

EC_CRZ Compliance _ AMPTPL- October 2023 to March - 2024



Dharmendra Sharma

To Regional Office Bangalore

Cc monitoring-ec@nic.in; zobangalore.cpcb@nic.in; goacoastalzone@gmail.com; Environment Cell Mormugao Port Trust; Sandeep Roy; Anil Trivedi; Kesava Kumar Javvaji

 This is the most recent version, but you made changes to another copy. [Click here](#) to see the other versions.



Respected Sir/ Madam,

Please find attached the Half Yearly EC & CRZ Compliance Report for **“Adani Mormugao Port Terminal Pvt. Ltd.”**, Goa for the period **“October-2023 to March -2024”**.

Thanks & Regards,

Dharmendra Sharma

Dy. Manager (Environment)

Adani Mormugao Port Terminal Pvt. Ltd.,
Sub Station Building, Near Gate No.2 of Mormugao Port Trust, | Mormugao Harbour, Goa-403803, India
Office: +91 83225 79326 | or Mob: +91 9853324814 | Email: dharmendra.sharma1@adani.com

Care For Environment For A Better Tomorrow... !

adani

Growth
with
Goodness

Our Values: Courage | Trust | Commitment



Ports and
Logistics

Ref: AMPTPL/2024/1095

Date: 30.05.2024

To

Additional Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Regional Office (SZ), Kendriya Sadan,
4th Floor, E&F Wings, 17th Main Road,
Koramangala II Block, Bangalore-560034 (Karnataka)
rosz.bng-mefcc@gov.in

Dear Sir,

Sub : Half yearly Compliance report of Environment and CRZ clearance for modernization and operation of Berth – 07 in M/s Mormugao Port for the period of October 2023 to March 2024 – Reg.

Ref : Environment and CRZ clearance for modernization of Berth No. – 07 for coal handling granted to M/s Mormugao Port Trust vide letter dated 30th December 2013 bearing F. No. 10-39/2009-IA.III.

Adani Mormugao Port Terminal Private Limited is concessionaire of M/s Mormugao Port Trust for Berth No-7. Please find enclosed herewith the compliance report to the conditions stipulated in the cited reference for the Half Yearly period **October 2023 to March 2024** in soft copy for your kind reference.

Thanking You

Yours Faithfully,

For **M/s Adani Mormugao Port Terminal Private Limited**

Authorized Signatory

Copy to:

1. **The Director (Monitoring-IA-III Division),** Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh, New Delhi – 110003.
2. **The Zonal Officer,** Central Pollution Control Board, 1st & 2nd Floor, Nisaraga Bhawan, A Block, Thimmaiah Main Road, 7th D Cross, Shivanagar, opposite Pushpanjali theatre, Bengaluru – 560010
3. **The Member Secretary,** Goa State Pollution Control Board, Nr. Pilerne Industrial Estate, Opp. Saligao Seminary, Saligao – Bardez, Goa – 403511
4. **The Member Secretary,** Goa Coastal Zone Management Authority (GCZMA) 1st Floor, Pt. Deendayal Upadhyay Bhavan, Behind Pundalik Devasthan, Parvorim.
5. **The Chairman,** Mormugao Port Trust, Administrative Office, Headland Sada, Mormugao, Goa – 403804.

Adani Mormugao Port Terminal Pvt Ltd.
Sub Station Building,
Near Gate No. 2 of Mormugao Port Trust,
Mormugao, 403 803,
Goa, India

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info@adani.com
www.adani.com

**EC & CRZ
Clearance
Compliance
Report**

Environmental Clearance Compliance Report



**Adani Mormugao Port Terminal Private
Limited, Goa**

of

**Adani Ports and Special Economic Zone
Limited**

For the Period of:

October - 2023 to March - 2024

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Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023



To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance						
6	Specific Conditions							
i	"Consent for Establishment" shall be obtained from Goa Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	<p>Complied, Copy of Consent for Establishment (CFE) submitted in six monthly compliance report dated 25th November, 2014 (CTE copy attached below). All construction works completed and terminal is in operation with valid Consent from GSPCB (No.12/2019-PCB/347405/R0002737 dated 24/03/2020 valid up to 31/01/2025).</p> <div data-bbox="837 840 1476 1512" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">GOA STATE POLLUTION CONTROL BOARD गोंय राज्य प्रदुशण नियंत्रण मंडळ</p> <p>Phone Nos. : 91-832-2438667, 2438628 2438563, 2438550 Tel / Fax No. : 0832-2438529 Email : gspcb@rediffmail.com</p> <p style="text-align: right;">Dempo Towers, 1st Floor, EDC Porto Plaza, Panaji, Goa 403 001.</p> <p style="text-align: center;">No. 5/356/10-PCB/ Vol. IV 8/3 6/3</p> <p style="text-align: right;">Date: 22/03/12</p> <p style="text-align: center;">Consent to Establish under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorisation under Rule 5 of the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules 2008 [To be referred as Water Act, Air Act and HW (M.H & T) Rules respectively]</p> <p style="text-align: center;">Consent to Establish is hereby granted to:</p> <p style="text-align: center;">MORMUGAO PORT TRUST (Red Category)</p> <p style="text-align: center;">Development of Mechanised Coal handling terminal at berth no. 7, Headland Sada, Vaseo-dn-Gama, Gon</p> <p>Located in the area declared under the provisions of the Water Act, Air Act and Authorisation under the provisions of HW (M.H & T) Rules, subject to the provisions of the Act and the Rules and the Orders that may be made further and subject to the following terms and conditions:</p> <ol style="list-style-type: none"> The Consent to Establish is valid upto Commissioning of the unit or 3 years which ever is earlier. This Consent to Establish is valid for the manufacture/ production/ extraction/ installation/ servicing/ trade/ activity as mentioned below: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Sr. No</th> <th style="width: 70%;">Description</th> <th style="width: 25%;">Quantity</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1.</td> <td>Development of Mechanised Coal handling terminal at berth no. 7</td> <td style="text-align: center;">5.2 million tons</td> </tr> </tbody> </table> <ol style="list-style-type: none"> CONDITIONS UNDER WATER ACT: <ol style="list-style-type: none"> The daily quantity of industrial effluent from the factory shall not exceed NIL. The daily quantity of domestic effluent generated during the construction stage shall not exceed 40 KLD. Domestic Effluent treatment and Disposal:- Soak pit shall not be constructed for the disposal of sewage. It should be connected into the existing STP of the Port. </div>	Sr. No	Description	Quantity	1.	Development of Mechanised Coal handling terminal at berth no. 7	5.2 million tons
Sr. No	Description	Quantity						
1.	Development of Mechanised Coal handling terminal at berth no. 7	5.2 million tons						

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
ii	<p>The project proponent shall provide lining for collection of run off from coal stockyard and the leachate shall be treated before disposal.</p>	<p>Complied, Runoff from Coal Stock Yard is being collected in RCC dump pond provided with proper lining. Settled water from dump pond is being reused for dust suppression and settled coal solid particles are sent back to coal stock piles. Dump pond water quality is also monitored. Report of the same is attached as part of Six monthly monitoring report (Annexure 1)</p> <div style="display: flex; flex-direction: column; align-items: center;">   </div>

iii The project proponent shall provide dry fog and sprinkling systems for effective dust suppression.

Complied

For effective dust suppression following measures are provided:

- 224 Nos. of dry fog dust suppression system have been provided in conveyor system and at all transfer points.
- 43 Nos. Automatic Water Sprinklers have been provided at coal stock yard for dust suppression.
- 02 Nos. Mist Canon provided (one is mobile canon and other one tyre mounted)





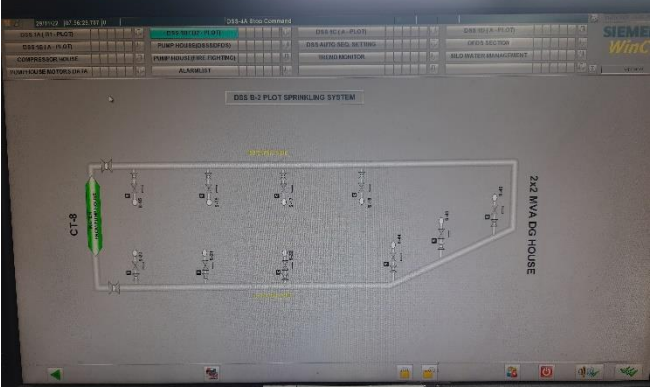

Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023



To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
		 <p>Layout of DFDS system installed at all transfer and other locations.</p>   <p>DSS system installed at yards</p>  <p>Portable Water Tanker with Mist Canon</p>

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
iv	Entire transportation of coal shall be in closed conveyor.	<p>Complied.</p> <p>The coal is being transported through covered conveyor from jetty to silo/ stock yard. AMPTPL has provided 2700 meters long covered conveyor system from jetty to silo including 11 closed Transfer Points provided with Dry Fog Dust Suppression (DFDS) nozzles.</p>  
v	There shall be no washing of conveyor belt	<p>Noted</p> <p>No washing of Conveyor belt is done yet.</p>

vi The project proponent shall provide wind screen min 15 m height fabric HDPE all along the periphery. The height shall be designed taking into account the wind velocity modelling etc. Also explore creepers in consultation with forest department.

Being Complied

Wind screen of MS structure along with HDPE fabric/perforated sheet of 15 metres height has been provided along the coal stacking yard facility taking into control the wind velocity. Wind screen has been covered with agronet.



Plantation has also been done all along the wind screens to ensure to control the better wind breaking.







Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023

To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
vii	Coal shall be kept under moist conditions using water sprinklers. Transportation shall be in closed conveyors with water spray.	<p>Being Complied</p> <p>The coal is being stored under the moist condition. Jet Sprinklers are provided for the same. Coal is being transported through covered conveyors with inbuilt dry fog dust suppression system.</p>  




Adani Marmugao Port Terminal Pvt. Ltd.

From : October 2023




To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Marmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
viii	All the conditions stipulated by Goa Coastal Zone Management Authority (GCZMA) vide letter No. GCZMA/S/13-14/09/360 dated 07.06.2013, shall be complied with.	<p>Noted and Being Complied. No specific conditions stipulated by GCZMA. NOC is attached below:</p> <div data-bbox="836 624 1490 1626" style="border: 1px solid black; padding: 5px;"> <p align="center">GOA COASTAL ZONE MANAGEMENT AUTHORITY C/o Department of Science, Technology & Environment, (Govt. of Goa) Opp. Saligao Seminary, P.O. Saligao, Bardez, Goa - 403 511 Phone: (0832) 2407580, 2407187, 2407189 Fax: (0832) 2407176 e-mail: gczma@govt.goa.in</p> <hr/> <p>Ref. No. GCZMA/S/13-14/09/360 Dated: 7/06/2013</p> <p>To, The Chairman, Mormugao Port Trust, Administrative Office, Headland Sada, Goa. 403803</p> <p>Sub : Development of Coal Handling Terminal at Berth No. 7 of Mormugao Port, Goa on DBFOT basis- CRZ Clearance/recommendation Reg.</p> <p>Ref : 1) The Minutes of the 76th Meeting of the Expert Appraisal Committee for Coastal Regulation Zone, Infrastructure Development and Miscellaneous Projects held on 20th to 22nd July 2009 at Van Vigyan Bhavan, Sector - V, R. K. Puram. New Delhi</p> <p>2) Your application no. CE/PC-3/3355 dated 17.08.2009 and subsequent submissions of "Consent to Establish" no. S/356/10-PCB/Vol. IV/8363 dated 02/03/2012 issued by GSPCB, Comprehensive EIA Report prepared by WAPCOS and Comprehensive Hydrodynamic Study Report prepared by CWPRS vide CE/PC-3/7972 dated 06.03.2012 for the grant of CRZ clearance/recommendations for the subject project.</p> <p>Sir,</p> <p>With reference to the above mentioned subject, it is hereby conveyed that Goa Coastal Zone Management Authority (GCZMA) has examined your application during its 84th Board Meeting held on 06th June 2013 at Goa in line with the Minutes of the 78th Meeting of the Expert Appraisal Committee (EAC) for Coastal Regulation Zone, Infrastructure Development and Miscellaneous Projects held on 20th to 22nd July 2009 at New Delhi and subsequently accorded clearance for the subject project.</p> <p>It is further clarified that this development and modernization project is located within the existing port area of Vasco-da-Gama City and Water front as well as Foreshore facilities are situated within the jurisdiction of Mormugao Port Trust, which is zoned as CRZ-II.</p> <p>In accordance with the provisions of the clause 4 (i) (f) of the Coastal Regulation Zone Notification of 2011, the Goa Coastal Zone Management Authority, Government of Goa has no objection to the said project provided prior Environmental Clearance is obtained from the Ministry of Environment and Forests, Government of India.</p> <p>Grant of CRZ clearance for the subject project is conveyed herewith and accordingly recommended for Environmental Clearance.</p> <p align="right"><i>Yours faithfully,</i>  (Levinson J. Martins) Member Secretary (GCZMA) & Director/Ex-Officio, Joint Secretary (STE)</p> </div>
ix	Periodical study on shore line changes shall be conducted and mitigation carried out if necessary. The details shall be submitted along with the six-monthly monitoring reports.	<p>Complied.</p> <p>Mormugao Port Trust (MPT) conducted shoreline in the study area during 2016 by latest.</p> <p>AMPTPL is only one of the terminal operators within the MPT. This is an old berth within the existing premises of MPT and only modernization activity has been done.</p>

