	31.66
Feb-15	9.43	11.53	73.08	56.70
Mar-15	9.25	11.17	63.01	32.83

Table 5-l Station : Margao

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.58	11.74	68.86	22.99
May-14	5.22	10.62	62.23	22.23
Jun-14	4.43	9.33	59.54	21.84
Jul-14	4.09	9.05	44.51	14.36
Aug-14	4.04	8.98	39.42	13.63
Sep-14	3.58	6.85	39.60	13.76
Oct-14	5.62	9.01	56.51	20.87
Nov-14	4.30	9.28	63.54	23.05
Dec-14	4.14	9.17	67.80	24.53
Jan-15	4.3	9.3	80.0	29.2
Feb-15	4.18	9.29	79.39	28.09
Mar-15	4.3	9.2	61.2	21.8

Table 5-m Station : Ponda

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.67	11.50	57.99	21.51
May-14	4.98	10.08	51.27	18.06
Jun-14	4.18	9.20	45.83	16.33
Jul-14	4.07	9.02	44.62	15.65
Aug-14	4.12	9.04	49.86	17.94
Sep-14	4.09	9.13	45.34	15.80
Oct-14	5.60	9.03	56.12	19.63
Nov-14	4.11	9.03	55.38	19.10
Dec-14	4.12	9.12	64.56	25.83
Jan-15	4.2	9.2	68.7	25.4
Feb-15	4.1	9.06	67.51	23.64
Mar-15	4.2	9.2	62.9	20.7

Table 5-n Station : Sanguem

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.51	11.29	61.09	23.16
May-14	4.74	9.48	47.58	17.59
Jun-14	3.63	7.99	44.31	16.30
Jul-14	4.06	9.04	43.46	15.87
Aug-14	4.09	9.07	39.36	14.59
Sep-14	3.39	7.44	38.94	13.41
Oct-14	5.60	9.13	39.78	14.94
Nov-14	4.16	9.13	59.43	21.81
Dec-14	4.17	9.12	63.40	22.60
Jan-15	4.1	9.1	60.3	21.7
Feb-15	4.1	9.0	63.58	23.13
Mar-15	4.2	9.1	61.9	21.0

Table 5-o Station : Tilamol-Quepem

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.68	11.53	66.50	23.81
May-14	4.84	10.14	39.41	14.21
Jun-14	3.88	8.56	47.44	24.43
Jul-14	4.07	9.06	56.86	20.56
Aug-14	4.14	9.07	67.41	22.20
Sep-14	3.38	7.43	50.04	17.89
Oct-14	5.41	8.98	47.72	17.72
Nov-14	4.19	9.18	51.78	18.45
Dec-14	4.09	9.11	70.09	26.11
Jan-15	4.2	9.1	68.2	23.8
Feb-15	4.18	9.15	66.7	23.95
Mar-15	4.1	9.1	57.5	21.0

Table 5-p Station : Usgaon

Month	SO_2	NO_2	PM 10	PM2.5
	µ g/m³	µ g/m³	µ g/m³	µ g/m³
Apr-14	5.57	11.29	52.96	17.74
May-14	5.02	10.20	49.23	17.53
Jun-14	3.66	7.98	49.50	17.63
Jul-14	4.07	9.03	54.30	19.02
Aug-14	4.10	9.07	40.38	13.38
Sep-14	4.06	19.11	57.83	17.60
Oct-14	6.03	9.80	42.03	14.89
Nov-14	4.14	9.14	63.58	22.23
Dec-14	4.16	9.21	72.10	25.06
Jan-15	4.3	9.2	73.3	26.4
Feb-15	4.04	9.15	69.34	25.43
Mar-15	4.2	9.1	61.9	21.2

Annexure VI

Table 5: CLOSURE DIRECTIONS ISSUED UNDER THE WATER ACT AND THE AIR ACT

Sr.No	Name of the unit	Action taken
1	M/s. Dandi Krishna Chari, Chawater,Bandem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
2	M/s. Ganesh Workshop, Dharwada, Virdi, Saqulim-Goa	Directed to immediately suspend the operation of the unit
3	M/s. Ambika Precast Products, Goankarwada, Nanoda, Latambarse, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
4	M/s. Sai Anand Engineering Works, C/oo. Sairaj Chari Panarsha, Kunden, Sakhalem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
5	M/s. Vinayak Yeshwant Chari, C/o. Megha M. Chari, Phalwada, Kudnem, Sanquelim-Goa.	Directed to immediately suspend the operation of the unit
6	M/s. Laxmikant Saw Mill, Amruli, Near Chowgule Mining Plot, Khanjan, Sula, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
7	M/s. Ramdas Engineering Works, Ghadwada, Surla, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
8	M/s. Surya Industries, Amrali, Near Chowgule Mining Plot, Khajan, Surla, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
9	M/s. Navdurga Rubber, C/o. Subash Raghvur, Pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
10	M/s. Yashodatta Mill, C/o. Mahesh Phadte, Ambikanagar, Bhomai, Pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
11	M/s. Dalal Enterprises, C/o. Shrikrishna Dalal, Near Tagor high school, Surla, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
12	M.s Shri Laximi Industries, C/o. Shrikrishna Ganpat Dalal, Ambegal, Pale,Bicholim-Goa.	Directed to immediately suspend the operation of the unit
13	M/s. Durga Rice & Flour Mill, C/o. Surrendra G. Paidankar, Ambegal, pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
14	M/s. Durga Bakery, C/o. Laxmi Anant Paidankar, Ambegal, Pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
15	M/s. Hindustan Tyre Works, C/o. Subash Raghvani, Ambegal, Plae, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
16	M/s. Mallikarjun Sankhelo Prossom Bakery, C/o. Jose Barretto, Mutiem, Bhomai, Pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
17	M/s. Dad Engineering Works, C/o. Raghvur, Asolkar, Bhomai, Pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
18	M/s. Metalcraft Industries, D3/1, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
19	M/s. Goa Hydrolics India Pvt. Ltd. Plot No. 121, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
20	M/s. Suresh Rice & Flour Mill, C/o Sapana S. mashaikar, Gudwada, Karapar, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
21	M/s. Mahalaxmi Areated Water, Van Maulinguem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
22	M/s. Shinddi Cashew Industries, C/o. Ramakant Nagvekar, Maulinguem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit

23	M/s. Rubby Engineering Works, Opp. Fish Market, Velguem, Pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
24	M/s. L.v.S. Tyre Works, C/o. Ajanta Tyre , k.M.Mathew, Velguem, Pale, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
25	M/s. The Bombay Engineering Works, C/o. Siddesh Laxmikant Chodankar, Saviribhat, Velguem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
26	M/s. Sampada Flour Mill, Kelbaiwado, Maem,Bicholim-Goa.	Directed to immediately suspend the operation of the unit
27	M/s. Kalan Bakery, Ordawado, Mayem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
28	M/s. Laxmi Rice & Flour Mill, Shikeri, Mayem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
29	M/s. Jeevan Rice & Flour Mill, Vainguem, Mayem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
30	M/s. Satyakatha Rice & Flour Mill, Chinch, Bhatwada, Mayem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
31	M/s. Rajaram deulkar, C/o. Laxmikant R. Deulkar, Old Market Bicholim-Goa.	Directed to immediately suspend the operation of the unit
32	M/s. Chari Automobile, Co. Ramchandra A. Chjari, Goankarwada, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
33	M/s. Techanical Precisions, D3/20, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
34	M/s. Kumbhar, Plot No. 91, Bicholim Induistrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
35	M/s. Nitu Plast, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
36	M/s. Hydropremetic Pvt. Ltd, Bicholim Industrial Esate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
37	M/s. Rajaram P. Deulekar, Old Market, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
38	M/s. Vasudew Vaman Chari, Goankarwada, Mayem-Goa.	Directed to immediately suspend the operation of the unit
39	M/s. Bavai Bhjavani Bakery, Goankarwada, Mayem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
40	M/s. Radha Furniture, Goankarwada, Mayem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
41	M/s. Dwarki rice & Flour Mill, Goankarwada, Mayem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
42	M/s. Shree Sai Workshp, C/o. Saibaba D. Naik, Velguem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
43	M/s. Devani Bakery, C/o. Phondo, Bhoma Ghadi, Velguem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
44	M/s. Shambu Narayan Chibde, Ghadiwada, Maullinguem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
45	M/s. Savitri Workshop, Kthiwada, Karapur, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
46	M/s. Road Star Tyre Works, D4/2, Bicholim Industrial estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
47	M/s. Prakash Rice & Flour Mill, C/o. Kum. Priyanka Parab, Ambheshi, Amobna, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
48	M/s. Kaveri Agro Product, C/o. Lina Sawaikar, Virdi, Sanqulim-Goa.	Directed to immediately suspend the operation of the unit
49	M/s. Geeta Engineering Works, C/o. Prakash Laxman Popkar, Lamgao, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
50	M/s. National Engineering Works, C/o. Krishna Chari, Velguem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit

