



Ports and  
Logistics

Ref No. AKBTP/ENVCELL/2023-24/02

Date: 27.05.2024

To,  
**The Inspector General of Forest / Scientist C,**  
Integrated Regional Office (IRO),  
Ministry of Environment, Forest and Climate Change,  
Aranya Bhawan, A Wing, Room No. 409,  
Near CH-03 Circle, Sector – 10A,  
Gandhinagar, Gujarat, India – 382007.  
E-mail: [ecompliance-guj@gov.in](mailto:ecompliance-guj@gov.in), [iro.gandhingr-mefcc@gov.in](mailto:iro.gandhingr-mefcc@gov.in)

**Sub.:** Half yearly Compliance report of Environment and CRZ Clearance for the report namely "Construction of berthing and allied facilities of Tekra near tuna, Gujarat"


**Ref:**

1. Environment and CRZ clearance issued to M/s Kandla Port Trust (KPT) vide letter no. 10-10/2008-IA.III dated 01<sup>st</sup> November 2011 and transferred to M/s Adani Kandla Bulk Terminal Private Limited (AKBTPL) vide letter no. #10-10/2008-IA.III dated 10<sup>th</sup> November 2014.
2. CRZ recommendation for creation of Berthing and Allied Facilities off Tekra near tuna issued by forest and environment government of Gujarat white letter bearing number ENV-10-2009-1543-E dated 23<sup>rd</sup> June 2010

**Dear Sir,**

Please refer to the above cited reference for the said subject matter. In connection to the same, it is to state that copy of the compliance report for the Environmental and CRZ Clearance for the period of October 2023 to March 2024 is being submitted through soft copy (e-mail communication).  
Kindly consider above submission and acknowledge.

Thank you,  
Yours Faithfully,  
For, **M/s Adani Kandla Bulk Terminal Pvt. Ltd.**

  
**Mohit Shaktawat**  
(COO – AKBTP)  
(Authorized Signatory)



**Copy to:**

- 1) The Director (Monitoring-IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003.
- 2) The Zonal Officer, Regional Office, CPCB – Western Region, Parivesh Bhawan, Opp. VMC Ward Office No. 10, Subhanpura, Vadodara – 390023.
- 3) The Member Secretary, GPCB – Head Office, Paryavaran Bhawan, Sector 10 A, Gandhi Nagar – 382010.
- 4) The Director, Forests & Environment Department, Block – 14, 8<sup>th</sup> floor, Sachivalaya, Gandhi Nagar – 382010.
- 5) The Regional Officer, Regional Office GPCB (Kutch-East), Gandhidham – 370201.
- 6) The Chief Engineer, Administrative Building, Kandla Port Trust, Gandhidham 370201

Adani Kandla Bulk Terminal Pvt Ltd  
Adani Corporate House  
Shantigram, S G Highway  
Ahmedabad 382 421  
Gujarat, India  
CIN: U63090GJ2012PTC069305

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Registered Office: Adani Corporate House, Shantigram, Near Vaishno Devi Circle, S G Highway, Khodiyar, Ahmedabad 382 421, Gujarat, India

## Environmental and CRZ Clearance Compliance Report of



**Construction of berthing & Allied  
facilities off Tekra near Tuna, Gujarat  
Of  
Adani Kandla Bulk Terminal Pvt. Ltd.  
For Period:  
October– 2023 to March– 2024**

**Status of the Conditions Stipulated in Environment and CRZ Clearance**

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# **Environmental and CRZ Clearance Letter issued by MoEF & CC**

## Compliance to Environmental and CRZ Clearance Letter issued by MoEF&CC

Environmental and CRZ clearance was obtained by Deendayal Port Trust (DPT) [Earlier named as Kandla Port Trust (KPT)] vide MoEF&CC letter dated 01.11.2011. AKBTPL and DPT entered into concession agreement for development of the dry bulk terminal at Tuna on BOOT basis. Said clearance was then transferred to AKBTPL vide MoEF&CC letter dated 10.11.2014

**Status of the conditions stipulated in Environment and CRZ Clearance**

Half yearly Compliance report of Environment and CRZ Clearance issued by MoEF&CC dated 1<sup>st</sup> November 2011 bearing F. No. 10-10/2008-IA-III for Construction of berthing & allied facilities off Tekra near Tuna, Gujarat.