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance																																																																																												
x	Oil spills if any shall be properly collected and disposed as per the Rules. Proper Oil Contingency Management Plan shall be put in place.	<p>Being Complied., AMPTPL is abiding by the Oil Spill Contingency Management Plan of M/s MPT (Attached below). No such incident occurred during the compliance period.</p> <table border="1" data-bbox="847 741 1477 1375"> <thead> <tr> <th colspan="4" data-bbox="847 741 1477 797">  MORMUGAO PORT TRUST DISASTER MANAGEMENT PLAN </th> </tr> <tr> <th data-bbox="847 797 935 819"></th> <th data-bbox="935 797 1262 819">CONTENTS</th> <th data-bbox="1262 797 1334 819">PAGE NO</th> <th data-bbox="1334 797 1477 819">REV REF/DATE</th> </tr> </thead> <tbody> <tr> <td data-bbox="847 819 935 842">PART-1</td> <td data-bbox="935 819 1262 842">Framework</td> <td data-bbox="1262 819 1334 842"></td> <td data-bbox="1334 819 1477 842"></td> </tr> <tr> <td data-bbox="847 842 935 864">SECTION</td> <td data-bbox="935 842 1262 864"></td> <td data-bbox="1262 842 1334 864"></td> <td data-bbox="1334 842 1477 864"></td> </tr> <tr> <td data-bbox="847 864 935 887"></td> <td data-bbox="935 864 1262 887" style="text-align: center;">SECTION - 5 Preparedness</td> <td data-bbox="1262 864 1334 887"></td> <td data-bbox="1334 864 1477 887"></td> </tr> <tr> <td data-bbox="847 887 935 909">5.11</td> <td data-bbox="935 887 1262 909">Communication Systems</td> <td data-bbox="1262 887 1334 909">21</td> <td data-bbox="1334 887 1477 909"></td> </tr> <tr> <td data-bbox="847 909 935 943">5.12</td> <td data-bbox="935 909 1262 943">Communication-Command And Response Structure</td> <td data-bbox="1262 909 1334 943">22</td> <td data-bbox="1334 909 1477 943"></td> </tr> <tr> <td data-bbox="847 943 935 965">5.13</td> <td data-bbox="935 943 1262 965">Drills And Exercises</td> <td data-bbox="1262 943 1334 965"></td> <td data-bbox="1334 943 1477 965"></td> </tr> <tr> <td data-bbox="847 965 935 999"></td> <td data-bbox="935 965 1262 999" style="text-align: center;">SECTION - 6 Response</td> <td data-bbox="1262 965 1334 999"></td> <td data-bbox="1334 965 1477 999"></td> </tr> <tr> <td data-bbox="847 999 935 1021">6.1</td> <td data-bbox="935 999 1262 1021">Mormugao Port Disaster Management Conceptual Plan Framework</td> <td data-bbox="1262 999 1334 1021">23</td> <td data-bbox="1334 999 1477 1021"></td> </tr> <tr> <td data-bbox="847 1021 935 1043">6.2</td> <td data-bbox="935 1021 1262 1043">On Site MPT Disaster Management</td> <td data-bbox="1262 1021 1334 1043">24</td> <td data-bbox="1334 1021 1477 1043"></td> </tr> <tr> <td data-bbox="847 1043 935 1077">6.3</td> <td data-bbox="935 1043 1262 1077">Central Disaster Management Group- Basic Functions</td> <td data-bbox="1262 1043 1334 1077">25</td> <td data-bbox="1334 1043 1477 1077"></td> </tr> <tr> <td data-bbox="847 1077 935 1099">6.4</td> <td data-bbox="935 1077 1262 1099">On Site Action Group - Basic Responsibilities</td> <td data-bbox="1262 1077 1334 1099"></td> <td data-bbox="1334 1077 1477 1099"></td> </tr> <tr> <td data-bbox="847 1099 935 1122">6.5</td> <td data-bbox="935 1099 1262 1122">Emergency Classification</td> <td data-bbox="1262 1099 1334 1122">26</td> <td data-bbox="1334 1099 1477 1122"></td> </tr> <tr> <td data-bbox="847 1122 935 1155">6.6</td> <td data-bbox="935 1122 1262 1155">Central Disaster Management Group – Responsibilities</td> <td data-bbox="1262 1122 1334 1155">27</td> <td data-bbox="1334 1122 1477 1155"></td> </tr> <tr> <td data-bbox="847 1155 935 1178">6.7</td> <td data-bbox="935 1155 1262 1178">Disaster Management On Site Action Group- Organization Responsibilities</td> <td data-bbox="1262 1155 1334 1178">32</td> <td data-bbox="1334 1155 1477 1178"></td> </tr> <tr> <td data-bbox="847 1178 935 1211">6.8</td> <td data-bbox="935 1178 1262 1211">Disaster Management On Site Action Group - Responsibilities</td> <td data-bbox="1262 1178 1334 1211">33</td> <td data-bbox="1334 1178 1477 1211"></td> </tr> <tr> <td data-bbox="847 1211 935 1245"></td> <td data-bbox="935 1211 1262 1245" style="text-align: center;">SECTION-7 Emergency Facilities</td> <td data-bbox="1262 1211 1334 1245"></td> <td data-bbox="1334 1211 1477 1245"></td> </tr> <tr> <td data-bbox="847 1245 935 1279">7.1</td> <td data-bbox="935 1245 1262 1279">Emergency Control Centre At Port Control Station</td> <td data-bbox="1262 1245 1334 1279">36</td> <td data-bbox="1334 1245 1477 1279"></td> </tr> <tr> <td data-bbox="847 1279 935 1301">7.2</td> <td data-bbox="935 1279 1262 1301">Port Fire Fighting Resources</td> <td data-bbox="1262 1279 1334 1301">37</td> <td data-bbox="1334 1279 1477 1301"></td> </tr> <tr> <td data-bbox="847 1301 935 1323">7.3</td> <td data-bbox="935 1301 1262 1323">Port Oil Spill Response Equipment</td> <td data-bbox="1262 1301 1334 1323">38</td> <td data-bbox="1334 1301 1477 1323"></td> </tr> <tr> <td data-bbox="847 1323 935 1346">7.4</td> <td data-bbox="935 1323 1262 1346">Mutual Aid</td> <td data-bbox="1262 1323 1334 1346">39</td> <td data-bbox="1334 1323 1477 1346"></td> </tr> <tr> <td data-bbox="847 1346 935 1375"></td> <td data-bbox="935 1346 1262 1375" style="text-align: center;">SECTION-8 Disaster Management</td> <td data-bbox="1262 1346 1334 1375"></td> <td data-bbox="1334 1346 1477 1375"></td> </tr> </tbody> </table>	 MORMUGAO PORT TRUST DISASTER MANAGEMENT PLAN					CONTENTS	PAGE NO	REV REF/DATE	PART-1	Framework			SECTION					SECTION - 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xi	All the conditions stipulated in the earlier Clearances including the recommendations of Environment Management Plan, Disaster Management Plan shall be strictly complied with	<p>Noted and being complied. Compliance of earlier clearance is being submitted by M/s MPT.</p> <p>All recommendations made in the Environment Management Plan as contained in the Environment Impact Assessment of the project are effectively implemented and being followed. EMP Compliance status is attached as Annexure 2.</p>																																																																																												

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance																					
xii	<p>Cargo shall be unloaded directly into hopper from the ship and transported to the stack yards through closed conveyor system only. Inbuilt dust suppression systems shall be provided at hoppers and all the transfer points / storage yards. Cargo shall not be unloaded directly onto the Berth. Water meters shall be provided at different locations to record the consumption of water used for dust suppression and daily log shall be maintained.</p>	<p>Complied, Coal is being unloaded directly into hopper from the ship and transported to the stack yards through closed conveyor system. Inbuilt dust suppression system has been provided in hoppers, transfer towers and storage yards to avoid fugitive emissions. Coal cargo is not being unloaded directly onto the berth.</p> <p>AMPTPL has installed water flow meters and log sheet is being maintained to record water consumption in dust suppression system.</p> <table border="1" data-bbox="834 855 1479 1140"> <thead> <tr> <th>S. No.</th> <th>Month</th> <th>Water Consumption (KL)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Oct-23</td> <td>3340</td> </tr> <tr> <td>2</td> <td>Nov-23</td> <td>4335</td> </tr> <tr> <td>3</td> <td>Dec-23</td> <td>5127</td> </tr> <tr> <td>4</td> <td>Jan-24</td> <td>3472</td> </tr> <tr> <td>5</td> <td>Feb-24</td> <td>3695</td> </tr> <tr> <td>6</td> <td>March-24</td> <td>4232</td> </tr> </tbody> </table> <div data-bbox="834 1178 1493 1854"> </div>	S. No.	Month	Water Consumption (KL)	1	Oct-23	3340	2	Nov-23	4335	3	Dec-23	5127	4	Jan-24	3472	5	Feb-24	3695	6	March-24	4232
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6	March-24	4232																					


xiii At least 15 m width of green belt along the periphery and 15 m width along the stockyard shall be undertaken including plantation of mangroves in consultation with Forest Department.

Being Complied

Green belt with suitable native species has been developed, along the periphery and coal stock yard. About 29,595 nos. plants have been planted in port premises and survival rate is well maintained. Additionally, AMPTPL has also developed vertical gardens. There are no mangroves in the vicinity of Berth No. 7.



Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
		
iv	The dredge material shall be reused for low level rising wherever possible and excess shall be dumped into sea at the designated dumping areas identified based on mathematical model studies.	<p>Being Complied, Construction of the project is already completed and currently the terminal is in operation. There was no dredging activity during the compliance period.</p>

Compliance to the conditions stipulated in Environment and CRZ clearance.

xv To prevent discharge of sewage and other liquid wastes including ballast into marine environment, adequate system for collection, treatment and disposal of liquid wastes must be provided.

Complied
There is no discharge of sewage and other liquid waste into marine environment. The domestic sewage is being collected in septic tanks provided within the premises of AMPTPL and sent to Sewage Treatment Plant of PWD at Baina for further treatment.



MPT is complying with MARPOL conditions.

DC/S-(21)/2016/23

Date: 24/05/2016

HARBOUR NOTICE NO. 23 (TEMP) 2016

Sub: Removal of sludge, bilge water, waste oil, etc. from ships/barges/crafts etc. at Mormugao Port

The following three companies at present are doing the work of reception of sludge, bilge water, waste oil etc. in Mormugao Port Trust.

Sr. No.	Name of the company and address	Contact persons	Contact No. (Mobile)	Email address
1	M/s Shiva Petro-Synth Specialities Limited, Sastech Associates, Karma Plaza, 1 st floor, Shop No. 11, Vasco-Da-Gama, 403 802.	Mr. Umesh Bhagat	9552545733	sludgeilgoa.shiva@yahoo.com
		Mr. Krishna Kamulkar	9562599044	
2	M/s Canacona Hydrocarbons, Flat No. 5B, 3rd floor, Lotus Apartment, F.L.Gomes Road, Vasco da gama, Goa	Mr. Vikram P. Nayak	9823108823	canaconahydrocarbon@yahoo.com
		Mr. Peter Arputha Jothy	9445708888	
		Mr. Dominic Sawio	8390457969	
3	M/s Shree Pooshphans Chemicals, 403/404, Dev Krupa Premises Co-op. Society Ltd., 4 th Floor, 28, Raichur Dana Bunder, Mumbai 400 009.	Mr. Suleman A. Makandar	9370180355	info@slopsreception.com operations@slopsreception.com
		Mr. Alahbakash M. Fakir	9370180355	
		Jayant M. Jadhav	9890767983	


Sd/-
DY. CONSERVATOR (i/c)

- To,
1) All Shipping Agents
2) The President, Mormugao Fishing Trainers Association
3) The President, Mormugao Barge Owners Association
4) The President, Mormugao Passenger Launches Owners Association
5) Fisheries Survey of India, Alto Jetty, Near Police Station, Bogda, Mormugao

c.c. to: Communication Officer : Please advise Signaller-cum-RTD to inform the above message to all the Ships calling at this Port and proper entries should be made in the Shipping Log Book.

c.c. to: Dy. Chairman/Chairman's table
c.c. to: DC/Deputy (P&MS)/F&ACC/Commander C/IFC/ECME/TM/Secretary/CMO
All Pilots/HMCO/S&S/Port Signal Station/Pilot Room/MS/CO/PRO/SE(M)/SO(M)

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
xvi	<p>Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that the untreated effluents and solid wastes are not discharged into the water or on the beach; and no effluent or solid wastes shall be discharged on the beach.</p>	<p>Complied The domestic sewage is being collected in septic tanks provided within the premises of AMPTPL and sent to Sewage Treatment Plant of PWD at Baina for further treatment. STP inlet characteristics of water is regularly analyzed by NABL accredited laboratory. The monitoring results for the period Oct-23 to March-24 is enclosed as Annexure 1. Solid waste generated is properly segregated, stored and disposed to Goa Waste Management Corporation (GWMC) in line to Solid Waste Management Rules 2016 as amended. Food waste is recycled in an OWC and used as manure. No effluent or solid waste is being discharged into the water or on the beach.</p> 

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
xvii	The quality of treated effluents, solid wastes, emissions and noise levels and the like, from project area must conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board under the Environment (Protection) Act 1986	<p>Complied Regular Environmental Monitoring is carried out, to assess the quality of treated effluents from STP, Ambient Air Quality, Ambient Noise level, DG set emissions through NABL accredited and MoEF&CC recognized laboratory. In addition, AMPTPL has also installed one CAAQMS at Sada village and the realtime data is connected with GSPCB server. Results for all the monitoring parameters are within the prescribed limit. Summary of the monitoring report for the period Oct 23 – March 24 is enclosed as Annexure-1.</p>  
xviii	All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.	<p>Complied All the mitigation measures/EMP submitted in EIA are being followed. EMP Compliance in matrix format is enclosed as Annexure – 2. The same is being submitted as part of Six monthly compliance report to all the concerned authorities</p>
xix	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purpose.	<p>Complied, Separate budget for the implementation of Environment Management Plan is in placed and it is not diverted for any other purpose. A brief summary of environmental expenditure during the compliance period is given below.</p>



Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023

To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance		
		S. No.	Description of Work	Amount lakhs (Rs.) (Approx)
		1	Environment Quality Monitoring & Control (Pollucon, CAAQMS, Camera)	11.17
		2	GSPCB Monitoring & Statuary Payments	4.66
		3	Tarpaulin and other waste disposal	1.07
		4	Green belt Maintenance & Development	7.27
		5	Environment Monitoring Cell, Training and Awareness, Env Promotional Activities	11.88
		Total		36.05
xx	The project proponent shall set up separate environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive	Complied AMPTPL is having well structured Environment Management Cell staffed with qualified manpower and well supported by team at Head Office in Ahmedabad for effective implementation of the stipulated environmental safeguards under the supervision Unit/Business Head AMPTPL.		
7. General Conditions				
i	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Complied, Construction activity is completed, and the project is in operational phase.		
ii	Full support shall be extended to the officers of this Ministry/Regional Office at Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Complied. Full support is being extended to the officers of Ministry/Regional Office, as well as officers of Central and State Pollution Control Board during their visit.		