51	M/s. Micron Industries, D3/3, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
52	M/s. Sai Tiles, Plot No. 120, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
53	M/s. Sai traders, Plot No. 119, Bicholim Industrial Estate,Bicholim-Goa.	Directed to immediately suspend the operation of the unit
54	M/s. Koteshwar Engineering Works, Plot No. 119/B, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
55	M/s. Pop's Snacks Services, D3/16, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
56	M/s. Sai Prasad Oil Industry, Plot No. 31B, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
57	M/s. Bharat Engineers, Gala No. 8, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
58	M/s. Gajanan Enginering Works, D2/24, Bicholim Industrial Estate, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
59	M/s. Class Packers, Sai Krishna, Bardem, Bicholim-Goa.	Directed to immediately suspend the operation of the unit
60	M/s. The "O Spa, The 'O" Hotel, Survey No. 114/1, Dando, Candolim, Bardez, Goa.	Directed to immediately to close/suspend the operation of the unit
61	M/s. Prakriti Ayurvedya Centre, Neelams, The Grand, Post Office Road, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
62	M/s. Revive SPA, Country Inn & Suites, C/o. Carlson, Bamanvaddo, Candolim, Bardez,-Goa .	Directed to immediately to close/suspend the operation of the unit
63	M/s. Pousada Tauma, Porbavaddo, Calangute, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
64	M/s. The Camelot Resort, Baga Arpora Road, Cobravaddo, Baga, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
65	M/s. Tatva Elements Spa, Hotel Whispering Palms, Candolim, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
66	M/s. Amanya Spa & Salon, C/o.Nitya Resort, Naikwado, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
67	M/s. Azzure by Spree Hotels, H. No. 2/16 A, Naikwado, Calangute, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
68	M/s. Jewel Inn & Spa, opp. Don Bosco Hostel, Tivai Vaddo, Calangute, Bardez-Goa	Directed to immediately to close/suspend the operation of the unit
69	M/s. The Golden Palms Hotel & SPA, Next to Alex Church, Naikvaddo, Calangute, Bardez-Goa	Directed to immediately to close/suspend the operation of the unit
70	M/s. Suncity Resort, Sauntawaddo, Calangute Baga Road, Calangute, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
71	M/s. Fortune Select Regina, 376, Fort Aguada Road, Candolim, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
72	M/s. The SPA at Royal Park Beach Resort, 1/230 A, Holiday St, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
73	M/s. Nature Touch Candolim, Fort Aguada Road, Souzawado, Candolim, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
74	M/s. Massage & Jacuzzi at Beauty Parlour, Resorte Marinha Dourada, Tambudki, Arpora, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit

75	M/s. SPA/Massage at Phoenix Park Inn Resort, Sequera Vado, Candolim, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
76	M/s. The spa/massage Centre at Kingstork Beach Resort, Candolim, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
77	M/s. Sukhmantra Resort & SPA, 317/C, Bamon Vaddo, Candolim, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
78	M/s. 360, Beach Retreat, Main Candolim Beach, Candolim, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
79	M/s. Toto's Foot Spa, Khobravaddo, Near Our Lady of Piety Chapel, Baga Road, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
80	M/s. Massage Centre at Nazri Resort, Sauntawaddo, Baga, Calangute, Bardez-Goa is operating	Directed to immediately to close/suspend the operation of the unit
81	M/s. Primrose SPA, Opp. Centurion Bank, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
82	M/s. Tatva Element SPA,Shop No. 3/1, Ward No. 3, Tivaiwaddo, Velvet Inn, Behind Calangute Chapel, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
83	M/s. Sunflower Salon and Spa, Sunshine Park Resort, Fort Aguada Taj Road, Candolim, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
84	M/s. Tatva Element SPA, Nagoa Grande N/18/1, Nagoa Arpora, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
85	M/s. Oasis SPA, No. 2/132 A, Naikwado, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
86	M/s. Spa Sitara, 283/7, Bamanvaddo, Fort Aguada Road, Candolim Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
87	M/s. Orient Spa, Cambay Beach Resort, Holiday street, Kerkar Art Gallery Lane, Calangute, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
88	M/s. Lotus Beauty Salon, Prudential Palms Building, Alto Porvorim, CHOGM Raod, Porvorim-Goa.	Directed to immediately to close/suspend the operation of the unit
89	M/s. Deltin Suites, Nerul Candolim Road, Fadtewada, Nerul, Bardez-Goa .	Directed to immediately to close/suspend the operation of the unit
90	M/s. Deltin Palms, H. No. 542/1, Malim, Penha de Franca, Next to Britona Church, Britona-Goa.	Directed to immediately to close/suspend the operation of the unit
91	M/s. "K" SPA , C/o The Royal Goan Beach Club, Menleiro, next to Blue Lady Water Park, Baga, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
92	M/s. "O2" SPA, Double Tree by Hilton, Arpora, Baga, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
93	M/s. Massage Centre at TESO Water Front, Vaddy, Siolim, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
94	M/s. Avamam Massage Centre, Near Cavala & La Calypso Beach Resort, Baga, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
95	M/s. Spa at White Pearls Suites, Opp. Hanuman Temple, Sanqwadi, Baga, Arpora, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
96	M/s. Hotel Dona Terezinha, Fort Aguada Road, Arpora, Bardez-Goa..	Directed to immediately to close/suspend the operation of the unit
97	M/s. Ayurvedic Massage, Looney Resort, Goa, Ozran Beach Road, Anjuna, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit

98	M/s. Spa and Wellness, Willows Elite Resort, Bairo Alto, Anjuna Assagao, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
99	M/s. La Gulls Court SPA , 474/1, Near Savitri Supermarket, Devulvaddo, Chapora, Vagotor, Bardez-Goa.	Directed to immediately to close/suspend the operation of the unit
100	M/s. Marbela Beach Resort SPA, 782, Gawdewada, Morjim, Pernem -Goa.	Directed to immediately to close/suspend the operation of the unit
101	M/s. Rock Water Resort, Morjim, Pernem -Goa.	Directed to immediately to close/suspend the operation of the unit
102	M/s. The Mandala, Ashwem, Mandrem, Pernem-Goa.	Directed to immediately to close/suspend the operation of the unit
103	M/s. Ecowoods Village Resort & Spa, 183/4, Gaudewaddo, Morjim, Pernem-Goa.	Directed to immediately to close/suspend the operation of the unit
104	M/s. The Tatva Element Spa , La Cabana, Ashwem Mandrem, Pernem-Goa .	Directed to immediately to close/suspend the operation of the unit
105	M/s. Amarya Shamiyan, Ashwem Beach, Mandrem, Pernem-Goa.	Directed to immediately to close/suspend the operation of the unit
106	M/s. Lotus Bambolim Beach Resort, Nunes Beach, Bambolim-Goa .	Directed to immediately to close/suspend the operation of the unit
107	M/s. Meenas Ayeena Beauty Studio & SPA, F/3, Britos Enclave, Near Petrol Pump, Next to Manoshanti Hotel, Miramar-Dona Paula Highway, Caranzalem-Goa.	Directed to immediately to close/suspend the operation of the unit
108	M/s. Sensation Beauty Salon, Bhashyam Chambers, Adarsh Colony, Caranzalem-Goa .	Directed to immediately to close/suspend the operation of the unit
109	M/s. Goa Sea Spa , Nunes Beach Properties, Bambolim-Goa.	Directed to immediately to close/suspend the operation of the unit
110	M/s. Goveia Holiday Homes, next to Aradi Sub Station, Candolim, Bardez-Goa.s	Directed to immediately to close/suspend the operation of the unit
111	M/s. Goveia Holiday Homes, next to Aradi Sub Station, Candolim, Bardez-Goa.s	Directed to immediately to close/suspend the operation of the unit
112	M/s Vallabh Crushing Industries, Sarzora, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
113	M/s Namdev Narcinva Lotlikar, Murida, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
114	M/s Sun Bakery, Pedda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
115	M/s Neo Mech Engineering Works, C/o. Virendra Bandodkar, Opp. Rajendra Prasad Stadium, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
116	M/s Trimurti Die Press, C/o. Shivaji S. Mane, Gandhi Market, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
117	M/s Ajanta Printers, C/o. Putu Venkatesh Alvonkar, Erasmo Carvalho street, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
118	M/s Anant Shabu Pai Fondekar(Sambari Flour Mills), New Bazar, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
119	M/s Lorez Imaging, C/o. Adelina Fernandes, Behind Muncipal Bldg., Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
120	M/s Apa Somo Redkar, Station Road, Behind Bata Shop, Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
121	M/s Luizinho Printing Press, Shop No. 8, Vaishak Appts., Behind Dr. Rebello's Hospital, Mada, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

122	M/s Raikar Colour Lab., Shop No. GS 11, Rigim classic Bldg., Opp. Chamundi Bldg., Malbhat, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
123	M/s Prasad Drinks, C/o. Sadanand Mayekar, H. No. 88, Malbhat, Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
124	M/s Shri Umesh Mukund Chari, H. No. 487, Malbhat, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
125	M/s Tak-Tik Metal Works, C/o. Antonio M. Fernandes, Behind Durga Hotel, Santimano Bldg., Khareband, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
126	M/s Lezia Auto Servicing Centre, Near Cine Lata, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
127	M/s Keris Engineering Works, C/o. Jose K. Fernandes, Borda, Near IIT, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
128	M/s Marcarfly's Industries, C/o. Eoque C. Souza, H. No. 356, St. Joaquim Road, Near Jet Traval, Borda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
129	M/s Rolex Dry Cleaners, C/o. Rajendra Telu, 2/s Borda Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
130	M/s Shree Giroba Prasanna Industries, C/o. Suryakant Narayan Dabolkar, Near BM Service Station, Modsai, Borda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
131	M/s Vini Cola Pvt. Ltd., H. No. 248, St. Joaquim Road, Opp. B.M. Hall, Borda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
132	M/s Reliance Printing & Stationary, C/o. Mahendra Karmali, Behind old Survey Office, Borda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
133	M/s Bhavani Enterprises, C/o. O.V.B. Patel, Opp, Survey Office, Behind State Bank, Borda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
134	M/s Savio Service Centre, C/o. Manuel Perreira, H. No. 130, Behind Pedar Chapel, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
135	M/s Technical Engineers, Opp. Borkar Super Market, Vidhyanagar, Aquem, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
136	M/s Sanyo and Sanyo, C/o. Tilak Raj Mehta, Shop No. 5, Sundew Apts., Near Cine Vishant, Aquem Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
137	M/s Family Ice Cream Factory, C/o. Rajesh Kerkar, Aquem Alto Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
138	M/s. St. Francis Xavier Workshop, C/o. Allwin Fellis, Opp. Kerkar Hospital, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
139	M/s. Renuka Flour Mill, C/o. Ramchsndra Patil, Near Kerkar Hospital, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
140	M/s. Shree Mallikarjun Alluminium, C/o. Shaikh Jalal Daud, Near Babu Nayak House, 5-8, Priyanka Enclave, Aquem, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
141	M/s. Chougule Industries Pvt, Ltd,. S. No. 41/4, Cotto co Mill, Aquem, Baixo, Shantinagar Navelim Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
142	M/s. Dattaraj Ramchandra Sawamt, Aquem, Alto-Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