Sr. No	Condition	Compliance status as on 31.03.2024																		
5.	<b>Specific Condition</b>																			
(i)	<p>“Consent for Establishment” shall be obtained from State Pollution Control <b>Board</b> under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at site.</p>	<p><b>Complied.</b> Consent to Establishment (CtE) and Consent to Operate (CtO) is Obtained and renewed/amended from time to time as per the progress of the project activity. Construction activities are already completed, and the project is in operation phase since 2015. The present in-force CTO &amp; amended CTE are mentioned below.</p> <table border="1" data-bbox="732 779 1482 1045"> <thead> <tr> <th>Sr. No</th> <th>Permission</th> <th>Project</th> <th>Ref. No./Order No.</th> <th>Validity</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Amendment in CTE</td> <td>AKBTPL</td> <td>CTE-101194</td> <td>30.04.2024</td> <td>No Further requirement of Validity Extension.</td> </tr> <tr> <td>2.</td> <td>CTO renewal</td> <td>AKBTPL</td> <td>AWH-105213</td> <td>02.12.2024</td> <td></td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>Copies of the stated permissions are already submitted as a part of half yearly compliance reports for the period of Oct'19 to Mar'20.</li> </ul>	Sr. No	Permission	Project	Ref. No./Order No.	Validity	Remarks	1.	Amendment in CTE	AKBTPL	CTE-101194	30.04.2024	No Further requirement of Validity Extension.	2.	CTO renewal	AKBTPL	AWH-105213	02.12.2024	
Sr. No	Permission	Project	Ref. No./Order No.	Validity	Remarks															
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(ii)	<p>Scientific studies shall be carried out by some expert and reputed organization like BNHS focusing among other things the marine environment in general and preservation of mangroves in particular against any possible adverse impact due to creation of the proposed facilities.</p>	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>M/s. Gujarat Institute of Desert Ecology, Bhuj has conducted scientific studies for preservation and management of mangroves in May 2012. Details related to the same are already submitted as part of half yearly compliance report (Oct-14 to March-15) to MoEF &amp; CC vide letter dated 11.05.2015 and there is no further change.</li> <li>Further, a study to ascertain tidal flushing in mangroves around the project area of the dry bulk terminal at Tuna was carried through M/s. GUIDE, Bhuj in April 2014 when construction activities were ongoing. Details related to the same were already submitted as part of half yearly compliance report (Oct-2016 to March-2017).</li> <li>Further, in order to understand the impacts of the existing project activity on marine ecology, a study was carried out through M/s. GUIDE. Details related to the same were already submitted as part of half yearly compliance report (Oct-2016 to March-2017).</li> <li>It may be noted that GUIDE is one of the authorized agencies of Forest &amp; Environment dept. Govt. of Gujrat.</li> </ul>																		



**Status of the conditions stipulated in Environment and CRZ Clearance**

(iii)	Proponent shall explore the possibilities of plantation of mangrove in the entire mud flat areas and submit the action plan to the Ministry prior to the commencement of the activity.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Based on the scientific studies for preservation and management of mangroves in May 2012 carried out by M/s. GUIDE it was suggested to DPT to carry out mangrove plantation in 500 ha. Area.</li> <li>As agreed, AKBTPL has already completed Mangrove plantation in 250 ha area at Sach Sayeda bet. Balance 250 ha. Mangrove plantation shall be carried out by DPT.</li> <li>Monitoring report prepared by M/s. GUIDE for mangrove plantation in 250 ha carried out at Sach Sayeda bet is submitted as part of half yearly compliance report (Oct-14 to March-15) to MoEF &amp; CC vide letter dated 11.05.2015.</li> </ul>
(iv)	The dredge material shall be reused for low level rising whenever possible and excess shall be dumped into sea at the designated dumping areas identified based on mathematical model studies.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>As per the study carried by IIT-Chennai, the dredge material is not suitable for reclamation/low level rising.</li> <li>Capital dredging was completed by DPT during the construction phase and the dredge material was disposed by DPT at a location identified by M/s. CWPRS, Pune in their study report.</li> <li>No digging activities are carried out during Period Oct'23 to Mar'24.</li> </ul>
(v)	Though the project proponent has carried out EIA for individual components and it were examined by the committee before the issue of clearance, it is suggested that proponent shall update and submit a comprehensive EMP for the whole project and submit to the Ministry and Regional Office of the Ministry at Bhopal prior to commencement of the activity.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>EMP was updated by AKBTPL and submitted to DPT. DPT has submitted the same vide letter dated 03.12.2013 to MoEF&amp;CC as part of compliance report.</li> <li>Further, said EMP was also submitted by AKBTPL as a part of half yearly compliance report (Oct-14 to March-15) to MoEF &amp; CC vide letter dated 11.05.2015 and there is no further change.</li> </ul>
(vi)	The project proponent shall set up environmental management cell for effective implementation of the stipulated environmental safeguards under the supervision of a Senior Executive.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>AKBTPL has Environment Management Cell with qualified manpower for implementation of environmental safeguards and management.</li> <li>The site environment team directly reports to the Site Head. Further, the site Environment Cell continuously remains in loop with Corporate Environment Cell.</li> </ul>
(vii)	The funds earmarked for environmental management plan shall be included in the budget and this shall not be diverted for any other purpose.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Environmental Management Plan is in place and the funds earmarked (budgeted separately for each financial year) are being utilized for effective implementation of environmental safeguards and environment monitoring. All</li> </ul>

**Status of the conditions stipulated in Environment and CRZ Clearance**

		<p>the expenses related to Environment Management Plan are recorded in advanced accounting system of the organization.</p> <ul style="list-style-type: none"> <li>Expenditure on environmental safeguards (including horticulture) is approx. INR 701.24 Lakh from Budgeted Cost INR 731.61 Lakh for the period of Apr'23 to Mar'24. Please refer <b>Annexure – 1</b> for further details.</li> </ul>
<b>6</b>	<b>General Condition</b>	
(i)	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Construction activities of the project are completed in March 2015.</li> <li>The project is now in operation phase and no digging activities carried out during Oct'23 to Mar'24.</li> </ul>
(ii)	Full support shall be extended to the officers of this Ministry/Regional Office at Bhopal 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.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>AKBTPL is always extending full support to the regulatory authorities during their visit to the project site.</li> <li>Details related to the last visit of Scientist 'D', MoEF&amp;CC, from Regional Office, Bhopal, were submitted as a part of half yearly compliance report (Oct-2016 to March-2017).</li> </ul>