Adani Mormugao Port Terminal Pvt. Ltd.

From : October 2023

To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Mormugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
iii	A six-monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bangalore regarding the implementation of the stipulated conditions.	Complied Six monthly EC & CRZ clearance Compliance reports of the stipulated conditions are regularly submitted to Regional Office of Ministry at Bengaluru, and other authorities (CPCB, GSPCB, MoEF&CC, GCZMA, MPT etc.). Last Compliance report for the period Apr 2023 – Sep 2023 was submitted vide letter no. AMPTPL/2024/1040 dated 28.11.2023.
iv	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Noted for Compliance.
v	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted.
vi	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	Noted. There is no change in project profile or implementation agency.
vii	The project proponents shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of land development work.	Complied Financial Closure Date: 14 th May, 2010 Concession agreement date with MPT: 22 nd September, 2009
viii	A copy of the clearance letter shall be marked to concern Panchayat/local NGO, if any, from whom any suggestion/ representation have been made, received while processing the proposal.	Complied Complied by Mormugao Port Trust (MPT).
ix	Goa State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's office for 30 days.	Noted. This condition does not pertain to project proponent. However, it is learnt that Goa State Pollution Control Board has complied with the same.
8.	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification 1994, including the amendments and rules made thereafter.	Noted for Compliance.



Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023

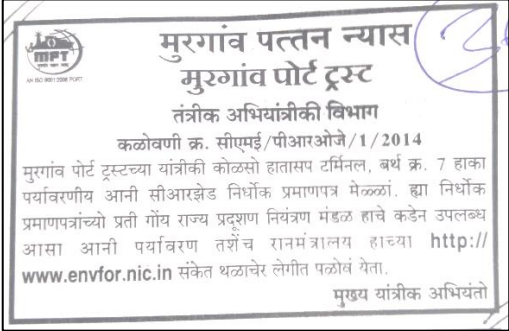

To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Murmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance																					
9.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Complied All applicable clearances from the concerned statutory authorities have been obtained. <table border="1"><thead><tr><th>Permission</th><th>Ref.No.</th><th>Date</th></tr></thead><tbody><tr><td rowspan="7">GSPCB CTO</td><td>1. No.12/2019-PCB/347405/R00027 37 dt. 24.03.2020,</td><td>1. 24.03.2020</td></tr><tr><td>2. Amendment 1 - 12/2019-PCB/347405/HF/Tech/14377 dt. 16.11.2020,</td><td>2. 16.11.2020</td></tr><tr><td>3. Amendment 2- 12/2019-PCB/347405/HF/Tech/22761 dt. 31.03.2022.</td><td>3. 31.03.2022</td></tr><tr><td>4. Amendment 3 – 12/2019-PCB/34705/HF/Tech -3815 07.06.2022</td><td>4. 07.06.2022</td></tr><tr><td>5. Amendment 4 - 12/2019-PCB/34705/HF/Tech /5776 – dt. 04.07.2022</td><td>5. 04.07.2022</td></tr><tr><td>6. Amendment 5 - 12/2019-PCB/34705/HF/Tech /15763 – dt. 23.11.2022</td><td>6. 23.11.2022</td></tr><tr><td>7. Amendment 12/2019-PCB/34705/HF/1532 /Tech/18361 – dt 21.11.2023</td><td>7. 21.11.2023</td></tr><tr><td>NOC Fire & Emergency Services</td><td>DFES/FPNA/2023/351</td><td>30.12.2023</td></tr></tbody></table>	Permission	Ref.No.	Date	GSPCB CTO	1. No.12/2019-PCB/347405/R00027 37 dt. 24.03.2020,	1. 24.03.2020	2. Amendment 1 - 12/2019-PCB/347405/HF/Tech/14377 dt. 16.11.2020,	2. 16.11.2020	3. Amendment 2- 12/2019-PCB/347405/HF/Tech/22761 dt. 31.03.2022.	3. 31.03.2022	4. Amendment 3 – 12/2019-PCB/34705/HF/Tech -3815 07.06.2022	4. 07.06.2022	5. Amendment 4 - 12/2019-PCB/34705/HF/Tech /5776 – dt. 04.07.2022	5. 04.07.2022	6. Amendment 5 - 12/2019-PCB/34705/HF/Tech /15763 – dt. 23.11.2022	6. 23.11.2022	7. Amendment 12/2019-PCB/34705/HF/1532 /Tech/18361 – dt 21.11.2023	7. 21.11.2023	NOC Fire & Emergency Services	DFES/FPNA/2023/351	30.12.2023
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Sr. No.	Conditions	Compliance																											
10.	The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental and CRZ Clearance and copies of clearance letters are available with the Goa State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in . The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bangalore.	<p>Complied</p> <p>MPT has given advertisement on 11th January, 2014 in the newspapers mentioned below.</p> <ol style="list-style-type: none"> 1) Sunaparant 2) Times of India, Goa. <p>Copy of the same has already been submitted to RO-MoEF&CC (Bangalore).</p> <div style="text-align: center;">   </div> <ul style="list-style-type: none"> The details of the past six Half yearly compliance reports are as tabulated below for reference. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>S.No.</th> <th>Compliance period</th> <th>Date of submission</th> </tr> </thead> <tbody> <tr> <td>2.</td> <td>Oct'19 to Mar'20</td> <td>20.05.2020</td> </tr> <tr> <td>3.</td> <td>Apr'20 to Sep'20</td> <td>28.11.2020</td> </tr> <tr> <td>4.</td> <td>Oct'20 to Mar'21</td> <td>27.05.2021</td> </tr> <tr> <td>5.</td> <td>Apr'21 to Sep'21</td> <td>26.11.2021</td> </tr> <tr> <td>6.</td> <td>Oct'21 to Mar'22</td> <td>24.05.2022</td> </tr> <tr> <td>7.</td> <td>Apr'22 to Sep'22</td> <td>30.11.2022</td> </tr> <tr> <td>8.</td> <td>Oct' 22 to Mar' 23</td> <td>29.05.2023</td> </tr> <tr> <td>9.</td> <td>Apr'23 to Sep'23</td> <td>29.11.2023</td> </tr> </tbody> </table>	S.No.	Compliance period	Date of submission	2.	Oct'19 to Mar'20	20.05.2020	3.	Apr'20 to Sep'20	28.11.2020	4.	Oct'20 to Mar'21	27.05.2021	5.	Apr'21 to Sep'21	26.11.2021	6.	Oct'21 to Mar'22	24.05.2022	7.	Apr'22 to Sep'22	30.11.2022	8.	Oct' 22 to Mar' 23	29.05.2023	9.	Apr'23 to Sep'23	29.11.2023
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11.	This Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Noted.																											



Adani Marmugao Port Terminal Pvt. Ltd.

From : October 2023

To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Half yearly Compliance report for Environment and CRZ Clearance for the modernization of Berth No. 7 for coal handling at Marmugao Port, Goa vide F No. 10-39/2009-IA.III dt. 30.12.2013

Sr. No.	Conditions	Compliance
12.	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	Complied Copy of six-monthly EC&CRZ compliance report is being regularly uploaded by AMPTPL on company website i.e. https://www.adaniports.com
13.	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
14.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisaad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/representations, if any were received while processing the proposal. The clearance letter shall also be put on the website of the company by proponent.	Complied The same has been Complied by Mormugao Port Trust.
15.	The proponent shall upload the status of compliance of the stipulated Clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	Complied AMPTPL is regularly uploading the status of compliance of the stipulated clearance condition including results of monitored data in the company website. The same can be viewed at https://www.adaniports.com/ Six monthly compliance reports are regularly submitted to Regional office of MoEF&CC at Bangalore, CPCB Zonal office, SPCB and other authorities. Last compliance report for the period Apr 2023 – Sep 2023 was submitted vide letter no. AMPTPL/2024/1040 dated 28.11.2023.
16.	The environmental statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of Clearance conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	Complied Environment Statement in Form V is submitted to Goa State Pollution Control Board as well as MoEF Regional office Bangalore for each financial year. Environment Statement for the year FY 2022-23 has been submitted online on 28.09.2023 vide Application No. 1922689 and has also been uploaded on company website. Copy of the same is enclosed as Annexure-3 . Copy of the same is available on company website at https://www.adaniports.com



Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023

To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Enclosures:

Annexure Number	Details of Annexure
Annexure 1:	Environmental Monitoring reports for the period October'23 to March'24
Annexure 2:	EMP Compliance report.
Annexure 3:	Environment statement in Form V for FY 22-23



Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023

To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Annexure 1

**“ENVIRONMENTAL MONITORING REPORT”
FOR**



**ADANI MURMUGAO PORT TERMINAL PVT. LTD. (AMPTPL),
GROUND FLOOR, PORT USERS COMPLEX, NEAR STATE BANK OF INDIA,
MORMUGAO HARBOUR, GOA 403802 INDIA – TEL 0832 2594253**

OCTOBER - 2023 TO MARCH - 2024

PREPARED BY:



M/s POLLUCON LABORATORIES PVT.LTD.

PLOT NO.5/6 “POLLUCON HOUSE”,

OPP. BALAJI INDUSTRIAL SOCIETY,

OLD SHANTINATH MILL LANE,

NEAR GAYTRI FARSAN, NAVJIVAN CIRCLE,

UDHANA MAGDALLA ROAD, SURAT-395007

PHONE/FAX – (+91 261) 263 5750, 263 5751.

E-mail: pollucon@gmail.com

Web: www.polluconlab.com

"ENVIRONMENT MONITORING REPORT"

FOR



**ADANI MURMUGAO PORT TERMINAL PVT. LTD. (AMPTPL),
GROUND FLOOR, PORT USERS COMPLEX, NEAR STATE BANK OF INDIA,
MORMUGAO HARBOUR, GOA 403802 INDIA – TEL 0832 2594253**

For and on behalf of Pollucon Laboratories Pvt. Ltd., Surat

Approved by : Dr. Arun Kumar Bajpai

Signed :

Designation : Lab Manager (Q)

This report has been prepared by Pollucon laboratories Pvt. Ltd. with all reasonable skills, care and diligence, incorporating our General Terms and Conditions of Business and taking account of the resources devoted, flow chart, diagram etc. is provided by the client itself.