143	M/s. Shirodkar Wooden Furniture, C/o. Reshma Shirodkar, 533, Taleband, Aquem, Near Ram Mandir, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
144	M/s. Sideshwar Alluminium, Shop No. 7, Coelho Apts., Grd. Floor. Ponder Chapel. Aquem Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
145	M/s. Garage National, Aquem, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
146	M/s Narayan Pissurlekar, C/o. Mr. Narayan Pissurlekar, H.No. 28, Pedda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
147	M/s Gomes Cement Unit, C/o. Costa Pereira Bldg, Nr, Municipal Garden, Margao-Goa.(Solva)	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
148	M/s Chandrakant B. Naik, Shop No. 4, Opp. Rukrush Hotel, Margao-Goa, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
149	M/s Fernandes Vulcanising Shop, C/o. Mr. Lourennzo Fernandes, Old Market, Market, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
150	M/s. D. V. Kamat & Brothers, khareband, Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
151	M/s. Modern Auto Industry, C/o. Iftikar khan, Santimano Bldg., Sirvodem, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
152	M/s. Prashant S. Nadkarni Flour Mill, Sirvoddem, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
153	M/s. Sunivas Funnisher, C/o Mahalaxmi Saw mill, P.S.Gauenkar, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
154	M/s. City Technical Services, C/o. Hemlet Coelho, Carvelho Apts. Shop No. 4, Behind Loyola High School, Comba Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
155	M/s. Sebi Engineering Works, C/o. Sebino Fernandes, Near Panchayat, Kotkomoll, Firguelem Aquem, Baixo, Navelim, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
156	M/s. Babuliram A. Bandodkar, C/o. Babuliram A. Bandodkar, Tripoli Bldg, Shop No. 13, Pajifond, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
157	M/s. Rodsons Engineering Works, C/o. Visitacho Rodrigues, Vissu Virgincar Building, Quepem Road, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
158	M/s. Esmail Kansar, Comba Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
159	M/s. Kismet Industries, C/o. Krishnanath Kakode, Behind Rebello Hospital, Comba, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
160	M/s. Shubha Engineering Works, C/o. Shailendra P. Sanzagiri Shivam, Aquem, Dovorlim Road, Near Church Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
161	M/s. Naguesh Auto Servicing Centre, C/o. Rajendra Lotlikar , Davorlim, Margao, Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
162	M/s. Shanta Printing Press, C/o. Kamal Zambaulika, Davorlim, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
163	M/s Narcinva D. Bandodkar, Igrejawado, Cavelossim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
164	M/s Kamat Securities, C/o. Dr. Giri Baban Kamat, Near Hari Mandir, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

165	M/s Bhavani Sweet & Purohit Refreshment, C/o. Narayan Ninnel Rohit, Near Railway, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
166	M/s Reliance Fabrication, C/o. Dinesh Kakodkar, H. No. 365 Opp. Wood House, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
167	M/s Alcon Alluminium Industries Pvt. Ltd, Plot No. 29, Near Hotel Shinkre, Natasha, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
168	M/s Aryan Industries, C/o. Nesh Naik, H. No. 113, Chandrawad, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
169	M/s Noor Flour Mill, C/o. Shaikh Noor Mohmmed, Chandrawado, Fatorda Margao, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
170	M/s Sushree Products, C/o. Rajendra S. Ghate, H. No. 309, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
171	M/s Construction & Traders, C/o. V. K. Naik, Gauliwada, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
172	M/s Mac Fabricatiors, C/o. Khalid Shaikh, Chandrawada, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
173	M/s Felero Drinks, C/o. Conceica Felero, Chandrawada, Fatorda Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
174	M/s Harish Timber Depot, C/o. Damodar Patel, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
175	M/s Keytech Electronics System Pvt. Ltd., C/o. Shirish Shetye, Gogol, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
176	M/s. Rodrigues Furniture, C/o. Minguel Rodrigues, Near St. Ann School, H. No. 357, Agate, Gogol, Margao, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
177	M/s. Citizen Battery, Opp. Hotel Shekar, below Sydicate Bank, Khareband Road, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
178	M/s. Vaman G. Chari & Sons, Khareband, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
179	M/s. Saeesh Enterprises, C/o. Seema S. Kamat, Khareband, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
180	M/s Raikar Diamond Cutting Centre, Shop No. 229, Gandhi Market, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
181	M/s Damodar Fabrication Works, C/o. Damodar Parkar, Pereira Bldg., Quepem Raod, Margao, Salcete-Go	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
182	M/s Grace Printers, C/o. Cedric Domnic Fernandes, P C Pacheco Bldg., Varde Valaulikar Road, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
183	M/s Kakodkar Printing Press, C/o. Umakant kakodkar, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
184	M/s Penguins Casa De Gelados, C/o. Abdul Kedar Haji Gaffar, Near Municipality, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
185	M/s. Madhukar R. Acharya, Near Power House, Aquem, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
186	M/s. Shree Damodar Saw Mill, C/o. D. B. Patil, Aquem, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
187	M/s. Laxmi Cement Grill, C/o. Vasanti Naik, H. No. 398, Shantinagar, Rawanpond, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

188	M/s. Natraj Industries, C/o. Naresh Zambaulikar, Shantinagar, Aquem, Baixo, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
189	M/s. Madgaum Soda Factory, 572, Colomorod, Below Bridge, Quepem Road, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
190	M/s. Ratnadeep Bakery, C/o. Vithal K. Dhavaskar, H. No. 260, Calcondem, Quepem Road, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
191	M/s. Alve–Weld-O-Crafts, C/o. Ajit Alve, Near popular High School, Comba, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
192	M/s. Natasha Fuel Injection Service Centre, C/o. Minguel Carvalho, H. No. 91 E, Near Gomantak Viya Niketan, Comba, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
193	M/s. Vaz Liquir Industries, C/o. Jose F. S. Gonsalves, Comba, Parcotto, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
194	M/s. Grace Printing & Stationary, Indira Apts. Near Milk Booth, Comba, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
195	M/s. SSS Service Station, C/o. P. N. Shanoy, Comba, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
196	M/s. Engee Combine, C/o. Raghunath Nadkarni, A 5-2, Laxmi Co-op Housing Society Ltd. Comba, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
197	M/s. Laxmi Bakery, C/o. Shripad Shirodkar, H. No. 229, Near Old Court, Aquem, Comba, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
198	M/s. K. B. Cement Products, C/o. K. B. Naik Gauliwada, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
199	M/s. Answin Plastic Industries, C/o. Anita Vaz, Behind Gouri Petrol Pump, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
200	M/s Sai Prasad Batteries, C/o. Keshavrao Revankar, Shop No. 7, Shinkre hotel Building, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
201	M/s Perfect Coaters, C/o. Ulhas P. Naik, Opp. Maria Bar, Ambajim, Fatorda, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
202	M/s Bombay Furniture Works, C/o. Shaikh Abdul Roof, 16, Sterley Apts., Pajifond, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
203	M/s. Goa Auto Reconditioners, C/o. Shri Raghuvir Paikane, Navelim, Salcete-Goa,,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
204	M/s. Vaibhav Bakery, C/o. Shri Kashinath V.Gurav, Sarvadem, Navelim, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
205	M/s. Bright Packaging, C/o. Shri Tulshidas Gavade, H. No. 583, Revora, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
206	M/s. Shree Laxmi Marbles, C/o. Clara Pinto Rodrigues, H. No. 740, Fradilem, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
207	M/s. Wood Art Furniture, H. No. 455, Sirvodem, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
208	M/s. Prabhu Cement, C/o. Shri Mahadev Prabhu, H. No. 137, Nagmodem, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
209	M/s. Castle Rock Industries, C/o. Mrs. Gracy George, Colmorod, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
210	M/s. Margarida Cardoz, Dialgora, Telaulim, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
211	M/s. M.P.D'Costa Workshop, C/o. Late Menino Paul-wife Conceicao Rebello, Belem, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

212	M/s. Lakaki Dry Cleaners & Art Dryers, C/o. Venetesh Naik Dalal, Dicarpali, Quepem Rd., Margao - Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
213	M/s. Madina Furniture Works, C/o. Shaikh Shaffi Hussai, H. No. 190, Dicarpali, Navelim, Salcete, Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
214	M/s. Fericon, C/o. Mr. Khaja Kuknoor, 1st Floor, David House, Dicarpali, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
215	M/s. Sunshine Laundry, C/o. Prakash M. Redkar, H. No. 64-E, Tolleaband Opp. Datta Mandir, Davorlim, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
216	M/s. Mahalaxmi Saw Mill, C/o. Tivikumar S. Naik, Quepem Road, Davorlim, Salcete- Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
217	M/s. Sagar Printing Press, C/o. Balchandra Kakodkar, Station Road, Margao, Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
218	M/s. Casa Gomantak, C/o. J. N. Nayak, P. Box No. 04, New Market, Margao - Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
219	M/s. Shirley & Co., C/o. Shirley Countinho, Shop No. 2, Aribhat Appts., Erasmo Corvalho street, Margao-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
220	M/s. Shivshakti Engg. Works, C/o. Mr. Ratnakar Bandodkar, Davorlim, Margao, Salcette, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
221	M/s. Vishnu Arjun Takekar, C/o. Vishnu Arjun Talekar, H. No. 73 K, Baga, Davorlim, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
222	M/s. Khan Bakery, C/o. Hussain Khan, H. No. 80/A, Indona, Davorlim, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
223	M/s. Gautam Wood Industries, C/o. Mr. Gautam Patel, Indona, Davorlim, Salcete - Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
224	M/s. Nicholas & Sons Engineering Works, C/o. Nicholas D' Costa, Tolleband, Davorlim, Salcete - Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
225	M/s. J. N. Kamat & Sons, C/o. Shri Subhase J. Kamat, Dicarpale, Davorlim, Margao, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
226	M/s. Carol Modern Furniture & Decorators, C/o. Mr. Michael D'Costa, Below Communidad Bldg, Old Market, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
227	M/s. Moosa's Tea & Coffee Centre, C/o. Hajee Mussa Mohammad, Near Market, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
228	M/s. Souza & Sons, C/o. Romello De Souza, Old Market, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
229	M/s. Minerva Ice Cream and Cold drink house, C/o. Mr. Badruddin Massani Amir Ali, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
230	M/s. Fernandes Engg. Works, C/o. Antonio Fernandes, Old Market, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
231	M/s. Espec Diesel Engineering, C/o. Monica D'Souza & Micheal A. D'Souza, Correia Building, Near Woodland Hotel, Margao-Salcete-Go	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
232	M/s. Gomant Prnting Press, C/o. Mr. Jayprakash D. Kare, Rua Martines Dias Road, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
233	M/s. Himalaya Ice Cream, C/o. Mr. Madhusudan Vithal Prabhu Gaonkar, Virjinkar Bldg, Qupem Road, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
234	M/s. Crystal Ceramics, Dental Laboratory, C/o. Dr. Hubert Gomes, Avenue Bldg, Pajifond, Margao-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
235	M/s. Shyam Printers, C/o. Shri. Rohidas G. Lotilikar, H. No. 44, Near Jain Manddhir, Pajifond, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