**Status of the conditions stipulated in Environment and CRZ Clearance**

(iii)	A six-monthly monitoring report shall need to be submitted by the project proponent to the Regional Office of this Ministry at Bhopal regarding the implementation of the stipulated conditions.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Compliance report of EC conditions is uploaded regularly. Last compliance report including results of monitoring data for the period of Apr'23 to Sep'23 was submitted to IRO MoEF&amp;CC Gandhinagar, Head Office of MoEF&amp;CC @ New Delhi, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar &amp; Gandhidham and Dept. of Forests &amp; Environment, Gandhinagar vide our letter dated 28.11.2023.</li> <li>Please refer below for the details regarding past six compliance submissions.</li> </ul> <table border="1" data-bbox="732 737 1484 1010"> <thead> <tr> <th>Sr No.</th> <th>Compliance period</th> <th>Date of submission</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Oct'20 to Mar'21</td> <td>24.05.2021</td> </tr> <tr> <td>2</td> <td>Apr'21 to Sep'21</td> <td>27.11.2021</td> </tr> <tr> <td>3</td> <td>Oct'21 to Mar'22</td> <td>26.05.2022</td> </tr> <tr> <td>4</td> <td>Apr'22 to Sep'22</td> <td>25.09.2022</td> </tr> <tr> <td>5</td> <td>Oct'22 to Mar'23</td> <td>23.05.2023</td> </tr> <tr> <td>6</td> <td>Apr'23 to Sep'23</td> <td>28.11.2023</td> </tr> </tbody> </table>	Sr No.	Compliance period	Date of submission	1	Oct'20 to Mar'21	24.05.2021	2	Apr'21 to Sep'21	27.11.2021	3	Oct'21 to Mar'22	26.05.2022	4	Apr'22 to Sep'22	25.09.2022	5	Oct'22 to Mar'23	23.05.2023	6	Apr'23 to Sep'23	28.11.2023
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(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.	<p><b>Point Noted.</b></p> <ul style="list-style-type: none"> <li>All applicable conditions in the interest of environment will be complied.</li> </ul>																					
(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.	<p><b>Point Noted.</b></p> <ul style="list-style-type: none"> <li>During the last compliance verification visit as mentioned in the sr. no ii of General Conditions above, there was no non-compliance observed.</li> </ul>																					
(vi)	In the event of a change in the project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment and Forests.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Details related to transfer of EC/CRZ clearance in the name of AKBTPPL are submitted as a part of half yearly compliance report (Oct-14 to March-15) to MoEF &amp; CC vide letter dated 11.05.2015. Please refer point no. I of specific conditions for further details.</li> </ul>																					
(vii)	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>DPT has informed about the financial closure vide their letter no. EG/WK/4604(EC)/562 dated 26<sup>th</sup> December 2012. There is no further change.</li> </ul>																					

**Status of the conditions stipulated in Environment and CRZ Clearance**

	concerned authorities and date of start of land development work.	
(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.	<ul style="list-style-type: none"> <li>Condition is not applicable to AKBTPL.</li> </ul>
(ix)	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Centre and Collector's Office/ Tehsildar's office for 30 days.	<ul style="list-style-type: none"> <li>Condition is not applicable to AKBTPL.</li> </ul>
7	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.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Permissions under the applicable rules and acts mentioned are already obtained. Please refer point no. 1 of specific conditions for further details.</li> </ul>
8	All other statutory clearances such as the approvals for the storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980, Wildlife (Protection) Act, 1972 etc shall be obtained as applicable by the project proponents from the respective competent authorities.	<p><b>Not Applicable.</b></p> <ul style="list-style-type: none"> <li>The permissions from the authorities mentioned in the condition are not applicable to this project.</li> </ul>
9	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 Env. Clearance and copies of clearances letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at <a href="http://www.envfor.nic.in">http://www.envfor.nic.in</a> .	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>DPT has published advertisement regarding accordance of the Environmental and CRZ clearance within 10 days from the date of receipt of the Clearance letter in two local newspapers (Aaj Kal and Divya Bhaskar) and copy of the same was submitted to the Regional office, MoEF&amp;CC Bhopal by DPT vide letter no. EG/WK/4604(EC)/1036 dated 25<sup>th</sup> November, 2011.</li> </ul>

**Status of the conditions stipulated in Environment and CRZ Clearance**

	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 RO of this Ministry at Bhopal.	
10	Environmental 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.	<ul style="list-style-type: none"> <li>Noted and same will be complied based on further directions given by concerned authorities in this regard.</li> </ul>
11	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Please refer Point No. iii (Main Point 6 – General Condition) for compliance submission</li> </ul>
12	A copy of clearance letter shall be sent by the proponent to concern Panchayat, Zila Parishad/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 the proponent.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Clearance letter is uploaded on our website: <a href="https://www.adaniports.com/Downloads">https://www.adaniports.com/Downloads</a></li> </ul>
13	The proponent shall upload the status of compliance of the stipulated EC 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.	<p><b>Complied.</b></p> <p>Please refer Above point no. 11 of General conditions</p>
14	The environmental statement for each financial year ending 31 <sup>st</sup> 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 Environmental (Protection) Rules, 1986 as amended subsequently, shall also be put on the website of the company along with the	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Environment Statement for FY 2022– 23 has already been submitted to GPCB vide letter no. AKBTPL/ENVSTATEMENT/2022-23 dated 10.05.2023.</li> <li>Copy of the same was submitted during the compliance period Oct'22 to Mar'23. The said Environment Statement is also uploaded on our website: <a href="https://www.adaniports.com/Downloads">https://www.adaniports.com/Downloads</a></li> </ul>

**Status of the conditions stipulated in Environment and CRZ Clearance**

status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.