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Sr. No.	Title	Page No.
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4	DUMP POND WATER MONITORING	15
5	DRINKING WATER MONITORING	17
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CHAPTER – 1

AMBIENT AIR QUALITY MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Results of AAQM for Sada Village [OCTOBER - 2023 to MARCH - 2024]

Sr. No.	Date of sampling	Particulate Matter (PM ₁₀)	Particulate Matter (PM _{2.5})	Lead as Pb	Benzo (a) Pyrene (BaP)-particulate phase only	Arsenic as As	Nickel as Ni	Carbon Monoxide as CO	Benzenes as C ₆ H ₆	Ammonia (NH ₃)	Sulphur Dioxide (SO ₂)	Oxides of Nitrogen (NO ₂)	Ozone (O ₃)
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	02/10/23	51.33	21.26	ND*	ND*	ND*	ND*	0.31	ND*	12.68	8.59	12.68	13.43
2	05/10/23	76.84	35.34	ND*	ND*	ND*	ND*	0.23	ND*	21.76	17.54	18.61	11.25
3	09/10/23	54.63	26.82	ND*	ND*	ND*	ND*	0.21	ND*	17.55	10.54	23.47	21.68
4	12/10/23	72.38	34.67	ND*	ND*	ND*	ND*	0.26	ND*	10.32	16.33	19.53	16.27
5	16/10/23	45.18	18.30	ND*	ND*	ND*	ND*	0.16	ND*	14.67	12.66	17.61	14.66
6	19/10/23	56.22	22.68	ND*	ND*	ND*	ND*	0.44	ND*	19.57	14.25	25.46	18.65
7	23/10/23	70.62	33.50	ND*	ND*	ND*	ND*	0.24	ND*	23.47	9.71	15.34	20.34
8	26/10/23	57.67	24.27	ND*	ND*	ND*	ND*	0.29	ND*	25.35	7.37	26.23	10.13
9	30/10/23	65.36	32.33	ND*	ND*	ND*	ND*	0.39	ND*	11.54	13.31	20.22	15.24
10	02/11/23	62.35	25.65	ND*	ND*	ND*	ND*	0.48	ND*	18.15	7.64	23.46	20.24
11	06/11/23	52.85	21.51	ND*	ND*	ND*	ND*	0.56	ND*	23.95	11.23	17.47	18.74
12	09/11/23	60.33	28.15	ND*	ND*	ND*	ND*	0.32	ND*	15.36	18.59	30.33	10.27
13	13/11/23	54.23	23.43	ND*	ND*	ND*	ND*	0.39	ND*	22.67	13.48	16.62	12.63
14	16/11/23	72.42	35.34	ND*	ND*	ND*	ND*	0.44	ND*	10.52	16.19	21.35	16.24
15	20/11/23	66.47	31.50	ND*	ND*	ND*	ND*	0.30	ND*	26.85	12.63	19.65	13.42
16	23/11/23	58.84	29.24	ND*	ND*	ND*	ND*	0.36	ND*	17.62	17.67	22.46	19.66
17	27/11/23	48.68	20.38	ND*	ND*	ND*	ND*	0.45	ND*	12.36	8.45	15.64	14.31
18	30/11/23	64.24	27.61	ND*	ND*	ND*	ND*	0.25	ND*	25.86	10.48	25.67	11.52
19	04/12/23	47.14	22.30	ND*	ND*	ND*	ND*	0.54	ND*	13.28	12.20	21.15	16.27
20	07/12/23	73.37	36.39	ND*	ND*	ND*	ND*	0.37	ND*	10.34	7.39	14.68	10.33
21	11/12/23	56.03	25.66	ND*	ND*	ND*	ND*	0.44	ND*	19.38	13.68	27.26	11.22
22	14/12/23	76.68	40.58	ND*	ND*	ND*	ND*	0.16	ND*	17.95	15.62	22.15	15.67
23	18/12/23	58.46	31.21	ND*	ND*	ND*	ND*	0.21	ND*	15.63	10.35	24.54	13.42
24	21/12/23	50.92	24.75	ND*	ND*	ND*	ND*	0.24	ND*	11.53	16.34	20.59	17.68
25	25/12/23	45.13	19.61	ND*	ND*	ND*	ND*	0.41	ND*	14.33	11.40	16.66	12.96
26	28/12/23	55.67	28.27	ND*	ND*	ND*	ND*	0.33	ND*	20.37	14.30	28.26	18.36
27	01/01/24	66.98	27.27	ND*	ND*	ND*	ND*	0.39	ND*	12.26	10.00	13.25	15.41
28	04/01/24	50.26	20.27	ND*	ND*	ND*	ND*	0.41	ND*	17.52	19.83	23.55	19.35
29	08/01/24	55.66	26.49	ND*	ND*	ND*	ND*	0.24	ND*	13.47	15.68	17.45	13.58
30	11/01/24	70.62	30.47	ND*	ND*	ND*	ND*	0.55	ND*	18.24	10.32	15.39	10.34
31	15/01/24	43.44	19.52	ND*	ND*	ND*	ND*	0.36	ND*	11.58	8.67	18.63	14.59
32	18/01/24	60.32	34.61	ND*	ND*	ND*	ND*	0.40	ND*	25.62	13.26	21.23	11.69

33	22/01/24	65.42	38.59	ND*	ND*	ND*	ND*	0.25	ND*	20.38	16.30	24.58	18.33
34	25/01/24	42.93	18.28	ND*	ND*	ND*	ND*	0.23	ND*	14.66	6.85	19.61	12.66
35	29/01/24	59.74	31.67	ND*	ND*	ND*	ND*	0.34	ND*	22.78	11.53	26.23	17.68
36	01/02/24	53.73	25.41	ND*	ND*	ND*	ND*	0.19	ND*	17.66	7.57	15.63	10.26
37	05/02/24	59.37	29.31	ND*	ND*	ND*	ND*	0.57	ND*	13.62	14.20	21.43	14.34
38	08/02/24	71.55	38.67	ND*	ND*	ND*	ND*	0.36	ND*	10.66	17.32	23.78	12.63
39	12/02/24	56.14	34.53	ND*	ND*	ND*	ND*	0.47	ND*	23.32	9.35	19.51	16.28
40	15/02/24	60.55	26.45	ND*	ND*	ND*	ND*	0.41	ND*	19.32	6.53	14.55	18.28
41	19/02/24	67.76	35.15	ND*	ND*	ND*	ND*	0.54	ND*	16.98	8.37	16.47	20.64
42	22/02/24	52.63	22.47	ND*	ND*	ND*	ND*	0.50	ND*	24.53	12.36	26.62	17.97
43	26/02/24	61.56	27.65	ND*	ND*	ND*	ND*	0.45	ND*	12.66	19.42	32.66	11.33
44	29/02/24	75.62	33.37	ND*	ND*	ND*	ND*	0.61	ND*	18.36	13.48	17.57	15.38
45	04/03/24	63.93	24.33	ND*	ND*	ND*	ND*	0.26	ND*	15.38	8.75	17.55	17.69
46	07/03/24	57.55	21.60	ND*	ND*	ND*	ND*	0.30	ND*	10.27	15.32	25.65	10.28
47	11/03/24	64.24	33.41	ND*	ND*	ND*	ND*	0.44	ND*	18.18	7.67	19.45	16.35
48	14/03/24	50.56	23.46	ND*	ND*	ND*	ND*	0.37	ND*	20.26	17.61	26.42	19.27
49	18/03/24	56.37	25.62	ND*	ND*	ND*	ND*	0.50	ND*	14.36	13.43	16.53	15.66
50	21/03/24	70.27	36.56	ND*	ND*	ND*	ND*	0.36	ND*	11.26	16.23	24.24	13.56
51	25/03/24	51.77	20.23	ND*	ND*	ND*	ND*	0.15	ND*	16.46	11.30	18.65	20.28
52	28/03/24	65.92	22.63	ND*	ND*	ND*	ND*	0.39	ND*	13.55	14.53	21.52	14.34

ND*: - Not Detected; Detection Limit: Ozone as O₃ (µg/m³): 10

ND*: - Not Detected; Detection Limit - Lead as Pb (µg/m³): 0.5

ND*: - Not Detected; Detection Limit - Carbon Monoxide as CO (mg/m³): 0.01

ND*: - Not Detected; Detection Limit - Ammonia NH₃ (µg/m³): 10

ND*: - Not Detected; Detection Limit - Benzene as C₆H₆ (µg/m³): 2

ND*: - Not Detected; Detection Limit - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m³): 0.5

ND*: - Not Detected; Detection Limit - Arsenic as As (ng/m³): 2

ND*: - Not Detected; Detection Limit - Nickel as Ni (ng/m³): 10

CHAPTER – 2

SEA WATER AND SEA SEDIMENTS MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Results of Sea water Monitoring

SR. NO.	PARAMETERS	UNIT	RESULTS					
Sampling Location			Near Jetty					
GPS Location			15° 24.748'N, 73° 47.938'E					
Date of sampling			16/10/2023		13/11/2023		14/12/2023	
			Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	--	98.31	8.29	8.24	8.19	8.03	7.97
2	Temperature	°C	31.3	31.0	29.6	29.4	29.5	29.3
3	Total Suspended Solids	mg/L	56	45	67	51	40	32
4	BOD (3 Days @ 27 °C)	mg/L	3.40	2.80	4.20	3.92	3.80	3.10
5	Dissolved Oxygen	mg/L	5.95	5.70	5.90	5.75	5.95	5.75
6	Salinity	ppt	37.52	37.84	37.14	37.40	36.12	36.28
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO ₃	µmol/L	4.76	3.95	3.15	3.12	2.13	2.04
9	Nitrite as NO ₂	µmol/L	0.58	0.43	0.76	0.61	0.50	0.43
10	Ammonical Nitrogen as NH ₃	µmol/L	3.62	3.38	3.25	3.07	2.75	2.56
11	Phosphates as PO ₄	µmol/L	1.75	1.56	2.36	2.14	1.95	1.76
12	Total Nitrogen	µmol/L	9.28	7.94	7.30	6.97	5.73	5.16
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
14	Total Dissolved Solids	mg/L	37820	38124	37480	37794	37112	37298
15	COD	mg/L	23.40	20.60	19.23	16.12	14.30	12.58
17								
17.1	Primary Productivity	mgC/L/day	48.96		43.65		46.35	
18								
18.1	Chlorophyll	mg/m ³	2.83	2.45	2.58	2.40	2.93	2.75
18.2	Phaeophytin	mg/m ³	0.12	0.33	0.29	0.38	0.32	0.20
18.3	Cell Count	No. x 10 ³ /L	432	418	412	395	512	486
18.4	Name of Group Number and name of group species of each group	--	<i>Coscinodiscus sp.</i> <i>Skeletonema sp.</i> <i>Nitzschia sp.</i> <i>Rhizosolenia sp.</i> <i>Cyclotella sp.</i>	<i>Cheatoceus sp.</i> <i>Navicula sp.</i> <i>Triceratium SP.</i> <i>Pleurosigma sp.</i> <i>Biddulphia sp.</i>	<i>Rhizosolenia sp.</i> <i>Skeletonema sp.</i> <i>Coscinodiscus sp.</i> <i>Thallasiosira sp.</i> <i>Navicula sp.</i>	<i>Nitzschia sp.</i> <i>Pleurosigma sp.</i> <i>Biddulphia sp.</i> <i>Thallasiosira sp.</i>	<i>Ulothrix sp.</i> <i>Leptocylinrus sp.</i> <i>Coscinodiscus sp.</i> <i>Pleurosigma sp.</i> <i>Melosira sp.</i> <i>Thalassionema sp.</i> <i>Cymbella sp.</i>	<i>Cyclotella sp.</i> <i>Navicula sp.</i> <i>Nitzschia sp.</i> <i>Biddulphia sp.</i> <i>Skeletonema sp.</i> <i>Synedra sp.</i>
19								
19.1	Abundance (Population)	Nox10 ³ /100m ³	41		34		24	
19.2	Name of Group Number	--	<i>Mysids</i>		<i>Foraminiferans</i>		<i>Polychaetes</i>	

	and name of group species of each group		<i>Gastropods</i> <i>Bivalves</i> <i>Polychaetes</i>	<i>Copepods</i> <i>Nauplius larvae</i> <i>Polychaetes</i>	<i>Nauplius</i> <i>Copepods</i> <i>Gastropods</i>
19.3	Total Biomass	mL/100 m ³	3.70	3.10	2.30
20	Microbiological Parameters				
20.1	Total Bacterial Count	CFU/mL	2270	2540	2420
20.2	Total Coliform	/mL	Present	Present	Present
20.3	E.coli	/mL	Absent	Absent	Absent
20.4	Enterococcus species	/mL	Present	Present	Present
20.5	Salmonella species	/mL	Absent	Absent	Absent
20.6	Shigella species	/mL	Absent	Absent	Absent
20.7	Vibrio species	/mL	Absent	Absent	Absent

Results of Sea water Monitoring

Sr. No.	PARAMETERS	UNIT	RESULTS					
Sampling Location			Near Jetty					
GPS Location			15° 24.748' N, 73° 47.938' E					
Date of sampling			15/01/2024		12/02/2024		14/03/2024	
			Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	--	8.23	8.12	8.19	8.04	8.31	8.24
2	Temperature	°C	29.7	29.5	30.1	29.8	30.7	30.5
3	Total Suspended Solids	mg/L	71	53	49	35	63	52
4	BOD (3 Days @ 27 °C)	mg/L	4.36	4.06	3.98	3.36	4.46	3.90
5	Dissolved Oxygen	mg/L	6.00	5.75	5.95	5.85	5.80	5.65
6	Salinity	ppt	36.76	36.94	35.76	36.12	34.82	35.48
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO ₃	µmol/L	3.95	3.72	3.68	3.40	4.18	3.92
9	Nitrite as NO ₂	µmol/L	0.81	0.69	0.73	0.56	0.95	0.87
10	Ammonical Nitrogen as NH ₃	µmol/L	2.64	2.43	2.95	2.81	2.76	2.54
11	Phosphates as PO ₄	µmol/L	2.36	2.15	1.36	1.24	0.87	0.72
12	Total Nitrogen	µmol/L	7.83	6.96	7.54	6.95	8.12	7.64
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
14	Total Dissolved Solids	mg/L	37694	37886	36792	37136	35978	36572
15	COD	mg/L	18.90	15.82	14.70	12.46	19.60	16.24
17								
17.1	Primary Productivity	mgC/L/day	47.16		52.20		41.40	
18								
18.1	Chlorophyll	mg/m ³	3.12	2.96	2.61	2.53	2.93	2.75
18.2	Phaeophytin	mg/m ³	0.33	0.49	1.20	1.22	0.65	0.95
18.3	Cell Count	No.x 10 ³ /L	598	565	574	532	504	485
18.4	Name of Group Number and name of group species of each group	--	<i>Leptocylindrus</i> sp. <i>Coscinodiscus</i> sp. <i>Melosira</i> sp. <i>Thalassionema</i> sp. <i>Triceratium</i> <i>Biddulphia</i> sp. <i>Ceratium</i> sp.	<i>Cymbella</i> sp. <i>Navicula</i> sp. <i>Nitzschia</i> sp. <i>Pleurosigma</i> sp. <i>Skeletonema</i> sp. <i>Ulothrix</i> sp.	<i>Coscinodiscus</i> sp. <i>Nitzschia</i> sp. <i>Synedra</i> sp. <i>Thalassionema</i> sp. <i>Cyclotella</i> sp. <i>Ceratium</i> sp.	<i>Navicula</i> sp. <i>Pleurosigma</i> sp. <i>Skeletonema</i> sp. <i>Ulothrix</i> sp. <i>Rhizosolenia</i> sp.	<i>Thalassionema</i> sp. <i>Skeletonema</i> sp. <i>Ceratium</i> sp. <i>Cheatecerosus</i> sp. <i>Pleurosigma</i> sp. <i>Melosira</i> sp.	<i>Nitzschia</i> sp. <i>Rhizosolenia</i> sp. <i>Spirulina</i> sp. <i>Navicula</i> sp. <i>Ulothrix</i> sp.
19								
19.1	Abundance (Population)	Nox10 ³ /100m ³	42		32		28	
19.2	Name of Group Number	--	<i>Polychaetes</i>		<i>Polychaetes</i>		<i>Polychaetes</i>	

	and name of group species of each group		<i>Copepods</i> <i>Gastropods</i> <i>Bivalves</i>	<i>Copepods</i> <i>Gastropods</i> <i>Foraminiferans</i>	<i>Crustaceans</i> <i>Mysis</i> <i>Gastropods</i>
19.3	Total Biomass	mL/100 m ³	4.10	3.05	2.75
20	Microbiological Parameters				
20.1	Total Bacterial Count	CFU/mL	2360	2240	2280
20.2	Total Coliform	/mL	Present	Present	Present
20.3	E.coli	/mL	Absent	Absent	Absent
20.4	Enterococcus species	/mL	Present	Present	Present
20.5	Salmonella species	/mL	Absent	Absent	Absent
20.6	Shigella species	/mL	Absent	Absent	Absent
20.7	Vibrio species	/mL	Absent	Absent	Absent