236	M/s. Kala Windecors, C/o. Mr. Rajiv Kamat, D-1, Gound Floor, Sea Gull Appts, Near Jain Temple, Panjifond, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
237	M/s. Mona Ice Cream Factory, C/o. Shaik Abdul Rahin, Panjifond, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
238	M/s. Anand Industries, C/o. Naresh Bandodkar, 13, Tripoli Building, Pajifond, Margao, Salcete - Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
238	M/s. Jayasu Industries, C/o. Vasudev Karpe, Karpe Agencies, Balaji Kakode Chawl, Pajifond, Margao - Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
240	M/s. Valankani Garments & Stiching Works, C/o. Santana Pinto, Crismichel Building, Pajifond, Margao, Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
241	M/s. Coast Air Conditioning Refrigeration Ind., C/o. Mr. Constancio Costa, G-2, Vaibhav App., Davorlim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
242	M/s. Shree Gaulaxmi Saw Mill, C/o. Mangalaben Patel, Davorlim, Navelim, Salcete – Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
243	M/s. Famour Steel Doors Mfg. Co, , C/o. Mohammad Hussain, Zoriwado, Davorlim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
244	M/s. Ranjit Fabricators, C/o. Necholi Ranjeet Kumar, H. No. 122, Zoriwado, Davorlim, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
245	M/s. Car Care Centre, C/o. Mr. Stanislaus Noronha, H. No. 102, Seraulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
246	M/s. Apollo Tiles & Marbles, C/o. Mr. Pedro J.A.Domado, Kirbhat, Nuvem, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
247	M/s. Jose Antonio Pinto, H. No. 92, Nuvem, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
248	M/s. My Choice, C/o. Mr. Inacinho Albuqerque, H. No. 86, B, Cupem, Nuvem, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
249	M/s Annie Workshop, C/o. Mr. Julio Fernandes, Verna, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
250	M/s Remedios Baker, H. No. 73, Bello, Nuvem, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
251	M/s Modern Chemical Works, H. No. 349, Sonarvaddo, Nagoa, Verna, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
252	M/s . St. Jose Wood Works, C/o. Mr. Joao Jose Feria, Pimpolwado, Nagoa, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
253	M/s Periera Rice Mills, C/o. Mr. Justino Fernandes, H. No. 177, Adaowaddo, Majorda, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
254	M/s Majorda Printers & Stationers, C/o. Mr. J. J. Fernandes, 8 Club Bldg, Majorda, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
255	M/s Golden Cane Industries, C/o. Mr. Abdul Rehaman, Shop No. 333(4), Near Railway Station, Majorda, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
256	M/s Meca Industries, C/o. Mr. Antonio J. N. Carvalho, H. No. 422, Sanlem Waddo, Majorda, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
257	M/s. Pinto General Works, C/o. Bertha Pinto, Behind Fatima Convent, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
258	M/s. Pinto's Flour Mill, C/o. Jonita Pinto, Near Maruti Temple, Peddem, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
259	M/s. Areal Printing Press, C/o. Manuel Fernandes, , Near Grace Church, Isidore Baptista Rd, New Market, Margao-Goa.	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

260	M/s Sabina Bakery, C/o. Manuel Fernandes, Bus Stand, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
261	M/s. Unique Graphic Prints, C/o. Chandramohan Madkaikar, H. No. 1616, Shambaseth Smriti, Martines Dias Road, Margao-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
262	M/s Shantnag Printing Press, C/o. Shri Ragoba R. Nagvekar , Panzorconi, Cuncolim, Salcete-Go	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
263	M/s. Bona Steel, C/o. Mr. Ramesh Naik, Velim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
264	M/s. Oscar Auto Servicing Centre, C/o. Mr. Oscar Pereira, Oromorod, P.O. Dramapur, Sirlem, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
265	M/s. Minguel Luis Gomes, C/o. Mr. Minguel L. Gomes, 2nd Dadio, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
266	M/s. Yash Enterprises, C/o. Mrs. Deepika D.Lotlikar, Dylon Bldg, Navelim Rd., Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
267	M/s. Vailankani Cement Products, H. No. 17, Davorlim, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
268	M/s. Wood Teq Furniture, H. No. 86, Sirvodem, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
269	M/s. Prakash V. Prabhu Dessai, C/o. Mr. Santosh Chandak, St. Jose de Areal, Sarzora, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
270	M/s. Mahesh Saw Mills, C/o. Mr. Khaboodin Antoni, Sarzora, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
271	M/s. Domnisson Rice & Flour Mill, Varca, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
272	M/s. Futura Solutions, C/o. Fr. Antonio Furtado, G-24,25, Church View Complex, Varca, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
273	M/s. Francis Welding Workshop, Velim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
274	M/s. R.R. Engineering, C/o. Mr. Eutinio Fernandes, H. No. 390, Shop No. 2, Gr. Floor, Varca, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
275	M/s. Asha Steel Industries, Velim Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
276	M/s. Joscar Rice & Flour Mill, H. No. 552, Velim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
277	M/s. Brothers Bakery, H. No. 1134, Silva Waddo, Velim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
278	M/s. Cota Industries, Gudi, Paroda, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
279	M/s Super Structures, C/o. Mr. Placentino A. Rodrigues, H. No. 353, Thand Vaddo, Betalbatim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
280	M/s Cedric Judes Bakery, C/o. Mr. Inocencio Rodrigues H. No. 94/A, Nagravaddo, Betalbatim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
281	M/s Allwyn's Enterprises, C/o. Mr. Allwyn Periera, H. No. 13(d), Thondwado, Betalbatim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
282	M/s Pedro Costa Cupatoz, C/o. Mr. Vidhyadhar V. Arsekar, Macasana Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
283	M/s Bhagwati Cement Products, C/o. Mr. Ladram Patel, Mugali, Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

284	M/s Fine Industries, C/o. Shri Muhammad Yusuf, H. No. 840, Mugali, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
285	M/s Asia Trade Combines, C/o. Mrs. Dipti A. Shah, 2/7, Libiyana Bldg., New Market, Margao, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
286	M/s Mathew Joaquim Simao, Leandrika Appts., 2nd Floor, Madel Grande, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
287	M/s Mangesh Traders, C/o. Mr. Mahesh Vithalkar, Shop No. 3, Guru Krupa, Malbhat, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
288	M/s Chandrakant K. Shet Verenkar, C/o. Mr. Chandrakant Verancar, Malbhat, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
289	M/s Dinesh Aluminium Work, C/o. Dinesh Nagvenkar, H. No. 108, Ramodem, Nr. Church, Carmona Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
290	M/s Dalima Bakers & Confectionery, C/o. Mr. Peter Fernandes, 622, Pulwado, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
291	M/s Kay Electronics, C/o. Mr. Jayant G. Kamat, H. No. 69, Grand Venelim, Colva, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
292	M/s Robot Soap Products, Next to M/s. Santos Engineering, Vidyanagar, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
293	M/s Tiborcio Gabriel Fernandes, Carmona, Gerogewado, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
294	M/s. Antonio Rodrigues, H. No. E-27, Karali, Paroda, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
295	M/s. Longrun Bottling Co., C/o Hotel Longuinhos, Dr. Antonio Dias Bldg, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
296	M/s. Vinayak Gopal Shelvi, Ravalphond, Navelim, Salcete-Goa.	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
297	M/s. Vailankani Power Laundry, C/o. Philipina Pereira, H. No. 160/A-1, Codeavaddo, Deussa, Chinchinim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
298	M/s. Sanwil Fabricatio, 2nd Palvem, Chinchinim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
299	M/s. Benson Bakery, C/o. Mr. Benjamin Dias, Dandoavaddo, Chinchinim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
300	M/s. Costa Chari, C/o. Mr. Joao M. da Costa, Dramapur, Salcete-Goa.	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
301	M/s. German Refrigeration, C/o. Seema H. Kalkar, Raikar Residency, NH-17, Bellay, Nuvem, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
302	M/s. Officina Bhandar, C/o. Mr. R. V. Bhandari, Benaulim, Salcete-Goa.	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
303	M/s. Roshan Welding, C/o. Mr. William Vaz, H. No. 103, Ambexin, Seinabetim, Colva, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
304	M/s. Anandrao X Lotlikar, C/o. Mr. Anandrao X. Lotlikar, Sernabatim, Colva, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
305	M/s. Vincente Alvaro Serrao, Seraulim, Colva, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
306	M/s. Shival Candle Industry, C/o. Mr. Shivanand Anand Lotlikar H. No. 142, Chinchmorod, Vanelim, Colva, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