**Status of the conditions stipulated in Environment and CRZ Clearance**

**Compliance to CRZ Recommendation Letter Issued by  
Forest and Environment Department, Govt. of Gujarat**

**Half yearly Compliance report of CRZ Recommendation for creation of Berthing and Allied Facilities off Tekra near Tuna issued by Forest and Environment, Govt. of Gujarat vide letter bearing no. ENV-10-2009-1543-E dated 23<sup>rd</sup> June, 2010**

Sr. No	Condition	Compliance
1	The provisions of the CRZ notification of 1991 and subsequent amendments issued from time to time shall be strictly adhered to by the KPT. No activity in contradiction to the provisions of the CRZ Notification shall be carried out by the KPT.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>All activities are in line with the CRZ Notification 1991 and its subsequent amendment.</li> </ul>
2	No dredging reclamation or any other project related activities shall be carried out in the CRZ area categorized as CRZ I (i) and it shall have to be ensured that the mangroves habitats and other ecologically important and significant areas, if any, in the region are not affected due to any of the project activities.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Construction of the project is completed in March 2015. All construction activities were carried out as per the environmental and CRZ clearance granted vide MoEF&amp;CC letter dated 01.11.2011.</li> <li>All necessary precautions such as allowing free flow of water in the mangrove areas, waste management as per the applicable laws, treatment of sewage, dust suppression measures etc. are taken to ensure that the mangroves habitats and other ecologically important and significant areas in the region are not affected due to any of the project activities.</li> </ul>
3	The KPT shall participate financially for installing and operating the Vessel Traffic Management System in the Gulf of Kutch and shall also take lead in preparing and operational sing the Regional Oil Spill Contingency plan in the Gulf of Kutch.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>M/s Kandla Port Trust contributed an amount of INR 41.25 Cr for installing and operating VTMS in Gulf of Kutch. Information was submitted to MoEF&amp;CC New Delhi (as part of half yearly compliance report (Apr – Sep 2014) vide letter dated 13th November, 2014.</li> <li>Please refer condition No.15 regarding Oil spill Contingency Plan.</li> <li>Regional Level Pollution Response exercise “SWACHCHH SAMUDRA-NW 2019” was carried out by Indian Coast Guard on 18th Dec 2019. All participants from various Oil Handling Agencies and Stakeholders (ICG, GMB Port, DPT Vadinar, IOCL, RIL, NAYARA Energy, BORL, ESBTL Salaya, APSEZL, HMEL, GSFC, PCB, Forest Dept.,</li> </ul>

**Status of the conditions stipulated in Environment and CRZ Clearance**

**Half yearly Compliance report of CRZ Recommendation for creation of Berthing and Allied Facilities off Tekra near Tuna issued by Forest and Environment, Govt. of Gujarat vide letter bearing no. ENV-10-2009-1543-E dated 23<sup>rd</sup> June, 2010**

Sr. No	Condition	Compliance
		Customs, Fisheries & DPT Kandla) were participated in this exercise.
4	The KPT shall strictly ensure that no creeks or rivers are blocked due to any activity at Kandla.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>No rivers are present at the project site. 3 Bridges and 8 culverts have been provided with total cost of 2.01 crores to allow free flow of water through creeks.</li> <li>Further, a study to ascertain tidal flushing in mangroves around the project area of the dry bulk terminal at Tuna was carried through M/s. GUIDE, Bhuj in April 2014 when construction activities were ongoing. As outcome of that study is all water parameters are well within prescribe limit and no gross contamination could be discerned showing that the costal water in and around the jetty is clean and unpolluted. Also observed spatial variations in zooplankton density, composition was normal and no events negatively influencing the zooplankton community was noticed during the study. Details related to the same are already submitted as a part of half yearly compliance report (Oct-2016 to March-2017). The conditions as mentioned in the report are maintained.</li> </ul>
5	Mangrove plantation in an area of 1000 ha. Shall be carried out by the KPT within 5 years in a time bound manner on Gujarat coastline either within or outside the Kandla Port Trust area and six-monthly compliance reports along with the satellite images shall be submitted to Ministry of Environment and Forests as well as to this department without fail.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>AKBTPL being BOOT operator, DPT requested AKBTPL to carry out mangrove plantation in 250 ha area. As agreed, AKBTPL has completed Mangrove plantation in 250 ha area at Sat Saida bet. For further information regarding mangrove plantation activity, please refer reply to specific condition no ii and iii of the Environmental and CRZ clearance letter above.</li> </ul>
6	No activities other than those permitted by the competent authority under the CRZ Notification shall be carried out.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>All activities are being carried out as per the Environmental and CRZ clearance granted vide</li> </ul>

**Status of the conditions stipulated in Environment and CRZ Clearance**

**Half yearly Compliance report of CRZ Recommendation for creation of Berthing and Allied Facilities off Tekra near Tuna issued by Forest and Environment, Govt. of Gujarat vide letter bearing no. ENV-10-2009-1543-E dated 23<sup>rd</sup> June, 2010**