Results of Sea Sediment Monitoring

SR. NO.	PARAMETERS	UNIT	RESULTS					
Sampling Location			Near Jetty					
GPS Location			N 15° 24.748', E 73° 47.938'					
Date of sampling			16/10/23	13/11/23	14/12/23	15/01/24	12/02/24	14/03/24
1	Organic Matter	%	0.428	0.976	0.614	0.56	0.468	0.672
2	Phosphorus as P	µg/g	709	512	678	716	814	768
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
5	Heavy Metals							
5.1	Aluminum as Al	%	5.28	4.70	5.12	5.46	4.93	5.42
5.2	Total Chromium as Cr+3	µg/g	119	91.32	105	83.24	102	118
5.3	Manganese as Mn	µg/g	628	576	672	709	651	743
5.4	Iron as Fe	%	5.02	4.85	14.3	5.32	4.93	5.14
5.5	Nickel as Ni	µg/g	32.75	29.13	35.62	31.95	47.56	30.56
5.6	Copper as Cu	µg/g	51.64	41.32	53.19	46.23	51.32	21.78
5.7	Zinc as Zn	µg/g	83.35	76.59	93.24	81.95	97.16	57.95
5.8	Lead as Pb	µg/g	1.56	1.37	1.32	2.06	2.37	2.15
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	<i>Crustacean s Gastropods Bivalves Amphipods</i>	<i>Polychaetes Crustacean s Bivalves</i>	<i>Crustacean s Gastropods Polychaetes Bivalves</i>	<i>Annelias Molluscans Crustacean s Polychaetes</i>	<i>Molluscans Crustacean s Polychaetes</i>	<i>Gastropods Bivalves Polychaetes Molluscans</i>
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	<i>Nematodes</i>	<i>Ostracods Decapods larvae Nematodes</i>	<i>Nematodes</i>	--	<i>Foraminiferans Nematodes</i>	<i>Nematodes Ostracodes</i>
6.3	Population	no/m ²	618	441	368	529	676	559

CHAPTER – 3

STP WATER MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Results of STP water quality monitoring

SR. NO.	PARAMETERS	UNIT	RESULTS					
Sampling Location			Baina Sewerage Plant STP Inlet					
Date of sampling			11/10/23	13/11/23	18/12/23	11/01/24	15/02/24	18/03/24
1	pH	--	7.84	7.61	7.73	7.59	7.81	7.43
2	Total Suspended Solids	mg/L	123	170	146	132	124	156
3	BOD (3 Days @ 27 °C)	mg/L	79	61	43	51	57.2	48
4	COD	mg/L	203	226	193	216	231	190
5	Oil & Grease	mg/L	4.6	6.8	5.2	6.2	4.9	5.4
6	Residual Free Chlorine	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

CHAPTER – 4

DUMP POND WATER QUALITY MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Results of Dump Pond Water quality monitoring

SR. NO.	PARAMETERS	UNIT	RESULT					
			Dump Pond-1 Near CT 08		Dump Pond-2 Near Pump House		Dump Pond-3 - Nr. Jetty	
Date of sampling			18/12/23	14/03/24	18/12/23	14/03/24	18/12/23	14/03/24
1	pH	--	7.21	7.63	7.57	7.82	7.21	--
2	Total Dissolved Solids	mg/L	305	328	340	364	406	--
3	Total Suspended Solids	mg/L	19	31	24	21	32	--
4	Turbidity	NTU	3.58	5.12	4.13	5.18	6.10	--
5	BOD (3 Days @ 27 °C)	mg/L	16.4	24	25.6	29.6	20	--
6	Dissolved Oxygen	mg/L	5.8	5.9	5.8	5.9	5.7	--
7	COD	mg/L	79	98.2	112	123	89.6	--
8	Salinity	ppt	0.162	0.173	0.196	0.180	0.176	--
9	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	--
10	Total Hardness as CaCO ₃	mg/L	119	124	128	114	103	--
11	Fluoride as F	mg/L	0.310	0.368	0.400	0.462	0.260	--
12	Chloride as Cl	mg/L	89.97	95.97	109	99.96	97.96	--
13	Zinc as Zn	mg/L	0.085	0.073	0.073	0.085	0.075	--
14	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	--
15	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	--
16	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	--

CHAPTER – 5

DRINKING WATER QUALITY MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Results of Drinking Water Quality Monitoring

SR. NO.	PARAMETERS	UNIT	RESULT			
			Sub Station Building Canteen		Near AMPTPL Exit Gate	
Sampling Location						
Date of sampling			28/12/23	28/03/24	28/12/23	28/03/24
1	Colour	Hazen	3	2	2	3
2	Turbidity	NTU	0.09	0.08	0.06	0.09
3	Conductivity	µmho/cm	92	113	87	98
4	pH	--	7.15	7.21	7.25	7.36
5	Chloride as Cl	mg/L	7.49	10.49	4.49	8.49
6	Total Dissolved Solids	mg/L	63	75	53	68
7	Total Hardness as CaCO ₃	mg/L	17	23	13	17
8	Iron as Fe	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
9	Sulphate as SO ₄	mg/L	2.56	3.16	2.86	3.32
10	Calcium as Ca	mg/L	4.40	5.60	3.60	4.80
11	Magnesium as Mg	mg/L	1.44	2.16	0.96	1.20
12	Fluoride as F	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
13	Nitrate as NO ₃	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
14	Manganese as Mn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
15	Copper as Cu	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
16	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
17	Arsenic as As	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
18	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
19	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
20	Zinc as Zn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
21	Coliform	/100 ml	Absent	Absent	Absent	Absent
22	E-Coli	/100 ml	Absent	Absent	Absent	Absent
23	Residual Free Chlorine	mg/L	Not Detected	Not Detected	Not Detected	Not Detected

Results of Drinking Water Quality Monitoring

SR. NO.	PARAMETERS	UNIT	RESULT			
			Near Workshop Area		Near Amenity Building	
Sampling Location						
Date of sampling			28/12/23	28/03/24	28/12/23	28/03/24
1	Colour	Hazen	3	4	3	3
2	Turbidity	NTU	0.06	0.12	0.09	0.15
3	Conductivity	µmho/cm	319	356	339	356
4	pH	--	7.28	7.35	7.13	7.23
5	Chloride as Cl	mg/L	16.49	21.99	22.49	25.99
6	Total Dissolved Solids	mg/L	216	243	228	246
7	Total Hardness as CaCO ₃	mg/L	63	70	81	73
8	Iron as Fe	mg/L	0.070	0.069	0.087	0.095
9	Sulphate as SO ₄	mg/L	9.58	10.76	19.75	15.83
10	Calcium as Ca	mg/L	19.20	21.20	26.00	22.00
11	Magnesium as Mg	mg/L	3.60	4.08	3.84	4.32
12	Fluoride as F	mg/L	0.100	0.095	0.070	0.087
13	Nitrate as NO ₃	mg/L	0.750	0.642	0.560	0.684
14	Manganese as Mn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
15	Copper as Cu	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
16	Cadmium as Cd	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
17	Arsenic as As	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
18	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
19	Lead as Pb	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
20	Zinc as Zn	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
21	Coliform	/100 ml	Absent	Absent	Absent	Absent
22	E-Coli	/100 ml	Absent	Absent	Absent	Absent
23	Residual Free Chlorine	mg/L	Not Detected	Not Detected	Not Detected	Not Detected

CHAPTER – 6

SOIL QUALITY MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Results of Soil quality monitoring

SR. NO.	PARAMETERS	UNIT	RESULTS			
			NEAR CT-1		NEAR ADANI SITE	
Sampling Location						
Date of sampling			18/12/23	28/03/24	18/12/23	28/03/24
1	Type	--	Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam
2	Gravel	%	0.42	0.45	0.69	0.73
3	Coarse Sand	%	3.58	3.55	3.31	2.27
4	Medium Sand	%	15	18	40	43
5	Fine Sand	%	44	43	17	19
6	Total Sand	%	63	65	61	65
7	Silt & Clay	%	37	35	39	35
8	pH (1:5)	--	8.24	8.39	8.65	8.59
9	Electricity Conductivity	µmho/cm	858	916	724	814
10	Alkali matter	mg/kg	402	380	362	372
11	Cation Exchange Capacity	meq/100 g	9.64	10.4	10.14	9.96
12	Sodium Absorption Ratio	--	8.36	8.5	8.95	9.1
13	Organic Matter	mg/kg	0.42	0.45	0.63	0.58
14	Available Nitrogen	meq/100 g	0.53	0.48	0.71	0.62
15	Available Potassium	mg/kg	6.48	5.82	4.75	4.1
16	Available Phosphorus	mg/kg	5.76	5.2	5.08	4.8
17	Available Sodium	%	3.62	4.2	4.28	5.9
18	Permeability	%	0.68 X 10 ⁻⁴	0.61 X 10 ⁻⁴	0.57 X 10 ⁻⁶	0.53 X 10 ⁻⁴

CHAPTER – 7

NOISE LEVEL MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Results of Day Time Noise level monitoring

October-2023					
Day Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		10/10/2023	20/10/2023	11/10/2023	04/10/2023
1	6:00-7:00	56.1	61.2	55.7	47.3
2	7:00-8:00	50.3	59.2	59.3	49.3
3	8:00-9:00	58.1	55.9	64.7	51.6
4	9:00-10:00	59.5	59.4	61.5	51.9
5	10:00-11:00	65.7	61.3	63.3	48.2
6	11:00-12:00	66.1	59.1	56.7	49.1
7	12:00-13:00	67.2	64.9	66.8	45.3
8	13:00-14:00	69.5	57.9	56.8	47.9
9	14:00-15:00	63.2	66.5	60.5	50.9
10	15:00-16:00	62.3	62.1	67.1	49.9
11	16:00-17:00	65.3	59.9	57.4	51.1
12	17:00-18:00	65.1	67.5	57.1	52.5
13	18:00-19:00	58.7	65.8	60.9	51.2
14	19:00-20:00	52.6	57.3	60.3	53.6
15	20:00-21:00	58.9	56.5	55.2	50.4
16	21:00-22:00	55.4	57.2	58.4	49.2
Day Time Limit		75 dB(A)Leq			55 dB(A) Leq

Results of Night Time Noise level monitoring

October-2023					
Night Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		10/10/2023 & 11/10/2023	20/10/2023 & 21/10/2023	11/10/2023 & 12/10/2023	04/10/2023 & 05/10/2023
1	22:00-23:00	55.3	61.9	66.3	44.2
2	23:00-00:00	59.6	54.4	57.3	40.8
3	00:00-01:00	51.8	45.3	57.4	41.5
4	01:00-02:00	55.6	56.5	54.9	40.2
5	02:00-03:00	58.9	55.1	61.6	41.3
6	03:00-04:00	59.9	60.3	58.2	40.1
7	04:00-05:00	54.6	62.3	54.1	39.8
8	05:00-06:00	50.4	51.6	63.3	42.1
Night Time Limit		70 dB(A)Leq			45 dB(A) Leq

**Limit as per CTO No. is 12/2019-PCB/347405/R0002737 dated 24.03.2020 valid up to 31/01/2025.

Results of Day Time Noise level monitoring

November-2023					
Day Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		07/11/2023	10/11/2023	20/11/2023	01/11/2023
1	6:00-7:00	54.6	60.5	57.5	47.8
2	7:00-8:00	50.9	60.9	61.8	51.6
3	8:00-9:00	57.3	54.7	66.4	50.2
4	9:00-10:00	57.6	56.9	59.4	49.4
5	10:00-11:00	63.7	61.6	65.2	47.3
6	11:00-12:00	66.2	61.4	58.6	48.3
7	12:00-13:00	68.1	64.7	67.1	44.4
8	13:00-14:00	71.2	59.1	63.4	48.4
9	14:00-15:00	65.7	64.6	59.8	52.7
10	15:00-16:00	63.8	59.7	66.5	48.7
11	16:00-17:00	65.4	61.7	61.1	51.8
12	17:00-18:00	66.1	68.3	56.8	50.3
13	18:00-19:00	56.2	63.9	62.5	53.2
14	19:00-20:00	54.4	58.1	58.9	52.3
15	20:00-21:00	60.4	57.9	57.2	48.9
16	21:00-22:00	57.8	58.7	60.8	50.1
Day Time Limit		75 dB(A)Leq			55 dB(A) Leq