307	M/s. Macson Carpenters, C/o. Mr. Micheal Baptista, H. No. 47, Peda Grande, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
308	M/s. Sonia Metal Works, C/o. Mr. Pascoal Rodrigues, Manzilwaddo, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
309	M/s. Furtado Workshop, H. No. 1246/1, Manzilvaddo, Benaulim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
310	M/s. Infant Jesus Furniture Works, C/o. Mr. Sebastiao Fernandes, Colva, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
311	M/s. Joaquim Joao Fernandes, H. No. 32, Near Agnel Ashram, Matola Verna, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
312	M/s. M.R. Furnitures, C/o. Manuel Mascarenhas, Musali, St. Jose de Areal, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
313	M/s. Bhagawati Enterprises, C/o. Khinji Patel, Musali, St. Jose De Areal, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
314	M/s Tanmay Offset Prints, C/o. Sudip Karmali, H.No.342, opp. Nita Ind. Nispabhat, St. Jose de Areal, Salcete – Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
315	M/s. Joseph Cardozo, C/o. Christo Cardoso, Nr. Two Cross, Bhati, St. Jose de Areal, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
316	M/s. Vishwanath Saw Mill, C/o. Ramesh Patel, Musali, St. Jose de Areal, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
317	M/s Gauri Enterprises, Padribha, Odli Bondgal, St. Jose de Areal, Salcete – Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
318	M/s. Shree Jaiaram Stone Industry, C/o. Haribai N. Patel, Musali, St. Jose de Areal, Salcete – Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
319	M/s. Sasar Powder Laundry, C/o. Galaya Palconda, 328/c, Pullamol, St. Jose de Areal, Salcete-Goa(Sagar Powder Laundry)	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
320	M/s Hazrat Dadapeer Workshop, C/o. Mehboob Panwada, Ambixir, Sonarbatim, Colva, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
321	M/s. Goa Liquor Industries, C/o. Premanand Naik, Musale, St. Jose de Areal, Salcete – Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
322	M/s Bhagwati Timblo, C/o. Arjun J. Patel, Mugali, St. Jose de Areal, Salcete – Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
323	M/s. Nita Industry, C/o. John Mascarenhas, Gudi, St. Jose de Areal, Salcete – Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
324	M/s. Super Weld Engineering, C/o. Mr. Jacinto Azavedo, H. No. 35, Betalbatim, Colva, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
325	M/s. Chandrakant Bandodkar, Bamborda, Verna, Salcete-Goa.	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
326	M/s. Emmy Bottling, C/o. Mrs. Jasin Fernandes, H. No. 1706/A, Vasuado, Ambodd, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
327	M/s. Mangush Soda Factory, C/o. Mrs. Veena Mangueshkar, Adsule, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
328	M/s. Socorina Carpentry, C/o. Mr. Minguel Fernandes, H. No. 977, Voddlem Bhat, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
329	M/s. Agnelo Furniture Works, C/o. Shri Agnelo Fernandes, Grande Pulvado, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

330	M/s. Nadkarni Metals, C/o. Mr. Kishor Nadkarni, H. No. 11, Povoacao, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
331	M/s. Hema K. Nadkarni, H. No. 11, Povoacao, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
332	M/s. Pinto Fabrication, C/o. Mr. Trevor Pinto, Magilwada, Benaulim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
333	M/s. Jadhav Brothers, C/o. Mr. Gokuldas K. Jadhav, Birondi, Benaulim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
334	M/s. Ideal Paper Works, C/o. Ms. Savita Shirodkar, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
335	M/s. Rato Carpentry, C/o. Mr. Sebastiao Rato, H. No. 240, Benualim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
336	M/s. Naik Binder, C/o. Mr. Hari G. Naik, H. No. 355, Pulvado, Benaulim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
337	M/s. Perpetual Soap Industries, C/o. John Mascarenhas, Next to Santos Garage, Vidyanagar, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
338	M/s Damodar Enterprises, C/o. Prakash Prabhudesai, Sy. No.53/1, Sarzora, Salcete- Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
339	M/s Souza Farm Products, C/o. C.A.D'Souza, Ambaji, Margao-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
340	M/s. Ann Enggineering, C/o. Mr. Joe Paulo Fernandes, H. No. 1202, Collea Dongor, Raia, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
341	M/s. Freshy Drinks,C/o. Binny Xavier, H. No. 547, Dagualli, Raia, Salcete.-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
342	M/s. Pereira Pimenta Bricks, Solva, Raia, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
343	M/s. Arlem Carpentry, C/o. Mrs. Alime Menezes, Arlem, Raia, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
344	M/s. Manora Auto Works, C/o. Mrs Agostino Barbosa H. No. 430, Manora, Raia, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
345	M/s. S.M. Services, C/o. Mr. Seby Mendes, Raia, Dogri, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
346	M/s Solar Power Corporation, C/o. Mr. John D'Souza, H. No. 1202, Collea Dongor, After Electricity Dept. Raia, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
347	M/s. Spectrum, C/o. Aires S. Da Costa, 1221, Ungirim, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
348	M/s. Jose Francisco Dos Santon, C/o. Robin Dos Santos, Vidyanagar, Margao, Salcete, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
349	M/s. Pauline Cement Products, C/o. Savio Rodrigues, Vidyanagar, Margao, Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
350	M/s. Damodar Wood Industries, C/o. Hansraj G. Patel, Davorlim, Navelim, Salcete- Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
351	M/s. Atchut Raghunath Shirodkar, C/o. Atchut.R.Shirodkar Maina, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
352	M/s. Emaben Enterprises, C/o. Maria Lourdes D'costa, Pequeno, Rumburdem, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
353	M/s. Vishal Enterprises, C/o. Mrs Padma Shantaram Gaonkar , 285-E, Maina, Vagulem, Maina, Curtorim, Salcete-Goa.	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

354	M/s. Costa Electronics, C/o. Cecil Costa, Near Post Office, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
355	M/s. Manuel Da Costa, C/o. Manuel D'Costa, H. No. 1560, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
356	M/s Lina Borges, Curtorim, Salcette-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
357	M/s. Spent Bottling, C/o. Uhas Sawant, 622, Ralloi, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
358	M/s. Metro Eyelet Industries, C/o. Maria Barreto, H. No. 366/D, Maina Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
359	M/s Jesus Industry and Carpenteres, C/o. Francisco Xavier Miranda, H. No 150, Hirabhat, Ambaji, Margao-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
360	M/s Farm Hots Food Products, C/o. Shamkant.P.Kholar, H.No.138, Ambajim-Loutolim, Salcete.-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
361	M/s. Bandodkar Rice n Flour Mill, C/o. Vasant Vithal Bandodkar, Loutolim-Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
362	M/s Chandrakanta Vanu Bandodkar, C/o. Chandrakanta Vanu Bandodkar, Canvota 30, Loutolim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
363	M/s Vijay Industries, C/o. Suraj Dailani, Loutolim-Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
364	M/s P. Gomes Carpentary, C/o. Pedro Gomes, Caizvot, Sanarbhat, Loutolim-Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
365	M/s Parkar Mill, C/o. Premanand Parker, Vanshem, Loutolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
366	M/s Snow Baker and Confectionaries, C/o. Mr Antonio Rodrigues, Sonanvado, Raia, Salcete –Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
367	M/s Makbul Mechanised Center, C/o. Shaikh Mohamed Hussaim, Uzro, Raia, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
368	M/s Steel Tech Association, C/o. Jose Francisco Rodrigues, Dongnim, Raia, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
369	M/s. Central Mechanical Workshop, C/o. Jose Anthony Fernandes, Raia, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
370	M/s. Central Rice & Flour Mill, Santemol, Rachol, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
371	M/s. Bandekar's Annapurna Masale, C/o. Yashoda Bandekar, 913/c, Bacbhat Raia, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
372	M/s. Seal O Pack, C/o. George Fernandes, H.No 751, Gonapoga, Raia, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
373	M/s. Alemao Workshop, C/o. Piedade Alemao, H.No.727, Raia, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
374	M/s. Bona Aerated Waters, C/o. Bruno Lourenco, H. No. 1032/A, Povoacao Curtorim, Margao, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
375	M/s. Primorose Printers, C/o. Francis D'Costa, Curtorim, Salcete- Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
376	M/s. Pemla Engg. Works, C/o. Joaquim Alemeida, Povoacao, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
377	M/s. Mayur Industries, C/o. Mayura Mirji, H. No. 745/A, Shivdaan, Sandaiul, Raitolam, Curtorim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

378	M/s. Camilsons Industries, C/o. Mrs. Elizabeth Lobo e Dias, H. No. 236, Naquelim, Camorlim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
379	M/s. Super Structures Pvt. Ltd, C/o. Mr. S. V. Shet, Margao-Ponda High way, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
380	M/s. Jila Bakers & Confectionarier, C/o. Reginaldo Antao, H. No. 133 Ambora, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
381	M/s. Todaco Industries, C/o. Shri Anthony Fernandes, Navelim, Dongri-, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
382	M/s. R. K. Tiles, C/o. Shri G.S.Purohit, Fradilem, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
383	M/s. Sameer Enggineering, C/o. Smt. Geeta G. Lotlikar, H. No. 2341, Sinquetim, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
384	M/s. Rosma Printing Press, C/o. Shri Diogo R.Gomes, H. No. 27, Ratwada, Navelim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
385	M/s. Vailankani Eng. Works, C/o. Joao Viegas, H. No. 807/A, Musale, Opp. Chapel, St. Jose de Areal, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
386	M/s Lenz Store Crushing Co, C/o. Shri Lenie Rosario, Sy. No. 250, St. Jose de Areal, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
387	M/s P. D. Dessai Crushers, C/o. P.P.Dessai, Sy. No.250, Sauricho Dando, St. Jose de Areal, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
388	M/s Furtados, C/o. Augustinho Tereza, Sy. No.130, Fatorgallidenyos, St. Jose de Areal, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
389	M/s. Everest Ice & Cold Storage, C/o. Prabhakar Gajanan Naik, Nessai, Musale, St. Jose de Areal, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
390	M/s Maria Feliciana Vaz, H. No. 204, Demo Naik, Opp. Vithoba Temple, Orlim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
391	M/s Silva Enggineering, C/o. Sebastiao D'Silva, H. No. 382, Mobor, Cavelossim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
392	M/s Shalom Exports, SA-4, 5, 15, 16 & 17 Cuncolim Industrial Estate, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
393	M/s Royal Milk Products, Plot No. SA A/2, Cuncolim Industrial Estate, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
394	M/s. Rocha Industries, Plot No. SA-6, Cuncolim Industrial Estate, Cuncolim-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
395	M/s Goa Indu. Tapes Pvt. Ltd, Plot No. SB-1, Cuncolim Ind. Est. Cuncolim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
396	M/s Panies Earth Moving Retreads, SA-67, 68 & 84, Cuncolim Industrial Estate, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
397	M/s Chari Garage, C/o. Bicaji Chari, Demani, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
398	M/s Umesh Laxmikant Chitari, Demani, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
399	M/s New Sha Aerated Water, C/o. Enoziana Fernandes, H. No. 57/B, 2489, Secreqcotta, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
400	M/s Anand Industries Comb, C/o. Vasant S. Prabhu Desai, Poricotto, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
401	M/s Chandreshwar Milling Works, C/o. Hari S. W. Kurade, Kurade, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board