Sr. No	Condition	Compliance
		MoEF&CC letter dated 01.11.2011, amended till date.
7	No ground water shall be tapped for any purpose during the proposed expansion/modernization activities.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>AKBTPL does not draw any ground water for the water requirement. Present source of water for various operation activities is Gujarat Water Infrastructure Limited (GWIL). Average Water consumption for the period Oct'23 to Mar'24 was 1145.60 KLD. Average Wastewater Received was 14.41 KLD &amp; Treated water was 10.79 KLD for the period Oct'23 to Mar'24. Please refer <b>Annexure – 2</b> for further details.</li> </ul>
8	All necessary permission from different Government Departments/ agencies shall be obtained by the KPT before commencing the expansion activities.	<p><b>Not applicable at present</b></p> <ul style="list-style-type: none"> <li>All construction activities are completed in March 2015. No expansion activities are carried out. All necessary permissions will be obtained in future before commencing the expansion activities.</li> <li>However, an application for carrying out additional capital dredging in the existing approach channel, berth pockets and turning circles (in order to handle capsized vessels, not to expand the approved project activity) to obtain Environment and CRZ clearance is in process with the MoEF&amp;CC. the said activity will be carried out only after obtaining the requisite permissions.</li> </ul>
9	No effluent or sewage shall be discharged into the sea/creek or in the CRZ area and it shall be treated to conform to the norms prescribed by the Gujarat Pollution Control Board and would be reused/recycled within the plant premises.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>No effluent is generated at the project site.</li> <li>Avg. 14.41 KLD of sewage generated during the period of Oct'23 to Mar'24 is treated in 25 KLD capacities STP based on FAB technology and treated water Avg. 10.79 KLD is used for horticulture purpose within plant premises after achieving permissible limits prescribed by GPCB.</li> <li>Third party analysis of the treated water is being carried out Twice in a month by NABL and MoEF&amp;CC accredited agency namely M/s.</li> </ul>



**Status of the conditions stipulated in Environment and CRZ Clearance**

Half yearly Compliance report of CRZ Recommendation for creation of Berthing and Allied Facilities off Tekra near Tuna issued by Forest and Environment, Govt. of Gujarat vide letter bearing no. ENV-10-2009-1543-E dated 23<sup>rd</sup> June, 2010

Sr. No	Condition	Compliance																									
		<p>Pollucon Laboratories Pvt. Ltd. Summary of the same for duration from Oct'23 to Mar'24 is mentioned below.</p> <table border="1" data-bbox="862 642 1471 884"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>Max</th> <th>Min</th> <th>Perm. Limit*</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>-</td> <td>7.84</td> <td>7.21</td> <td>6.5-9.0</td> </tr> <tr> <td>TSS</td> <td>mg/L</td> <td>19.0</td> <td>12.0</td> <td>30</td> </tr> <tr> <td>BOD (3 Days @ 27 °C)</td> <td>mg/L</td> <td>17.4</td> <td>10.2</td> <td>20</td> </tr> <tr> <td>Fecal Coliform</td> <td>MPN/100ml</td> <td>170</td> <td>63</td> <td>&lt;1000</td> </tr> </tbody> </table> <p style="text-align: right;">*as per CC&amp;A granted by GPCB'</p> <ul style="list-style-type: none"> <li>Please refer <b>Annexure – 3</b> for detailed analysis reports. Total Expenditures of the Environment Monitoring for the period (Apr'23 to Mar'24) are INR 13.77 Lakh.</li> </ul>	Parameter	Unit	Max	Min	Perm. Limit*	pH	-	7.84	7.21	6.5-9.0	TSS	mg/L	19.0	12.0	30	BOD (3 Days @ 27 °C)	mg/L	17.4	10.2	20	Fecal Coliform	MPN/100ml	170	63	<1000
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10	All the recommendations and suggestions given by the NIOT in their Comprehensive Environment Impact Assessment report for conservation /protection and betterment of environment shall be implemented strictly by the KPT.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>The EMP prepared by NIOT in the EIA report was updated by AKBTPL (based on the condition mentioned in the EC and CRZ clearance) and submitted to DPT. DPT has submitted the same vide letter dated 03.12.2013 to MoEF&amp;CC as part of compliance report. All the measures mentioned in the updated EMP prepared by AKBTPL are implemented for environment protection.</li> </ul>																									
11	The construction and operation activities shall be carried out in such a way that there is no negative impact on mangroves and other coastal/marine habitats. The construction activities and dredging shall be carried out only under the constant supervision and guidelines of the NIOT.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>All construction and operation activities are carried out meticulously to ensure that there is no negative impact on mangroves and other coastal / marine habitats. Please refer to Sr. no. ii and iii of the specific conditions of the EC and CRZ clearance above for further details.</li> <li>Construction activities have been completed in March 2015 based on the NIOT recommendations. During construction phase capital dredging was carried out by DPT and the dredge material was disposed at a location</li> </ul>																									