Results of Night Time Noise level monitoring

November-2023					
Night Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		07/11/2023 & 08/11/2023	10/11/2023 & 11/11/2023	20/11/2023 & 21/11/2023	01/11/2023 & 02/11/2023
1	22:00-23:00	54.7	59.7	66.1	42.4
2	23:00-00:00	60.3	53.5	58.2	40.2
3	00:00-01:00	58.3	47.6	58.5	40.3
4	01:00-02:00	55.9	57.1	56.9	41.3
5	02:00-03:00	59.3	54.6	61.2	40.1
6	03:00-04:00	61.3	58.8	60.5	41.5
7	04:00-05:00	52.6	62.2	54.8	43.6
8	05:00-06:00	49.7	49.8	61.6	42.6
Night Time Limit		70 dB(A)Leq			45 dB(A) Leq

**Limit as per CTO No. is 12/2019-PCB/347405/R0002737 dated 24.03.2020 valid up to 31/01/2025.

Results of Day Time Noise level monitoring

December-2023					
Day Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		26/12/2023	08/12/2023	04/12/2023	02/12/2023
1	6:00-7:00	56.6	62.9	55.9	48.3
2	7:00-8:00	52.4	59.1	62.1	52.1
3	8:00-9:00	58.1	57.1	67.1	50.8
4	9:00-10:00	55.1	54.9	61.7	51.8
5	10:00-11:00	62.2	61.1	64.4	48.8
6	11:00-12:00	67.6	63.5	57.2	49.5
7	12:00-13:00	67.4	61.5	67.7	45.9
8	13:00-14:00	72.7	59.9	64.5	47.3
9	14:00-15:00	66.1	65.2	66.2	51.3
10	15:00-16:00	65.6	61.4	68.7	46.7
11	16:00-17:00	64.6	60.3	59.4	53.6
12	17:00-18:00	68.6	68.4	56.4	49.6
13	18:00-19:00	55.3	65.4	63.8	53.3
14	19:00-20:00	55.5	55.7	60.1	54.2
15	20:00-21:00	61.9	57.8	58.3	49.8
16	21:00-22:00	57.5	60.5	59.7	52.5
Day Time Limit		75 dB(A)Leq			55 dB(A) Leq

Results of Night Time Noise level monitoring

December-2023					
Night Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		26/12/2023 & 27/12/2023	08/12/2023 & 09/12/2023	04/12/2023 & 05/12/2023	02/12/2023 & 03/12/2023
1	22:00-23:00	55.3	57.3	64.8	40.7
2	23:00-00:00	58.2	52.9	55.8	40.3
3	00:00-01:00	57.6	49.7	60.4	40.5
4	01:00-02:00	57.4	54.1	54.5	41.2
5	02:00-03:00	58.7	57.2	58.9	42.5
6	03:00-04:00	56.4	59.4	58.8	41.8
7	04:00-05:00	54.3	56.5	53.3	43.4
8	05:00-06:00	50.1	51.4	62.6	44.2
Night Time Limit		70 dB(A)Leq			45 dB(A) Leq

**Limit as per CTO No. is 12/2019-PCB/347405/R0002737 dated 24.03.2020 valid up to 31/01/2025.

Results of Day Time Noise level monitoring

January-2024					
Day Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		09/01/2024	12/01/2024	22/01/2024	03/01/2024
1	6:00-7:00	58.8	62.4	57.9	47.5
2	7:00-8:00	52.3	58.3	62.9	51.6
3	8:00-9:00	56.1	57.5	69.4	52.7
4	9:00-10:00	53.1	54.4	62.3	51.3
5	10:00-11:00	60.4	63.4	66.4	49.5
6	11:00-12:00	65.8	65.2	59.2	50.8
7	12:00-13:00	65.7	63.8	67.1	44.1
8	13:00-14:00	73.9	60.5	64.2	46.1
9	14:00-15:00	64.9	65.6	66.8	52.1
10	15:00-16:00	65.5	60.7	69.1	44.8
11	16:00-17:00	62.7	58.5	63.1	54.3
12	17:00-18:00	69.7	66.2	67.5	50.6
13	18:00-19:00	53.3	66.3	63.3	53.7
14	19:00-20:00	55.6	57.1	60.3	52.4
15	20:00-21:00	59.8	55.5	59.6	50.7
16	21:00-22:00	58.2	61.1	57.8	52.6
Day Time Limit		75 dB(A)Leq			55 dB(A) Leq

Results of Night Time Noise level monitoring

January-2024					
Night Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		09/01/2024 & 10/01/2024	12/01/2024 & 13/01/2024	22/01/2024 & 23/01/2024	03/01/2024 & 04/01/2024
1	22:00-23:00	56.4	57.4	60.7	42.2
2	23:00-00:00	60.3	53.5	56.9	40.5
3	00:00-01:00	58.8	51.5	61.9	41.3
4	01:00-02:00	57.2	55.8	56.8	41.6
5	02:00-03:00	56.5	55.5	61.4	42.7
6	03:00-04:00	58.1	57.1	57.8	43.2
7	04:00-05:00	53.8	56.1	50.8	44.2
8	05:00-06:00	48.8	49.9	60.4	41.7
Night Time Limit		70 dB(A)Leq			45 dB(A) Leq

**Limit as per CTO No. is 12/2019-PCB/347405/R0002737 dated 24.03.2020 valid up to 31/01/2025.

Results of Day Time Noise level monitoring

February-2024					
Day Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		20/02/2024	09/02/2024	15/02/2024	03/02/2024
1	6:00-7:00	57.9	60.9	55.9	45.7
2	7:00-8:00	51.5	56.6	62.1	49.1
3	8:00-9:00	54.6	58.5	68.7	54.1
4	9:00-10:00	51.4	55.2	63.7	50.7
5	10:00-11:00	59.2	65.4	66.6	50.8
6	11:00-12:00	64.9	64.5	57.4	49.9
7	12:00-13:00	66.1	62.8	60.4	43.3
8	13:00-14:00	72.9	58.2	63.8	47.3
9	14:00-15:00	63.2	63.6	68.4	52.9
10	15:00-16:00	63.5	59.6	67.1	45.8
11	16:00-17:00	64.2	59.9	62.4	50.1
12	17:00-18:00	59.8	65.1	69.2	52.8
13	18:00-19:00	54.3	64.7	65.8	53.1
14	19:00-20:00	56.9	55.3	62.6	52.1
15	20:00-21:00	58.9	54.5	60.1	50.6
16	21:00-22:00	55.8	60.3	56.3	53.2
Day Time Limit		75 dB(A)Leq			55 dB(A) Leq

Results of Night Time Noise level monitoring

February-2024					
Night Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		20/02/2024 & 21/02/2024	09/02/2024 & 10/02/2024	15/02/2024 & 16/02/2024	03/02/2024 & 04/02/2024
1	22:00-23:00	54.6	56.5	59.7	43.1
2	23:00-00:00	51.6	52.8	57.9	41.6
3	00:00-01:00	49.7	50.9	53.5	42.6
4	01:00-02:00	47.5	48.9	49.3	40.1
5	02:00-03:00	49.2	50.8	53.1	40.8
6	03:00-04:00	50.7	54.1	56.7	41.7
7	04:00-05:00	54.4	56.4	58.6	42.7
8	05:00-06:00	57.1	58.4	61.1	43.2
Night Time Limit		70 dB(A)Leq			45 dB(A) Leq

**Limit as per CTO No. is 12/2019-PCB/347405/R0002737 dated 24.03.2020 valid up to 31/01/2025.

Results of Day Time Noise level monitoring

March-2024					
Day Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		05/03/2024	12/03/2024	21/03/2024	09/03/2024
1	6:00-7:00	55.6	58.9	58.3	45.3
2	7:00-8:00	50.4	56.3	62.2	48.6
3	8:00-9:00	54.1	57.5	69.3	52.3
4	9:00-10:00	55.7	54.8	64.1	49.2
5	10:00-11:00	58.2	64.7	67.9	48.5
6	11:00-12:00	63.5	64.9	58.7	48.4
7	12:00-13:00	67.5	63.2	60.2	45.8
8	13:00-14:00	72.3	58.4	64.5	46.6
9	14:00-15:00	64.4	61.9	66.5	53.2
10	15:00-16:00	65.8	58.8	65.1	46.5
11	16:00-17:00	63.8	60.8	61.7	47.6
12	17:00-18:00	58.1	62.3	71.7	50.8
13	18:00-19:00	55.1	66.7	67.8	53.9
14	19:00-20:00	54.2	53.5	62.7	53.3
15	20:00-21:00	56.5	59.2	57.9	52.6
16	21:00-22:00	58.5	59.1	55.9	52.7
Day Time Limit		75 dB(A)Leq			55 dB(A) Leq

Results of Night Time Noise level monitoring

March-2024					
Night Time dB(A)					
SR. NO.	Sampling Time	Near fire station	Near security tower	Adani Site Office Near Gate No.02	Sada village
		05/03/2024 & 06/03/2024	12/03/2024 & 13/03/2024	21/03/2024 & 22/03/2024	09/03/2024 & 10/03/2024
1	22:00-23:00	55.7	55.6	59.4	41.2
2	23:00-00:00	50.5	51.7	57.3	44.1
3	00:00-01:00	52.2	49.7	55.1	41.3
4	01:00-02:00	47.3	49.9	49.5	40.6
5	02:00-03:00	47.5	51.5	54.6	42.5
6	03:00-04:00	48.7	55.3	56.9	43.4
7	04:00-05:00	52.3	57.8	57.7	41.9
8	05:00-06:00	54.9	59.8	62.3	43.5
Night Time Limit		70 dB(A)Leq			45 dB(A) Leq

**Limit as per CTO No. is 12/2019-PCB/347405/R0002737 dated 24.03.2020 valid up to 31/01/2025.

CHAPTER – 8

D.G. STACK & D.G. STACK NOISE MONITORING

MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

D.G. Stack Monitoring Results

SR. NO.	TEST PARAMETER	UNIT	DG Stack - 1 (2000 KVA) Make Cummins Sr. No.:25388675		LIMIT [#]
			25/01/2024	21/03/2024	
			RESULTS	RESULTS	
1	Particulate Matter	mg/Nm ³	30.36	32.45	75
2	Sulfur Dioxide as SO ₂	Kg/hr	0.011	0.013	--
3	Oxides of Nitrogen as NOX	ppm	37.53	34.54	710
4	Non Methyl Hydro Carbon (NMHC)	mg/Nm ³	Not Detected	Not Detected	100
5	Carbon Monoxide (CO)	mg/Nm ³	25.77	22.09	150
6	Sulfur Content in fuel	%	0.028	0.032	< 2.0

#: Details Provided by Customer.

Results on 15 % O2 Correction when Oxygen is greater than 15 %

SR. NO.	TEST PARAMETER	UNIT	DG Stack - 2 (2000 KVA) Make Cummins Sr. No.: 25390869		LIMIT [#]
			25/01/2024	21/03/2024	
			RESULTS	RESULTS	
1	Particulate Matter	mg/Nm ³	35.22	30.85	75
2	Sulfur Dioxide as SO ₂	Kg/hr	0.01	0.012	--
3	Oxides of Nitrogen as NOX	ppm	34.22	31.32	710
4	Non Methyl Hydro Carbon (NMHC)	mg/Nm ³	Not Detected	Not Detected	100
5	Carbon Monoxide (CO)	mg/Nm ³	27.25	28.43	150
6	Sulfur Content in fuel	%	0.026	0.028	< 2.0

#: Details Provided by Customer.

Results on 15 % O2 Correction when Oxygen is greater than 15 %

SR. NO.	TEST PARAMETER	UNIT	DG Stack – 3 (380 KVA) Make Cummins Sr. No.: 25386499		LIMIT [#]
			25/01/2024	21/03/2024	
			RESULTS	RESULTS	
1	Particulate Matter	g/kw-hr	0.0027	0.0031	0.3
2	Sulfur Dioxide (SO ₂)	Kg/hr	0.0005	0.0007	1.8
3	Oxides of Nitrogen as NOX	g/kw-hr	0.0063	0.0064	9.2
4	Hydro Carbon (HC)	g/kw-hr	Not Detected	Not Detected	1.3
5	Carbon Monoxide (CO)	g/kw-hr	0.0025	0.0031	3.5

#: Details Provided by Customer.