402	M/s Saroj Vassu Pai Angle, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
403	M/s Mahadev Bakers & Confectioners, C/o. Mahalaxmi Book Depot, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
404	M/s Mitmah Garments, C/o. Mitsy Fernandes, H. No. 1651, Sanvorcotto, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
405	M/s Rudy Enterprises, C/o. Rudolf Fernandes, Cacnamoddi, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
406	M/s 1-UP Beverages, C/o. Deepak A. Mopkar, Demani, Cuncolim Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
407	M/s Mahalaxmi Engg. Works, C/o. Umesh Shirnath Shirvant, Veroda, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
408	M/s Kamalakar Vasudev Chittari, C/o. Nagesh V. Chittari, Demani Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
409	M/s Kamu Pawaskar, Bazar, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
410	M/s Prabhakar Vasudev Chitari, Demani, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
411	M/s Fabrica Descasque Cacodo, C/o. Sriniwas Pai Kakode, Nr. Market, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
412	M/s Anant Sukdow Kansar, H. No. 85, Sanvorcotto, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
413	M/s Richardson Bakers & Confectioners, C/o. Miltony C. Fernandes, H. No. 103, Nr. Church, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
414	M/s Gopal Industry, C/o. Gopal A. Chitari, Cuncolim, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
415	M/s Sumangal Ice Cream Factory, C/o. Harshad R. Dessai, Behind Fish Market, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
416	M/s Sripad Laxman Chari, Demani, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
417	M/s R. M. Navekar & Sons, C/o. Ramchandra Navelkar, Assolna, Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
418	M/s Amol Rice & Flour Mill, C/o. Kesharai Kane, Assolna Bazar, Assolna Salcete-Goa,	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
419	M/s Eagle Industries, Shed No. D3-1, Cuncolim Ind. Estate, Cunclolim-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
420	M/s Sripad Vaidya, Madga Cotto, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
421	M/s Shankar Metal Querry Industries, C/o. Shri Prassad Dessai , Futtigal, Acamol, Cuncolim, Salcete-Goa	Directed to immediately suspend the operation of the unit till further order or unit obtain CTO of the Board
422	Mithai Mandhir, Shop. No. 7, Somingos Co-op. Hosg. Scociety, Corlim,, St,Cruz, Ilhas-Goa.	Directed to close the unit
423	M/s. Tibna Metal Industries, Saurichodando, St Jose da Areal, Salcete-Goa.	Directed to close the unit
424	M/s. Mallikarjun Crushing Co. , Issorgal, St Jose de Areal, Salcete-Goa.	Directed to close the unit
425	M/s. Sandhya Enterprises, Sanzora, St Jose Da Areal, Salcete-Goa.	Directed to close the unit
426	M/s. Sandhya Enterprises, Sanzora, St Jose Da Areal, Salcete-Goa.	Directed to close the unit

427	M/s. Gonsalves Enterprises, St Jose Da Areal, Salcete-Goa.	Directed to close the unit
428	M/s. Quality Granite, Sauridando, St Jose da Areal, Salcete-Goa.	Directed to close the unit
429	M/s. S.J.Enterprises, Oilemoll, St Jose da Areal, Salcete-Goa.	Directed to close the unit
430	M/s. Tibna Metal Industries, Saurichodando, St Jose da Areal, Salcete-Goa.	Directed to close the unit
431	M/s. Jerry Enterprises,Oilemoll, St Jose da Areal., Salcete-Goa.	Directed to close the unit
432	Mr. Deepak Chari, Mestawaddo, Vasco-Goa.	Directed to close the unit
433	M/s. Rukmini Workshop, gauelbhat,Chimbel, Tiswadi-Goa.	Directed to stop the operation of unit
434	M/s. Oleger Nazareth Poultry Fram, H. No. 3, Punola Ucassaim, Bardez-Goa.	Directed to suspend the operation of the unit , unttill the unit obtain consent from the Board
435	M/s. Navbharat Granite & Marbles. Pilerne Industrial Estate, Bardez-Goa.	Directed to stop the operation of unit
436	M/s. Prakash Corrugated Products, Plot No. L-116(B), Verna Industrial Estate, Verna, Salcete-Goa.	Directed to close/suspend the operation of unit until the unit stop the discharge of wash water outside the unit premises.
437	Mr. Rajendra P. Naik., Automobile Workshop, Baithkhol, Ponda-Ga.	Directed to close the operation of unit untill the unit obtained the valid Consent from the Board.
438	M/s. Franria Guest House, Survey No. 1098/20-C, H. No. 1/152 A & C, Near Mark Memorial High School, Gaura Vaddo, Calangute, Bardez-Goa.	Directed to close the unit within 15 days
439	Mr. Rajendra P. Naik, Automobile Workshop, Baithkol, Ponda-Goa. Copy to, 1.0 The District Collector(North), Collectorate Building, Panaji-Goa.	Directed to close the unit
440	Mrs. Freda D'Sa, Dongorim, Nuvem, Salcete-Goa. 1. The Collector & District Magistrate(South), New Collectrate Building , South-Goa.	Directed to close the unit
441	The Collectorate and District Magistrate of North, Panaji-Goa.	Directing the activites of the stone quarries existing at Survey Nos. 99/1 & 70/4 are stoped and sealed within 7 datys
442	M/s. Rakesh Cement Blocks, Sancolae Industrial estate, Zuarinagar-Goa. Copy to the Collector & District Magistrate(South Goa District), Collectrorate Building, margao -Goa.	Directed to close/suspend the operation of your unit till the management install water sprinkelers, and obtain Consent to Operate of the Board.
443	M/s. Navdurga Hotel, Banastri, Ponda-Goa., Copy to,1. The Collector(North Goa District),Collectorate building, Panaji-Goa.	Directed to close/suspend the operation of your unit .
444	M/s. Hotel Goa Pride, H. No. 481/A, Aquem Baxio, Margao-Salcete-Goa.	Directed to close/Suspend the operation of unit
445	The Collector, North Goa District, Collectorate Building, Panaji-Goa.	Directed to close/sealed the unit of Goa Auto Works with immediate effect.
446	M/s Sanjiv Workshop, Survey No. 103, Barbhat, Talegao, Tiswadi-Goa.	Directing the unit not to commence the operation of the unit without obtainning Consent to Opertae from the Board
447	M/s. Hotel Saaj, H. no. 14/3065, Near Telephone Exchane, Margao-Goa.	Directed to close/suspend the operation of unit until the unit comply the direction dated 03/04/2014
448	Minguel D'Sa, Mandrem, Pernem-Goa.	Direction to stop the operation of quarry until such time unit obtained Consent from the board.
449	The Collector & District Magistrict, Collectorrate Building, Margao-goa.	Directed to seal the unit namely M/s. Sandhya Enterprises, Sarzora, St jose De Areal , Salcete-Goa, and submit a compliance report to this office

450	M/s. Anthony Traders, Survey No. 55/1, St. Augostinho Santa Cruz, Ilhas-Goa.	Directed to shift the activites of the unit to industrial estate/industrial area
451	M/s. Andrew Telecommunication India Pvt. Ltd, Plo No. N-2, Phase IV, Vena Industrial estate, Verna, Salcete-Goa,	Directed to stop the production and utilization of polyurethane at your unit with immediate effect untill further Orders.
452	St Francis Xavier Laundry Services, Mr. Dle Dalgo, Portais, Reis Magos, Bardez-Goa.	Directed to immediately close/suspend the operation of the unitwith immediate effects till such time the unit obtain valid CTO of the Board.
453	M/s. Mandovi Hotels Pvt. Ltd,(Hotel Mandovi),D.B.Bandodkar Marg, Panaji-Goa.	Directed to immediately close/suspend the operation of the unit within 15 days from date of receipt of this direction
454	The Collector & District Magistrate(North Goa District), Collectorate Building, Panaji-Goa.	Directed to suspend/close the health care unit within 15 days
455	The Collector & District Magistrate(South Goa District), Collectorate Building, Margao-Goa.	Directed to seal the slaughtering house located at near bridge kharebandh with immediate effects
456	M/s. Goa Steels Rolling Mills, Plot No. 37/1, Radakrishna Industrila Estate, Bicholim-Goa.	Directed to immediately suspand the operation of the unit till unit comply with with the above direction and appropriate pollution control measures are taken by you
457	Dyneshwar Harmalkar & Raju Madekar, C/o. Semeshwar Gargage, Ward No. 1, Kamurlim, Bardez-Goa.	Directed to suspend/close the operation of the unit with immediate effects or till the unit obtainned the consent of the Board.
458	ABC Trading Company(M/s. Cofe Coffe Day), M/s. P.G.Holiday Inn Pvt. Ltd, (Silver Sand Beach resort), Colva, Salcete-Goa.	Directed to close/suspend the operation of the unit or untill unit obtain Consent from the Board
459	M/s. C-Farm, 257, Padri Vaddo, Gavoi Tivem,Bardez-Goa.	Directed to close the operation of unit
460	M/s. Mahalasa Foods, Plot no. 157/1 Part, Antique Mardol Bldg, Verna Industrial Estate, Verna, Salcete-Goa.	Directed to close/suspend the operation of your unit with immediate effects till such time as you comply with observation made duringthe inspection and adequate measures to stop pollution .
461	M/s, Hotel Goa Pride, H. no. 481/A, Aquem Baxio, Margao-Goa	Directed to close /suspend the operation of your establishment within 15 days
462	M/s. Ashok Curry House & Restaurant, Survey no. 59/1, Betim, Bardez-Goa.	Directed to close /suspend the operation of your establishment within 15 days
463	Mr. Jignesh Karolia, CP6 and CP5, Silver Tower Complex, Next to Cine Vishant, Aquem, Margao-Goa.	Directed to close/suspend the operation of the unit within 7 days or till such the unit submit proper document
464	Minguel S'Souza, H. no. F106 & F108, Near Chapel, Christion Vaddo, Ashvem, Mandrem, Pernem-Goa.	Directed to seal/suspend the operation of the laterite stone quarry
465	M/s. Nelmar Nest, Naikwado, Calangute, Bardez-Goa.	Directed to close/suspend the operation of the unit
466	M/s. Ocean Spa and Salon, Nova Colva, Colva, Salcete-Goa.	Directed to close/suspend the operation of the unit with immediate effects or till the unit obtained CTO
467	Ashok Treat Fast Food, Near Petrol Pump, Betim, Bardez-Goa.	Directed to suspend/close the operationof your unit or till such timme the unit obtained valid CTO from the Board.
468	Agnelo Barros, H. no. 184/2, Mascrenhas Ward, Velim, Salcete-Goa.	Directed to stop the cement trading activity with immediate effects.
469	Hotel Holiday Home, Plot No. 14, Merces, Gauchem hat, Santana, Taulaulim, Merces-Goa.	Directed to suspend/close the operationof your unit.
470	Umesh Sharma, C/o. Nevil Fernandes, Behind Village Panchayat office, St Lawerence, Aggasaim, Tiswadi-Goa.	Directed to close/suspend the operation of your unit with immedieate effects till such time a valid CTO is obatined from the board.
471	Anthony Traders, St Agustinho, St. Cruz, Ilhas-Goa.	Directed to stop your trading activiy within 7 days
472	Vinayak Naik, H. No. 643, Aquem House, Margao-Goa.	Directed to obtain CTO, provide an enclosure/closed shed for carring painting activities at the workshop, provude breaking walls, further the unit is directed to close/supend the operation with immediate effect till unit obtained CTO from the Board.