**Status of the conditions stipulated in Environment and CRZ Clearance**

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Sr. No	Condition	Compliance
		<p>identified by M/s. CWPRS, Pune in their study report.</p> <ul style="list-style-type: none"> <li>No digging activities are carried out during Oct'23 to Mar'24.</li> </ul>
12	The KPT shall contribute financially for any common study or project that may be proposed by this Department for environmental management/ conservation / improvement for the Gulf of Kutch.	<ul style="list-style-type: none"> <li>Noted and same will be complied on receipt of such recommendations from concerned authorities</li> </ul>
13	The construction debris and/or any other type of waste shall not be disposed-off into the sea, creek or in the CRZ areas. The debris shall be removed from the construction site immediately after construction is over.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Construction of the project is completed in March 2015.</li> </ul>
14	The construction camps shall be located outside the CRZ area, and the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by the construction labours.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Construction of the project is completed in March 2015 and during construction of the project we have provided necessary amenities like sanitation, water supply and fuel to the construction labours. Also we have ensured that environmental conditions are not deteriorated by the construction labours during the construction activities.</li> </ul>
15	The KPT shall regularly update its Local Oil Spill Contingency and Disaster Management Plan in consonance with the National Oil Spill and Disaster Contingency Plan and shall submit the same to the MoEF, GOI and this Department after having it vetted through the Indian Coast Guard.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>DPT is already having updated Disaster Management Plan as well as Oil Spill Contingency Plan.</li> <li>DPT has also executed MoU with oil companies i.e. IOCL, HPCL, BPCL etc. for setting up of their Tier I facility for combating Oil Spill at Kandla.</li> <li>Necessary action will be taken by AKBTPL in consultation with DPT to combat with emergency situations.</li> </ul>
16	The KPT shall bear the cost of the external agency that may be appointed by this Department for supervision/ monitoring of proposed activities and the environmental impacts of proposed activities.	<ul style="list-style-type: none"> <li>Noted and same will be complied on receipt of such recommendations from concerned authorities</li> </ul>

**Status of the conditions stipulated in Environment and CRZ Clearance**

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Sr. No	Condition	Compliance
17	The KPT shall take up massive greenbelt development activities in and around Kandla and also within the KPT limits.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Plantation activity is an on-going process. As part of the same, greenbelt within and along the periphery of the back-up area is being developed on regular basis.</li> <li>Approx. 15.09 hectare area is developed till Mar'24 as greenbelt so far with various types of trees Approx. 5000 plants and lawn. For further details regarding greenbelt development. Total expenditures spend of the horticulture dept. for the period of Apr'23 to Mar'24 are INR 40.90 lakh.</li> </ul>
18	The KPT shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with the Forest and Environment Department and the District Collector/District Development Officer.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Adani Foundation is the CSR wing of Adani group. All CSR activities are planned out at Tuna by Adani Foundation (AF). AF works in the following five main areas:               <ol style="list-style-type: none"> <li>Education</li> <li>Community Health</li> <li>Sustainable livelihood</li> <li>Rural Infrastructure Development</li> <li>Skill Development</li> </ol> </li> </ul> <p>Various activities related to above mentioned areas are being carried out on regular basis for socio-economic up liftmen of surrounding villages by Adani Foundation. Details of the activities carried out are shared with FOKIA (Federation of Kutch Industries Association). Total expenditures of the CSR activities are INR 55.5 lakh for the period Apr'23 to Mar'24. Please refer <b>Annexure – 4</b> for further details.</p>
19	A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this Department as well as the MoEF, Gol. The	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>Main constituents of the Environmental Management Plan are Environmental Monitoring; Greenbelt Development; Mangrove Plantation; Maintaining Bridges/</li> </ul>

**Status of the conditions stipulated in Environment and CRZ Clearance**

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Sr. No	Condition	Compliance																																								
	details with respect to the expenditure from this budget head shall also be furnished.	<p>Culverts for protection of Creeks; Treatment and Disposal of wastes; mechanization of operations etc.</p> <ul style="list-style-type: none"> <li>Approximately INR 701.24 Lakh is spent during the period (Apr'23 to Mar'24) for various activities mentioned here. Please refer to <b>Annexure – 1</b> for details related to Environmental Expenditures and <b>Annexure – 4</b> for Expenditures related to CSR activities.</li> </ul>																																								
20	A separate environmental management cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>AKBTPL has environment management cell with qualified manpower for implementation of environmental safeguards and management. The Environment Cell continuously remains in loop with Corporate Environment Cell.</li> </ul>																																								
21	An Environmental report indicating the changes, if any, with respect to the baseline environment quality in the coastal and marine environment shall be submitted every year by the KPT to this Department as well as to the MoEF, Gol.	<p><b>Complied.</b></p> <p>Ambient Air Quality (twice in a week), and Noise (4 times in a month) level monitoring at 4 Nos locations and marine water and sediment monitoring (once in a month) at 2 Nos locations are being carried out by NABL and MoEF&amp;CC accredited agency namely M/s. Pollucon Laboratories Pvt. Ltd. Summary of the same for duration from Oct'23 to Mar'24 is mentioned below.</p> <p><b>AAQM and noise sampling locations: 4 Locations</b></p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>Max</th> <th>Min</th> <th>Perm. Limit*</th> </tr> </thead> <tbody> <tr> <td>PM<sub>10</sub></td> <td>µg/m<sup>3</sup></td> <td>95.35</td> <td>43.54</td> <td>100</td> </tr> <tr> <td>PM<sub>2.5</sub></td> <td>µg/m<sup>3</sup></td> <td>57.92</td> <td>17.62</td> <td>60</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>µg/m<sup>3</sup></td> <td>25.43</td> <td>6.34</td> <td>80</td> </tr> <tr> <td>NO<sub>2</sub></td> <td>µg/m<sup>3</sup></td> <td>41.80</td> <td>13.17</td> <td>80</td> </tr> <tr> <th>Noise</th> <th>Unit</th> <th>Leq Max</th> <th>Leq Min</th> <th>Leq Perm. Limit*</th> </tr> <tr> <td>Day Time</td> <td>dB(A)</td> <td>69.9</td> <td>53.8</td> <td>75</td> </tr> <tr> <td>Night-time</td> <td>dB(A)</td> <td>64.9</td> <td>49.4</td> <td>70</td> </tr> </tbody> </table> <p>* As per NAAQ standards, 2009 (IS 9876/IS 9989) * As per CC&amp;A granted by GPCB</p>	Parameter	Unit	Max	Min	Perm. Limit*	PM <sub>10</sub>	µg/m <sup>3</sup>	95.35	43.54	100	PM <sub>2.5</sub>	µg/m <sup>3</sup>	57.92	17.62	60	SO <sub>2</sub>	µg/m <sup>3</sup>	25.43	6.34	80	NO <sub>2</sub>	µg/m <sup>3</sup>	41.80	13.17	80	Noise	Unit	Leq Max	Leq Min	Leq Perm. Limit*	Day Time	dB(A)	69.9	53.8	75	Night-time	dB(A)	64.9	49.4	70
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22	The KPT shall have to contribute financially to support the National Green Corps Scheme being implemented in the Gujarat by GEER Foundation, Gandhi agar, in consultation with Forest and Environment Department.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>National Green Corps Scheme is being implemented by GEER foundation. AKBTPPL requested GEER foundation to provide details of the program and financial assistance required so that necessary support may be provided. Further to the communication from GEER foundation, various activities were carried out on 21 March, International Day of Forests in 2014, at a school in Rampar, under National Green Corps. Details regarding the same were submitted as part of the compliance period Oct' 13 to Mar'14. Support will be extended to GEER foundation for any such activities in future</li> </ul>																																																																																																						