Results on 15 % O2 Correction when Oxygen is greater than 15 %

D.G. Stack Noise Level Monitoring Results

SR. NO.	SAMPLING LOCATION	Outside DG Room 1 m distance	
		25/01/2024	21/03/2024
		RESULTS	RESULTS
1	DG Stack - 1 (2000 KVA) Cummins Sr. No.:25388675	72.2	71.8
2	DG Stack - 2 (2000 KVA) Cummins Sr. No.: 25390869	72.7	73.1
3	DG Stack - 3 (380 KVA)Cummins Sr. No.: 25386499	71.4	72.2
LIMIT**		75 dB(A)	

**as per Noise limit for diesel generator sets (upto 1000 KVA) manufactured on or after the 1st January, 2005

CHAPTER – 9
WEATHER DATA MONITORING
MONITORING PERIOD: OCTOBER - 2023 TO MARCH - 2024

Date	Avg Wind Speed (Km/hr)	Precipitation (mm)
01/10/2023	1.50	0.00
02/10/2023	3.16	0.00
03/10/2023	3.37	0.00
04/10/2023	4.23	0.00
05/10/2023	3.48	0.00
06/10/2023	1.78	0.00
07/10/2023	5.57	0.00
08/10/2023	4.72	0.00
09/10/2023	3.34	0.00
10/10/2023	2.40	0.00
11/10/2023	1.56	0.00
12/10/2023	4.02	0.00
13/10/2023	2.64	0.00
14/10/2023	4.28	0.00
15/10/2023	1.89	0.00
16/10/2023	2.79	0.00
17/10/2023	3.19	0.00
18/10/2023	4.90	0.00
19/10/2023	4.37	0.00
20/10/2023	3.21	0.00
21/10/2023	2.85	0.00
22/10/2023	2.31	0.00
23/10/2023	2.68	0.00
24/10/2023	1.92	0.00
25/10/2023	2.02	0.00
26/10/2023	1.45	0.00
27/10/2023	2.21	0.00
28/10/2023	2.01	0.00
29/10/2023	1.69	0.00
30/10/2023	1.77	0.00
31/10/2023	2.55	0.00
01/11/2023	1.74	0.00
02/11/2023	2.65	0.00
03/11/2023	3.34	0.00
04/11/2023	3.71	0.00
05/11/2023	3.29	0.00
06/11/2023	3.88	0.00
07/11/2023	2.52	0.00
08/11/2023	2.81	1.27
09/11/2023	2.38	0.00
10/11/2023	2.12	0.00
11/11/2023	1.99	0.00
12/11/2023	2.09	0.00

13/11/2023	1.87	0.00
14/11/2023	2.44	0.00
15/11/2023	2.09	0.00
16/11/2023	1.75	0.00
17/11/2023	1.98	0.00
18/11/2023	1.67	0.00
19/11/2023	2.62	0.00
20/11/2023	2.54	0.00
21/11/2023	2.54	0.00
22/11/2023	3.25	0.00
23/11/2023	2.21	0.00
24/11/2023	3.27	0.00
25/11/2023	2.25	0.00
26/11/2023	2.53	0.00
27/11/2023	3.16	0.00
28/11/2023	2.93	0.00
29/11/2023	6.12	0.00
30/11/2023	4.19	0.00
01/12/2023	4.30	0.00
02/12/2023	4.05	0.00
03/12/2023	2.55	0.00
04/12/2023	2.48	0.00
05/12/2023	1.98	0.00
06/12/2023	2.31	0.00
07/12/2023	2.88	0.00
08/12/2023	2.46	0.00
09/12/2023	2.84	0.00
10/12/2023	1.75	0.00
11/12/2023	3.03	0.00
12/12/2023	2.33	0.00
13/12/2023	3.25	0.00
14/12/2023	2.73	0.00
15/12/2023	2.98	0.00
16/12/2023	2.23	0.00
17/12/2023	3.18	0.00
18/12/2023	3.21	0.00
19/12/2023	3.96	0.00
20/12/2023	3.48	0.00
21/12/2023	2.25	0.00
22/12/2023	1.48	0.00
23/12/2023	2.02	0.00
24/12/2023	2.47	0.00
25/12/2023	2.55	0.00
26/12/2023	2.52	0.00

27/12/2023	2.54	0.00
28/12/2023	3.96	0.00
29/12/2023	2.33	0.00
30/12/2023	2.73	0.00
31/12/2023	2.20	0.00
01/01/2024	3.03	0.00
02/01/2024	2.76	0.00
03/01/2024	3.30	0.00
04/01/2024	3.04	0.51
05/01/2024	2.59	0.00
06/01/2024	3.09	0.00
07/01/2024	2.62	0.00
08/01/2024	4.51	0.00
09/01/2024	2.31	1.02
10/01/2024	1.89	0.00
11/01/2024	3.16	0.00
12/01/2024	3.47	0.00
13/01/2024	3.54	0.00
14/01/2024	2.24	0.00
15/01/2024	4.33	0.00
16/01/2024	5.42	0.00
17/01/2024	3.68	0.00
18/01/2024	4.79	0.00
19/01/2024	4.00	0.00
20/01/2024	5.71	0.00
21/01/2024	3.32	0.00
22/01/2024	2.60	0.00
23/01/2024	4.70	0.00
24/01/2024	2.88	0.00
25/01/2024	3.03	0.00
26/01/2024	4.02	0.00
27/01/2024	3.90	0.00
28/01/2024	3.75	0.00
29/01/2024	2.71	0.00
30/01/2024	2.98	0.00
31/01/2024	2.88	0.00
01/02/2024	3.41	0.00
02/02/2024	2.96	0.00
03/02/2024	3.91	0.00
04/02/2024	2.75	0.00
05/02/2024	3.22	0.00
06/02/2024	3.62	0.00
07/02/2024	4.04	0.00
08/02/2024	3.92	0.00



09/02/2024	3.72	0.00
10/02/2024	5.55	0.00
11/02/2024	4.05	0.00
12/02/2024	3.41	0.00
13/02/2024	3.91	0.00
14/02/2024	2.94	0.00
15/02/2024	3.73	0.00
16/02/2024	3.50	0.00
17/02/2024	4.25	0.00
18/02/2024	3.61	0.00
19/02/2024	2.75	0.00
20/02/2024	4.28	0.00
21/02/2024	7.64	0.00
22/02/2024	9.31	0.00
23/02/2024	5.99	0.00
24/02/2024	3.80	0.00
25/02/2024	4.64	0.00
26/02/2024	3.50	0.00
27/02/2024	2.53	0.00
28/02/2024	4.86	0.00
29/02/2024	5.46	0.00
01/03/2024	1.26	0.00
02/03/2024	1.24	0.00
03/03/2024	2.93	0.00
04/03/2024	3.04	0.00
05/03/2024	1.84	0.00
06/03/2024	1.95	0.00
07/03/2024	1.53	0.00
08/03/2024	1.05	0.00
09/03/2024	1.13	0.00
10/03/2024	0.46	0.00
11/03/2024	1.14	0.00
12/03/2024	1.32	0.00
13/03/2024	1.25	0.00
14/03/2024	1.94	0.00
15/03/2024	2.52	0.00
16/03/2024	2.18	0.00
17/03/2024	2.28	0.00
18/03/2024	1.63	0.00
19/03/2024	2.38	0.00
20/03/2024	1.95	0.00
21/03/2024	--	0.00
22/03/2024	--	0.00
23/03/2024	--	0.00

24/03/2024	--	0.00
25/03/2024	--	0.00
26/03/2024	1.90	0.00
27/03/2024	0.63	0.00
28/03/2024	--	0.00
29/03/2024	--	0.00
30/03/2024	--	0.00
31/03/2024	--	0.00

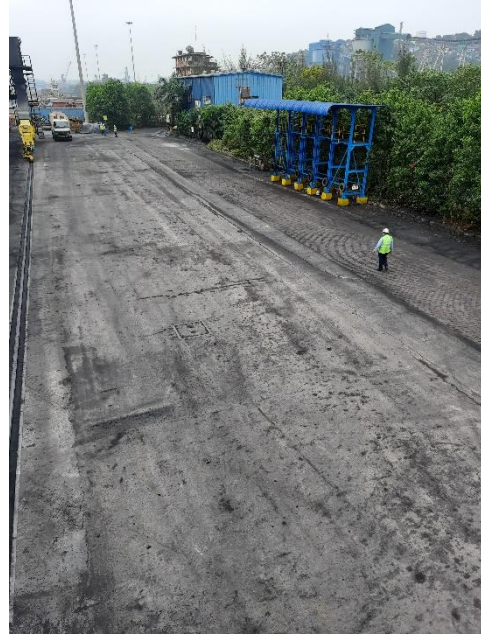
Note: Instrument temperature and humidity sensor was not in operation during 1st March, 2024 at 21:01 to 22:59, 2nd March, 2024 at 21:01 to 21:59, 4th March, 2024 at 01:01 to 03:59, 06th March, 2024 at 17:01 to 18:59, 10th March, 2024 at 10:01 to 23:59, 17th March, 2024 at 08:01 to 19:59, 20th March, 2024 at 18:01 to 26th March, 2024 at 21:59 and 27th March, 2024 at 11:01 to 31st March, 2024 at 23:59.

ANNEXURE 2

EMP – COMPLIANCE STATUS

SI. NO	MEASURES	STATUS
1	Proposed roads in coal terminal shall be black topped to avoid entertainment of fugitive dust	<p>Complied.</p> <p>Both internal and external roads are paved with Cement Concrete and black top.</p>  <p>In addition, following is practised to control/minimise fugitive dust.</p> <ul style="list-style-type: none"> Facility is using road sweeping machines for house-keeping apart from manual labours. 

Compliance to the conditions stipulated in Environment and CRZ clearance.



- Advanced Suction Type Road Sweeping machine is also deployed
- Regular house-keeping is carried out
- It is ensured that trucks remain covered with tarpaulin and properly fastened during transportation of cargo.



- There's speed restriction for vehicles entering the premises.
- Truck wheel washing arrangement is made inside the port to minimize dust emission.

Compliance to the conditions stipulated in Environment and CRZ clearance.



- PUC Certification for vehicles is ensure.



- Cargo is kept covered with tarpaulin all the time (Except during loading & unloading)





2

The Municipal waste generated at the terminal is to be disposed along with the solid waste being disposed at present by the MPT.



Being complied.

Municipal waste generated is properly segregated, stored and disposed along with Solid Waste to local authorities in line to Solid Waste Management Rules 2016 as amended Dispatch register is maintained. Food waste is being fed to OWC for composting.

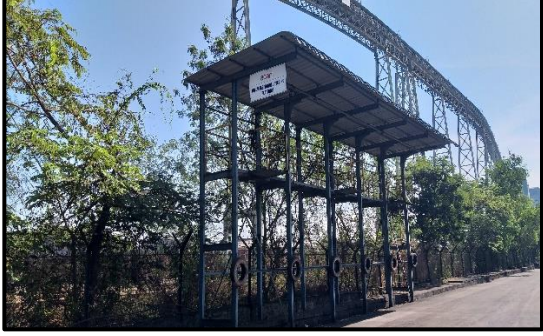

Compliance to the conditions stipulated in Environment and CRZ clearance.

		
<p>3</p>	<p>Adequate numbers Toilets shall be constructed in terminal office and office area. The sewage shall be treated in septic tank. The treated sewage from septic tank shall be disposed into existing sewage network of MPT.</p>	<p>Complied.</p> <p>Toilet has been constructed at berth, office and workshop area. Sewage from the septic tank is transported by sewage tankers to STP located at PWD Baina. STP inlet & outlet characteristic of water is regularly analyzed by NABL accredited laboratory. The monitoring results for the period Oct 23 - March 24 is enclosed as Annexure 1</p>
<p>4</p>	<p>Drinking water facilities and waste disposal facilities shall be located away from each other.</p>	<p>Complied.</p>
<p>5</p>	<p>The water Effluent from coal stock yard to be settled in a settling tank</p>	<p>Complied.</p> <p>Port has constructed three water dump ponds. Water effluent from coal stock yard is collected & settled in these dump ponds. Baffle walls have been constructed in all 3 dup ponds to enhance sedimentation of Cargo.</p> 
<p>6</p>	<p>Efficient pollution control technique for dust control to be utilized at open stock piles, conveyor transfer points, dump hopper loading points and other such dust generation locations.</p>	<p>Complied.</p> <p>A. Dry fog dust suppression system has been provided in conveyor and 224 no's of transfer points.</p> <p>B. 43 Nos water sprinklers have been provided at coal stock yard for dust suppression.</p>





Compliance to the conditions stipulated in Environment and CRZ clearance.

		<p>C. 2 Nos of Mist Canon systems are provided. (one is mobile canon and other one tire mounted)</p> <p>D. Covered conveyor belts are being used for transportation.</p> 
7	The stacker can operate from distance with boom to keep the stack pile surface to a minimum.	Complied.
8	All the regularly used roadways at site must be swept daily with a tank mounted road sweeper and washed by a truck mounted cart.	<p>Being Complied.</p> <p>Water tanker equipped with mist cannon arrangement is used to spray water on road to ensure the entrapment of fugitive emission. Also, vacuum sweeping machine and Bob cat have been deployed to remove dust from roads.</p>
, 9	All the transport shall be properly covered at the bottom and top with perfect sealing of plastic/tarpaulin sheets.	<p>Complied.</p> <p>It is ensured that trucks/ rakes remain covered with tarpaulin and properly fastened during transportation of cargo.</p> 

Compliance to the conditions stipulated in Environment and CRZ clearance.

		
10	The stock yard should be covered with screens/ wall of height of at least 7 to 8 mtr.	<p>Complied.</p> <p>Wind screen of MS structure along with HDPE fabric/ perforated sheet of 15 metres height has been provided along the coal stacking yard.</p> 
11	The will be properly covered with tarpaulin and overloading will not allowed to avoid spillage of loose material on the roads. Regular maintenance and washing of wheel to be done.	<p>Being complied.</p> <p>All the loaded trucks are covered with tarpaulin. Truck wheel washing arrangement is made inside the port to minimize dust emission.</p>
12	Ambient noise level due to vehicular traffic to be controlled by developing green belt.	<p>Complied.</p> <p>Green belt developed along the periphery and coal stock yard. Currently about 29,595 plants are planted in port premises and are maintained well.</p> <p>Besides Ambient Noise levels are being monitored on a regular basis and reports of the same is being submitted to MoEF&CC as part of Six monthly compliance report and to GSPCB on regular basis. Ambient Noise levels for the period October'23 - March 2024 is attached as Annexure 1</p>
13	Noise level from air compressor to be reduced by fitting exhaust muffler and intake mufflers	<p>Complied.</p> <p>Air compressor is kept in an acoustic enclosure to minimize noise from these machines. Exposures of workers to high noise level are minimized by job rotation and use of ear muff.</p>

Compliance to the conditions stipulated in Environment and CRZ clearance.