473	M/s. Kamleshwar Workshop, Khorlim, Mapusa-Goa.	Directed to suspend/close the operation of the unit with immediate effects or till the unit obtainned the consent of the Board.
474	Shri. Marut Goankar, H. No. 858, Near Journilist housing residential colony, Alto Betim, Porvorim-Goa.	Directly to immediately stop the operation of the two mobile towers installed on the roof to of his aforestated residence, till such time as you obtained CTO/CTE from the Board.
475	Smt. Chandrakal Goankar, H. No. 858, Near Journilist housing residential colony, Alto Betim, Porvorim-Goa.	Directly to immediately stop the operation of the two mobile towers installed on the roof to of his aforestated residence, till such time as you obtained CTO/CTE from the Board.
476	Mr. Shaikh Aziz, KHB Plot No. 16, H. no. 1760, Near Journilist housing residential colony, Alto Betim, Porvorim-Goa.	Directly to immediately stop the operation of the two mobile towers installed on the roof to of his aforestated residence, till such time as you obtained CTO/CTE from the Board.
477	Thomas Garage, Near St. Inez Creek, Panaji-Goa.	Directed to close/suspend the operation of your establishment within 15 days
478	Thomas Garage, Near St. Inez Creek, Panaji-Goa.	Directed to close/suspend the operation of your establishment within 15 days
479	Darisa resort (Mella Rosa), Mainanth Bhati, Arpora, Bardez-Goa.	Directed toclose/suspend the operation of your hotel unit
480	Mirchi Masala Bar & restaurant, Near Syndicate Bank, Caranzalem, Panaji=Goa.	Directed to close the operation of your establishment
481	Central Lodging, Near Inox Theatre, Opp. Directorate of Health Centre, Panaji-Goa.	Directed to close the operation of your establishment
482	Lotus Inn, New Market, Above unjab National Bank, Margao-Goa.	Directed to close/suspend the operation of hotel unit with immediate effect till such time as your unit install STP and submit Bank Gurantee of Rs. 5 Lakh.
483	Mr. Pandurang rajput, Gogal Housing Board, Nessai Road, Near PWD office, Salcete-Goa.	Directed to iimmediately close/suspend the operation of the unit
484	Mr. Nizamuhuk Dilshad, Gogal Housing Board, Nessai Road, near PWD office, Salcete-Goa.	Directed to suspend/close the operation of unit within aperiod of 15 days
485	Mr. Mayendra Goankar, Nagarshem, cancona-Goa.	Directed to suspend/close the operation of your unit with immediate effects till such time as you obtain valid Consent to Operate of the Board
486	Mr. Nitin Dessai. Opposite KTC bustand , Kalta, Chncholim-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit CTO of the Board
487	Mr. Raju Khan, Opposite Malikarjun High School, Char Rasta, Canacona-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit CTO of the Board
488	Mr. Chandu Khan, Gulem, Canacona, Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit CTO of the Board
489	Mr. Zaheer Ahmed Bligerm Gulem, Canacon-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit CTO of the Board
490	Mr. Rekhan Khan, Opposite to KTC Busstand, Cuncholim-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit CTO of the Board
491	Mr. Raju Khan, Near Karmali Bar and Restaurant, Gulem, Canacona-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit CTO of the Board
492	Mohammad Ikbal, Near Pillar Bypass jjunction, Pilar, Goa Velha-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
493	Ranjeet Singh, near St Francis Xavier Residency, Oild Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board

494	Mr. Raju Kumar, Road side on NH4, Dupae, Corlim before Banastarim Bridge, Corlim, Tiswadi-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
495	Mr. Nehal Khan, Near Petrol Pump, Panaji-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
496	Mr. Alam Shehah, Gauchem Merces, Merces circle, Merces, Tiswadi-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
497	Mr. Prashant Naik, Balli Station Road, Balli, Cuncholim-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
498	Mr. Naved Khan, Right side NH17, Near Pilar bypas juction, Pilar, Goa Velha, Tiswadi-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
499	Mr. Mehboob Ali, opposite to New Hospicio Hosiptal, Margao-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
500	Mr. Samsu, opposite to New Hospicio Hospital, Margao-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
501	M/s.Priyadas Fatarpekar, Survey No. 120/1, Near Carbolim Railway Station, Ella Old Goa, Tiswadi-Goa.	Directed toclose/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
502	Mr. Zilani Khan, Next to Mumbai Goa Highway, Bastora junction, Bastora, Bardez-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
503	Mr. Wasim Mohammad, Shirodwadi, Mulgao, Bicholim-Goa.	Directed to close/suspend the operation the unit within 15 days or till the unit obtained CTO of the Board
504	M/s. Maz Cemen Works, C/o. Waseeg Ahmed, Madhegal, Kakoda, Curchorem-Goa.	Directed to close /suspend the operation of your establishment within 15 days
505	Mr. Furkhan Ali, Fuldem Vaddo, Arpora, Nagao, Bardez-Goa.	Directed to close /suspend the operation of your establishment within 15 days
506	Mr. Ashay M. Phal Dessai, Survey no. 11/1, Nagvem Village, Molcornem, Quepem-Goa.	Directed to close /suspend the operation of your establishment within 15 days
507	Mr. Mohamad Afzal, Near St, Sebastian Chapel, Chichinim, Deussua, Salcee-Goa.	Directed to close /suspend the operation of your establishment within 15 days
508	Mr. Mohamad Wasim, Jurisidication of Karapur Savarna Panchayat, Opp. To Bicholim Pwd office, Bicholim-Goa.	Directed to close /suspend the operation of your establishment within 15 days
509	Haseeb Ahmed, Opp. Valankanni Fast Food, Mungul Junction, Mungul, Salcete-Goa.	Directed to close /suspend the operation of your establishment within 15 days
510	Martrix Cement Blocks, Plot no6, Patnem, Bali, Cuncolim	Directed to close/suspend the operation of the unit
511	Mr. Ajeeb Khan, Near Amulyani, Opp. Krantiraj Hotel, Mushirwaddo, Colvale, Bardez-Goa.	Directed to close/suspend the operation of the unit
512	Afroz Alam, Gulem, Cancona-Goa.	Letter issued to canacona police station for service of direction of Afroz alam
513	Mr. Cruz Palha, On the side of bypass hifgway at Aggassim, Tiswadi-Goa.	Directed to close /suspend the operation of the establishment within 15 days
514	Mr. Irish Abhas, C/o. Sara Enterprises, H. no. 131, Dexibhat, Aggassaim,Tiswadi-Goa.	Directed to close /suspend the operation of the establishment within 15 days
515	M/s. Tibna Metal Industries, Saurichodando, St Jose da Areal, Salcete-Goa.	Directed to close the unit
516	M/s. Mallikarjun Crushing Co. , Issorgal, St Jose de Areal, Salcete-Goa.	Directed to close the unit
517	M/s. Sandhya Enterprises, Sanzora, St Jose Da Areal, Salcete-Goa.	Directed to close the unit

518	M/s. Jerry Enterprises,Oilemoll, St Jose da Areal., Salcete-Goa.	Directed to close the unit
519	M/s. Gonsalves Enterprises, St Jose Da Areal, Salcete-Goa.	Directed to close the unit
520	M/s. Quality Granite, Sauridando, St Jose da Areal, Salcete-Goa.	Directed to close the unit
521	M/s. S.J.Enterprises, Oilemoll, St Jose da Areal, Salcete-Goa.	Directed to close the unit
522	M/s. Tibna Metal Industries, Saurichodando, St Jose da Areal, Salcete-Goa.	Directed to close the unit
523	M/s. Jerry Enterprises,Oilemoll, St Jose da Areal., Salcete-Goa.	Directed to close the unit