**Status of the conditions stipulated in Environment and CRZ Clearance**

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Sr. No	Condition	Compliance
23	A six-monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by the KPT on a regular basis to this Department/MoEF, GOI.	<b>Complied.</b> For further details, please refer point no. iii (Main Point No. 6 – General Condition).
24	The KPT before commencing any activity, at the location under the consideration, shall have the latest CRZ map prepared through one of the authorized agencies and the map shall have land use features within the area of 5 km radius from the location along with the HTL and LTL and CRZ boundary and inland if any or mangroves area shall be used for the proposed development.	<b>Complied.</b> <ul style="list-style-type: none"> <li>CRZ map including land features prepared by institute of Remote sensing, Anna University, Chennai is already submitted by DPT to MoEF&amp;CC vide letter no. EG/WK/4604 (EC)/146 dated 14.02.2012.</li> </ul>
25	The entire jetty and approach shall be constructed on piles to ensure the free flow of water and that no creeks are blocked in any way.	<b>Complied.</b> <ul style="list-style-type: none"> <li>As per the Environmental/ CRZ clearance obtained from MoEF&amp;CC approach road of 2 km is constructed on rubble mound and 1.7 km approach road below low water line is constructed on piles. The entire jetty is constructed on piles. Bridges are constructed at three creeks and box/piped culverts are placed with total cost of 2.01 crores at various locations to allow free flow of water.</li> <li>Photographs of the same are already submitted as part of half yearly compliance report (Oct-14 to March-15) to MoEF &amp; CC vide letter dated 11.05.2015 and there is no further change.</li> </ul>
26	The KPT shall create a full-fledged and environmental cell for implementation of the Environment Management Programme and monitoring of the environmental parameters/post project monitoring.	<b>Complied.</b> <ul style="list-style-type: none"> <li>Please refer above point no. (vi) of Specific conditions.</li> </ul>
27	The KPT shall have to take up in-situ biodiversity conservation project for mangroves at least in 5 ha. of area in addition to plantation of mangrove in 1000 ha.	<b>Complied.</b> <ul style="list-style-type: none"> <li>5 ha in-situ biodiversity conservation project for mangroves is carried out at Sach Saida bet (location identified by DPT). M/s GUIDE has</li> </ul>

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Sr. No	Condition	Compliance
		prepared a final report of the same. Details related to the same are already submitted (as part of half yearly compliance report Apr-2017 to Sep-2017.
<b>General conditions</b>		
28	A separate budget shall be earmarked for environmental management and socio-economic activities and details thereof shall be furnished to this Department as well as the MoEF, Gol. The details with respect to the expenditure from this budget head shall also be furnished.	<p><b>Complied.</b></p> <ul style="list-style-type: none"> <li>• Please refer point no. 19 above for the reply to this condition.</li> </ul>
29	Any other condition that may be stipulated by this Department from time to time for environment protection /management purpose shall also have to be complied with by the KPT.	<ul style="list-style-type: none"> <li>• Agreed.</li> </ul>



# **Annexure – 1**

**Status of the conditions stipulated in Environment and CRZ Clearance**

Sr. No.	Activity 2022 - 23	Cost incurred. (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2021 – 22	2022 - 23	2023 – 24	2022 - 23
1.	Environmental Monitoring	8.58	8.60	13.77	15.30
2.	Environment Days Celebration, Awareness Program, Award Application	0.76	1.0	1.90	2.0
3.	Greenbelt development	39.06	33.60	40.90	42.98
4.	Treatment and Disposal of Bio-medical Waste	1.0	1.08	1.45	1.50
5.	Hazardous/Non-Hazardous waste management & Disposal	11.62	11.63	12.86	12.86
6.	O&M of sewage treatment plant and OWC plant	7.72	11.96	12.90	13.55
7.	Dust Suppression Activities	236.62	240.32	261.58	272.71
8.	Maintenance of conveyor belt.	104.77	315.39	355.88	370.71
<b>Total</b>		<b>410.13</b>	<b>624.58</b>	<b>701.24</b>	<b>731.61</b>