		
<p>14</p>	<p>Green belt development.</p>	<p>Complied.</p> <p>Green belt developed along the periphery and coal stock yard. Currently about 29595 plants are planted in port premises and are maintained well.</p>   
<p>15</p>	<p>For controlling fire from coal stock following measures to be adopted.</p> <p>1. 3 No. of mobile fire tender to be placed at coal stack pile area.</p>	<p>Complied.</p> <p>1. Installed fixed fire fighting system (49 fire hydrants & 28 hose reels) at coal stack pile & all CT's</p>

Compliance to the conditions stipulated in Environment and CRZ clearance.

2. Autogenous combustion of coal stock to be prevented by limiting stock height not more than 6 M.

3. Lump size of coal to be restricted to 20mm which will not lead to formation of air voids, eliminating the possibility of combustion



2. Stack height is being maintained at 11 meters as per the current CTO. Regular sprinkling of water is carried out to control autogenous combustion.

3. Being complied.

Also there are 14 No. of water monitors (used for high water volume during fire) are provided around coal stock area.

16

Implementation of Environmental Monitoring Programme.

Being complied.

Regular Environmental Monitoring is carried out to assess the quality of treated effluents from STP, Ambient Air quality, Noise level are being monitored through NABL accredited laboratory M/s Pollucon Laboratories Pvt Ltd. regularly and confirming the standards. Also CAAQMS is installed & running successfully. Monitoring reports is being submitted to MoEF&CC as part of Six-monthly compliance report and to GSPCB on regular basis. Environment



Adani Murmugao Port Terminal Pvt. Ltd.

From : October 2023
To : March 2024

Compliance to the conditions stipulated in Environment and CRZ clearance.

Monitoring Report for the period October 23 - March 2024 is attached as **Annexure 1**.



adani

Ports and Logistics

Ref No: AMPTPL/2023/1023

Date: 27.09.2023

To

Additional Chief Conservator of Forests (C),
Ministry of Environment, Forest and Climate Change,
Regional Office (SZ), Kendriya Sadan,
4th Floor, E8-F Wings, 17th Main Road,
Koramangala II Block, Bangalore-560034 (Karnataka)
rosz.bng-mefcc@gov.in

Sub: Submission of Environmental Statement (Form-V) for FY 2022-23.

**Ref: Consent Order No. 12/2019-PCB/347405/R0002737 dated
24.03.2020**

Respected Sir,

With reference to the captioned subject and cited references above, we submit herewith the Environmental Statement of **M/s Adani Marmugao Port Terminal Private Limited, Goa** in Form-V prescribed under Rule 14 of the Environment (Protection) Rules 1986 for the financial year ending 31st March 2023.

Submitted for your kind information and records.

Thanking You

For Adani Marmugao Port Terminal Private Limited,

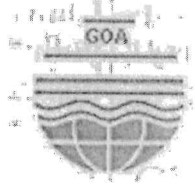

Authorized Signatory



Adani Marmugao Port Terminal Pvt. Ltd.
Sub Station Building
Near Gate No.2 of MPT
Mormugao, Goa-403803, India
CIN No. U61100GJ2009PTC057727

Tel +91 832 2579200
Fax +91 832 2579299
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www.adani.com

Registered Office: Adani Corporate House", Shantigram, Near Vaishno Devi Circle. S. G. Highway. Khodiyar. Ahmedabad 382421. Gujarat



GOA STATE POLLUTION CONTROL BOARD

FORM V

(See Rule 14)

Environmental Statement for the financial year ending on 31st March on or before 30th of September every year.

PART A

- (i) Name and address of the owner/ occupier of the industry operation or process : ADANI MURMUGAO PORT TERMINAL PVT. LTD
- (ii) Industry category Primary-(STC Code) Secondary-(STC Code) RED, Ports and harbour, jetties and dredging operations
- (iii) Production capacity 5.2 Million Tons

Production Name	Production Capacity	Production Unit
Handling of Coal	5.2	Million Tons/Year

- (iv) Year of establishment 2013
- (v) Date of the last environment statement submitted. 27/09/2023

PART B

1. Water consumption M3/d

Process:

Cooling:

Domestic:

Name of products	Process water consumption per unit of product output	
	During the previous financial year	During the current financial year
Handling of Coal	0.012 m3/MT	0.013 m3/MT

2. Raw material consumption

Name of raw materials	Name of products	Consumption of raw material per unit	
		During the previous financial year	During the current financial year
Nil	Nil	Nil	Nil

*Industry may use codes if disclosing details of raw materials would violate contractual obligations, otherwise all industries have to name the raw material used.

PART C

Pollution discharged to environment/ unit of output.

Pollution	Quantity of pollutants discharged(mass/day)	Concentration of pollutants- in discharges(mass/volume)	Percentage of variation from prescribed standards with reasons
Water			
Water	No pollutant discharged to environment	-	-
Air			
Air	DG sets are provided as standby power source and were used during power failure. The height of DG stacks are as per CPCB/GSPCB standards. All the monitored parameters are within standards.		
Air	DG STACK 1 (2000 KVA) - June 2022	PM - 24.34 mg/Nm ³ , NO _x - 29.41 ppm, CO- 22.13 mg/Nm ³ , NMHC - BDL, Sulfur in fuel - 0.026%	-
Air	DG STACK 1 (2000 KVA) - Sep 2022	PM - 28.62mg/Nm ³ , NO _x - 31.55 ppm, CO- 25.31 mg/Nm ³ , NMHC - BDL, Sulfur in fuel - 0.024%	-
Air	DG STACK 1 (2000 KVA) - Dec 2022	PM - 30.42 mg/Nm ³ , NO _x - 34.50 ppm, CO- 27.48 mg/Nm ³ , NMHC - BDL, Sulfur in fuel - 0.028%	-
Air	DG STACK 1 (2000 KVA) - Mar 2023	PM - 32.58 mg/Nm ³ , NO _x - 31.80 ppm, CO- 25.31 mg/Nm ³ , NMHC - BDL, Sulfur in fuel - 0.028%	-
Air	DG STACK 2 (2000 KVA) - June 2022	PM -21.52mg/Nm ³ , NO _x - 27.63 ppm, CO- 23.31 mg/Nm ³ , NMHC - BDL, Sulfur in fuel-- 0.024%	-
Air	DG STACK 2 (2000 KVA) - Sep 2022	PM - 26.62 mg/Nm ³ , NO _x - 31.55 ppm, CO- 23.31 mg/Nm ³ , NMHC - BDL, Sulfur in fuel - 0.024%	-
Air	DG STACK 2 (2000 KVA) - Dec 2022	PM - 26.35 mg/Nm ³ , NO _x - 32.32 ppm, CO- 25.31 mg/Nm ³ , NMHC - BDL, Sulfur in fuel - 0.026%	-

Air	DG STACK 2 (2000 KVA) - Mar 2023	PM - 21.84 mg/Nm ³ , NO _x - 30.45 ppm, CO- 22.51 mg/Nm ³ , NMHC - BDL, Sulfur in fuel - 0.026%	
Air	DG STACK 3 (380 KVA) - June 2022	PM - 0.0021g/kw-hr, NO _x - 0.0051 g/kw-hr, CO - 0.0023 g/kw-hr, NMHC - BDL, SO ₂ - 0.0007 kg/hr	-
Air	DG STACK 3 (380 KVA) - Sep 2022	PM-0.0022g/kw-hr, NO _x - 0.0053 g/kw-hr, CO - 0.0021 g/kw-hr, NMHC - BDL, SO ₂ - 0.0005 kg/hr	-
Air	DG STACK 3 (380 KVA) - Dec 2022	PM-0.0025g/kw-hr, NO _x - 0.0058 g/kw-hr, CO - 0.0023 g/kw-hr, NMHC - BDL, SO ₂ - 0.0007 kg/hr	-
Air	DG STACK 3 (380 KVA) - Mar 2023	PM-0.0023g/kw-hr, NO _x - 0.0068g/kw-hr, CO- 0.0023g/kw-hr, NMHC- BDL, SO ₂ -0.0005 kg/hr	-

Name of Pollutants :

PART D Hazardous Wastes

(As specified under Hazardous Wastes (Management and Handling) Rules, 1989)

Hazardous Wastes	Total Quantity (Kg)	
	During the previous financial year	During the current financial year
(a) From process	A). Cat. 5.1 Used Oil- 2.94 MT B). Cat. 5.2 Cotton Waste contaminated with Oil- 0.28 MT C). Cat 33.1 Empty Barrels - 0.26 MT	A). Cat. 5.1 Used Oil- 7.44 MT B). Cat. 5.2 Cotton Waste contaminated with Oil- 0.860 MT.
(b) From pollution control facilities	Nil	Nil

PART E Solid Wastes

	Total Quantity	
	During the previous financial year	During the current financial year
(a) From process	Nil	Nil
(b) From pollution control facility	Nil	Nil
(c)(1) Quantity recycled or re-utilized within the unit	Food Waste - 2.35 MT (In OWC)	Food Waste - 2.30 MT (In OWC)
(2) Sold	Nil	Nil
(3) Disposed	Nil	Nil

PART F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes

Hazardous waste includes used oil (Cat 5.1), Cotton waste contaminated with oil (Cat 5.2). & Empty Barrels (Cat 33.1). Used oil and the oil-soaked cotton waste generated during various maintenance activities are collected in barrels kept in earmarked covered hazardous waste storage area as per the provisions of Hazardous Waste Management " Rules, 2016 as amended & disposed of through GSPCB authorized/ registered recycler.

- The used batteries and E-waste also stored in workshop storage area and disposed through approved vendor in line to E-waste Management Rules, 2016 as amended.
- Hazardous waste return in Form 4 was submitted in line with the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016.
- E-waste return in Form 3 was submitted in line with the E-waste Management Rules 2016
- Solid Waste includes mainly domestic waste (office & kitchen waste) which is fed in Organic Waste Composter (In FY 22-23 - 2.30 MT of food waste was fed into OWC).

PART G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production. All the domestic wastewater generated at site is treated at existing sewage treatment plant located at PWD Baina. Unit has developed adequate green belt within port premises.

PART H

Additional measures/ investment proposal for environmental protection abatement of pollution, prevention of pollution. Unit is undertaking Regular Environmental Monitoring at port & surrounding area through MoEF&CC recognized laboratory. All the monitored environmental parameters are found well within the standards prescribed & the details of monitored data are being regularly submitted to GSPCB, CPCB, MoEF&CC and other concerned authorities.

- AMPTPL has also installed Continuous Ambient Air Quality Monitoring System (CAAQMS) for the parameters CO, SO₂, NO_x, PM₁₀ & PM_{2.5} and the monitored real time data is connected with GSPCB server.
- Coal Stacks are always kept covered with tarpaulin, except during loading & unloading operations and adequate water Sprinkling is carried out on regular intervals during loading and unloading operations.
- AMPTPL has also provided dump ponds (settlement ponds) and conveyance channel for collection of runoffs generated from the coal yard.
- AMPTPL has provided Sprinklers at coal yard & conveyor system and carrying out water sprinkling at regular intervals to control the fugitive dust. The wind screen around the periphery of coal yard is covered with agro net/ jute cloth.
- AMPTPL has installed 2 cameras in coal stack yard and its online connectivity has been provided to GSPCB.
- As a precautionary measure an anemometer has been installed along with a hooter on Substation building and three different alert levels have been configured in PLC based on the Wind speed as follows:
 - For 25km/h to 27.99km/h - Hooter blows for 5 Seconds followed by a 1 Second Stop and the same repeats.
 - For 28km/h to 29.99km/h - The Hooter blows for 2 Seconds followed by a 1 second stop and the same repeats.

- For Above 30km/h - The Hooter continuously blows without any stop.
 - AMPTPL has taken continuous steps for developing the green belt area within port premises.
- Vertical gardens have also been developed as part of Environment Initiatives.

PART I

Any other particulars for improving the quality of the environment Handling of all types of waste in line with 5R (Reduce, Reuse, Recycle, Recover and Reprocess) Principle.

- Integrated Management System (ISO 9001:2015, 14001:2015, 45001:2018, 27001:2013 and ISO 50001:2018) certified Port.
- AMPTPL Port has been certified as "Zero Waste to Landfill port" by CII Delhi.
- AMPTPL is 5S Certified Port by National Productivity Council (NPC).
- AMPTPL is bestowed with the top honors and the details of accolades received during the year 2021-22 are mentioned here under.
- "Gold Award" in services sector for outstanding achievement in Energy Efficiency 2021 by Apex India Foundation.
- "Platinum Award" in Service Sector for Outstanding Achievement in Environmental Excellence 2020" by Apex India Foundation.
- "Gold Award" in Service Sector for Outstanding Achievement in Environmental Excellence 2019" by Apex India Foundation.
- "Gold Award" in services sector for outstanding achievement in Environment preservation in 10th Exceed Environment Award and Conference 2021.
- "Gold Award" in services sector for outstanding achievement in Environment preservation in 12th Exceed Environment Award and Conference 2022.
- "Bronze category accreditation" in implementation of Adani Workplace Management System (AWMS) in 2nd Cycle Adani Workplace Management Academy application 2023.
- Baffle walls have been constructed in Dump ponds to increase sedimentation of Cargo.

Remarks : Nil .