ANNEXURE VII

Annual Returns of E- Waste for the year 2014 - 2015

1	Name of the State/Union territory	Goa
2.	Name & address of the State Pollution Control Board/ Committee	Goa State Pollution Control Board
3.	Number of authorised Producers, Collection Centres, registered Dismantler and Recyclers For management of e-waste in the State or Union territory under these rule	a) Producers – 08 nos. b) Collection Centres- 03nos. c) Dismantler and Recyclers- Nil
4.	Categories of waste collected along with their quantities on a monthly/yearly average basis.	a) IT waste- 40,810.9 Kg/annum b) Non-IT- 7075 Kg/annum
5.	A summary Statement on Category wise product wise quantity of e-waste Collected	a) IT wastes- 40,810.9 Kg/annum, which include Computers, CPU, UPS, Laptops, Printers etc. b) Non-IT waste- 7075 Kg/annum, which includes consumers E-waste i.e. House hold items.
6.	Mode of treatment with details	The E waste collected from the State of Goa is transported to outside States for processing.
7.	Brief details of collection, dismantling and Recycling facilities	The Goa State Pollution Control Board has granted authorization for 03 nos. Of Collection Centres. Apart from the collection centres few of the units are disposing their E-waste to Central Pollution Control Board authorized recyclers/ Dismantlers. There are no dismantler/ recycling facilities established within the State of Goa.
8.	Any other information	-
9.	Certified that the above report is for the period from	1st April 2013 to 31st March 2014

ANNEXURE VIII

Annual Returns of Bio-medical waste Management for the year 2014

Hospitals & Nursing homes (HCF's) in village/town/city as per schedule VI (1)	Total no. of HCF's irrespective of number of patients treated (2)	Total no. of Beds (3)	No. of HCF's required to take authorisation (4)	No. of HCF's granted authorisation (5)	No. of HCF's having treatment and disposal facilities (6)	Total no. of captive treatment equipment installed by HCF's (i.e excluding CBWTF) (7)						No. of CBWTF (8)		No. of HCF's which are utilising CBWTF's (9)	Total Qty of BMW generated kg/day (10)	Total Qty of BMW treated kg/day (11)	No. of Health Care Facilities violated BMW Rules (HCF) (12)		Total no. of Show Cause Notices/Directions issued to defaulter HCF (13)	
						Incinerator		No. of Autoclave	No. of Microwave	No. of Hydroclave	No. of Shredder	In operation	Under Construction				HCF	CBWTF	HCF	CBWTF
						With Air Pollution Control Device (APCD)	Without APCD													
A) HCF in town with population of 30 lakhs and above	0																			
B) HCF in town with population below 30 lakhs: a) with 500 beds and above	1	5181	440	434	1	1	NIL	186	-	-	-	NIL	NIL	NIL	9586	9586	1	-	1	-
b) with 200 beds but less than 500 beds	3																			
c) with 50 beds but less than 200 beds	17																			
d) with less than 50 beds	406																			
C) All other institutions generating bio-medical waste not included in A) and B)	7																			
Total	434	5181	440	434	1	1	NIL	186	-	-	-	NIL	NIL	NIL	9586	9586	1	-	1	-

ANNEXURE IX

IMPLEMENTATION OF PLASTIC WASTE (MANAGEMENT AND HANDLING) RULES 2011 IN STATES/UTS.

Name of SPCB/CPCB	Estimated Plastic Waste generation Tons Per Annum(TPA) or TPD	No. Of registered Plastic Manufacturing/Recycling (including multilayer, compostable) units (Rule 9)			No. Of unregistered Plastic Manufacturing /recycling units in residential area	Explicit Pricing of carry bags (Rule 10)	Detailed Status of Plastic Waste Management (PWM) (Rule 6-a to h) eg. Collection, segregation, disposal (Co-processing, road construction etc, conversion of plastic waste into fuel etc.	Partial Ban on usages of Plastic Bags (through executive order) (please mention name tourist places, pilgrimage centres historical places etc.	Complete ban on use of plastic bags including multilayer sachets on Gutkha etc.	Status of Constitution of State Level Advisory Body (Rule 11)	No. Of violation and action taken against manufacturing stock and use of thin (<40µ) carry bags and sachets etc. (Rule 5)
(1)	(2)	(3)			(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Plastic units	Compostable Plastic units	Multilayer Plastic units							
Goa State Pollution Control Board	Approximately 9.811 MT/month (reused in process/sold to scrap dealers	21	Nil	Nil	-	Goa No-Biodegradable Act	MOU signed with M/s. ACC, Wadi & Vasavadatta cement works for co-processing of plastic waste generated in the State of Goa	No	yes	Monitoring cum Working committee on Solid waste Management & High level Task Force	125 Violations against manufacturing stock and use of thin (<40µ) carry bags Collected fine of Rs. 31800/-

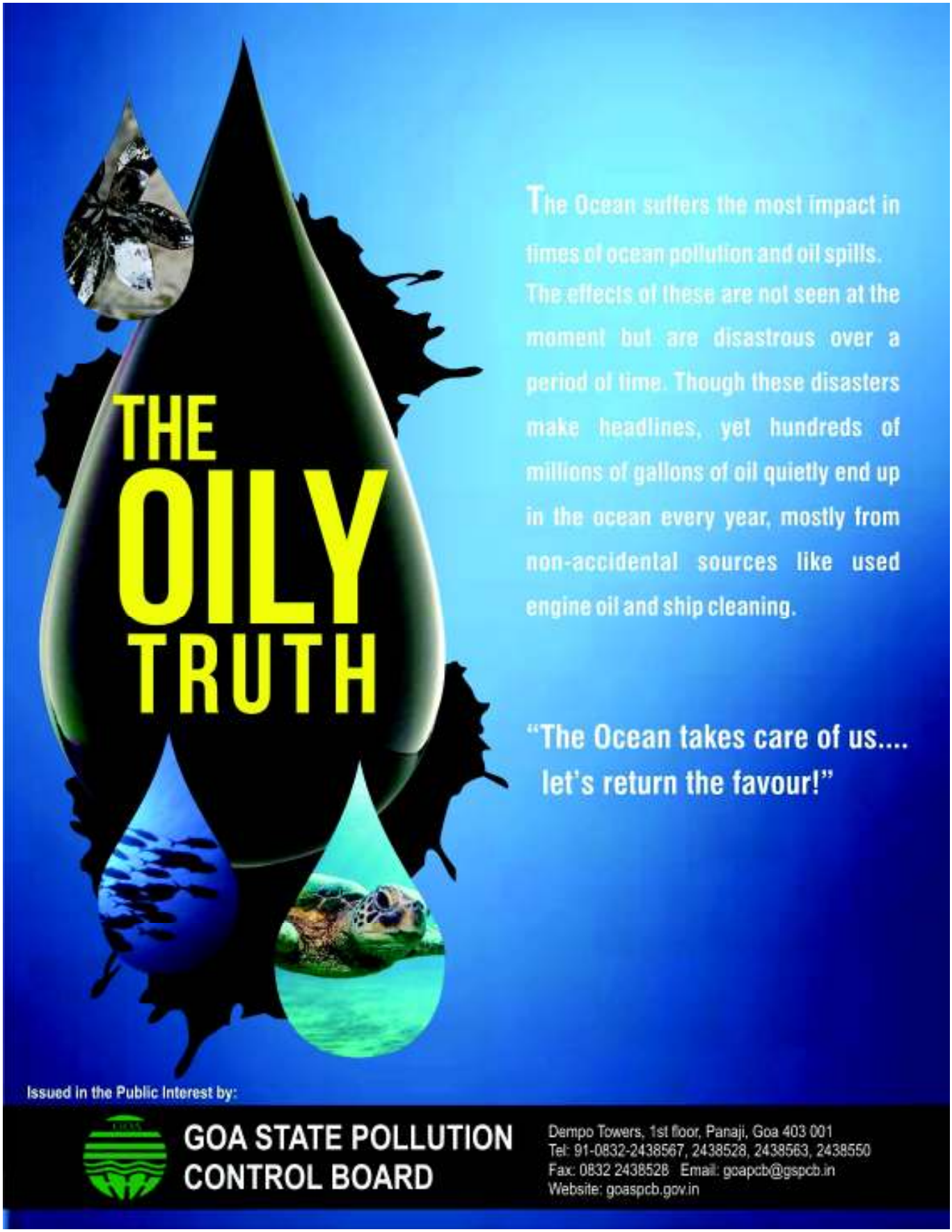
ANNEXURE X

Table 8: Annual Returns of Lead Acid Batteries from April 2014-March 2015

Sr. No	Type of Category	Total No	Total no. Production/Imported/Consumption /Recycled of LAB/(Qty)	Sale of Lead Acid Batteries in units	Total collection of Lead Acid Batteries in units	Annual Returns submitted	Action taken	Remarks
1	Manufacturer	5	13825 Nos (248.395 T)	NA	289 Nos	Yes	Units which have not submitted returns have been directed to do so.	Battery Scrap has been sent to 1.Sterling Lead Pvt. Ltd, Kolhapur, 2. Krishna Metal Refinery, Thane.
2	Reconditioner	11	2182 Nos (9.65 T)	NA	394 Nos	Yes		
3	Assembler	1	0	NA	0	No		
4	Collection Centre	1	Nil	NA	Nil	No		
5	Dealer	14	NIL	23186 nos (146.141 T)	5722 Nos	Yes		
6	Importer	Nil	Nil	Nil	Nil	NA		
7	Blk. Consumer	33	1636 Nos (67.731 T)	Nil	NA	Yes		
8	Auctioneer	Nil	NA	NA	NA	NA		
9	Recycler	Nil	NA	NA	NA	NA		

1 Details of action initiated/taken against illegel/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 : **25%**


THE
OILY
TRUTH
The Ocean suffers the most impact in times of ocean pollution and oil spills. The effects of these are not seen at the moment but are disastrous over a period of time. Though these disasters make headlines, yet hundreds of millions of gallons of oil quietly end up in the ocean every year, mostly from non-accidental sources like used engine oil and ship cleaning.
"The Ocean takes care of us.... let's return the favour!"
Issued in the Public Interest by:
GOA STATE POLLUTION CONTROL BOARD
Dempo Towers, 1st floor, Panaji, Goa 403 001
Tel: 91-0832-2438567, 2438528, 2438563, 2438550
Fax: 0832 2438528 Email: goapcb@gspcb.in
Website: goaspcb.gov.in