# **Annexure – 2**

**Status of the conditions stipulated in Environment and CRZ Clearance**

**Water Consumption Details (Oct'23 to Mar'24)**

Month	Domestic (KL)	Industrial (KL)	Total (KL)
Oct-23	403	31235	31638
Nov-23	586	34217	34803
Dec-23	546	35812	36358
Jan-24	428	36780	37208
Feb-24	372	31564	31936
Mar-24	377	37325	37702
<b>Total</b>	<b>2712</b>	<b>206933</b>	<b>209645</b>
<b>Avg. Per Day</b>	<b>14.82</b>	<b>1130.78</b>	<b>1145.60</b>

**Details of Wastewater Received & Treated  
(Oct'23 to Mar'24)**

Month	Wastewater Received (KL)	Treated Water (KL)
Oct-23	460	232
Nov-23	475	450
Dec-23	467	429
Jan-24	447	332
Feb-24	412	284
Mar-24	376	248
<b>Total</b>	<b>2637</b>	<b>1975</b>
<b>Avg. Per Day</b>	<b>14.41</b>	<b>10.79</b>

# **Annexure – 3**

**“ENVIRONMENTAL MONITORING REPORT”**

**For**

**ADANI KANDLA BULK TERMINAL PRIVATE LIMITED.  
KANDLA, KUTCH.**

**OCTOBER 2023 TO MARCH 2024**

### **METHODS AND EQUIPMENTS USED FOR SAMPLING AND ANALYSIS**

<b>SR. NO.</b>	<b>Monitoring Details</b>	<b>Equipments Used</b>	<b>Sampling and Analysis Method</b>
1	Ambient Air Quality Monitoring	RDS,FDS, Gaseous Attachment with Impinger	CPCB Guideline/IS:5182
2	Noise Monitoring	Noise Meter	IS 9876/IS 9989
3	Sea Water Monitoring	Depth Sampler	IS:3025/APHA/USEPA/ASTM
4	Sea Sediment Monitoring	Grab Sampler	CPCB Guideline/ IS/APHA/USEPA/ASTM
5	Drinking Water Analysis	Sealed & Sterile Bottle	IS:10500:2012
6	Sewage water Analysis	Sealed & Sterile Bottle	APHA/IS:3025
7	Stack Monitoring	Stack Monitoring Sampler/Kit	IS:11255/NDIR Gas Analyzer
8	Dump Pond Discharge	Sealed & Sterile Bottle	APHA/IS:3025
9	Wind Rose Diagram	Online Weather Station	Wind Rose Plotting Software



**NATIONAL AMBIENT AIR QUALITY STANDARDS**  
**DATED 16<sup>TH</sup> NOV.2009, CPCB NEW DELHI.**

<b>SR. NO.</b>	<b>TEST PARAMETER</b>	<b>UNIT</b>	<b>Concentration in ambient air</b>	<b>Method Of Measurement</b>
1	Particulate Matter (PM <sub>10</sub> )	µg/m <sup>3</sup>	100	IS:5182(Part 23)
2	Particulate Matter (PM <sub>2.5</sub> )	µg/m <sup>3</sup>	60	CPCB guidelines for AAQM (Vol. I, NAAQMS/36/2012-13)
3	Sulphur Dioxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	80	IS:5182(Part 2)
4	Oxides of Nitrogen (NO <sub>2</sub> )	µg/m <sup>3</sup>	80	IS:5182(Part6)

NS#: Not Specified, \*\* National Ambient Air Quality Standards Dated: 18/11/2009 as per Central Pollution Control Board, New Delhi.

**TABLE NO. 1 RESULTS OF AAQM FOR LC GATE NO.2 / NEAR SUB STATION -1 [OCTOBER 2023 TO MARCH 2024]**

Sr No.	Date of Sampling	Particulate Matter (PM <sub>10</sub> ) (µg/m <sup>3</sup> )	Particulate Matter (PM <sub>2.5</sub> ) (µg/m <sup>3</sup> )	Sulphur Dioxide (SO <sub>2</sub> )(µg/m <sup>3</sup> )	Oxides of Nitrogen (NO <sub>2</sub> ) (µg/m <sup>3</sup> )
1	02/10/2023	64.34	37.23	12.43	14.22
2	05/10/2023	43.54	24.33	10.38	19.58
3	09/10/2023	65.44	26.24	17.50	25.64
4	12/10/2023	59.82	30.35	13.61	28.15
5	16/10/2023	74.96	40.34	15.65	23.04
6	19/10/2023	50.12	23.34	7.29	18.91
7	23/10/2023	67.68	35.61	14.24	24.32
8	26/10/2023	58.24	32.46	16.44	30.48
9	30/10/2023	70.37	28.44	8.32	16.37
10	02/11/2023	51.34	25.66	8.61	19.27
11	06/11/2023	80.42	35.44	15.36	23.47
12	09/11/2023	75.62	31.55	11.62	18.60
13	13/11/2023	70.34	36.15	16.56	29.47
14	16/11/2023	76.34	39.42	6.41	13.58
15	20/11/2023	65.94	30.43	14.52	21.92
16	23/11/2023	56.30	24.29	10.42	17.71
17	27/11/2023	50.31	22.43	12.84	15.33
18	30/11/2023	73.67	38.64	9.62	20.78
19	04/12/2023	55.38	23.34	14.76	25.67
20	07/12/2023	49.97	20.56	11.25	17.42
21	11/12/2023	70.81	36.48	8.81	15.67
22	14/12/2023	75.21	40.25	19.28	24.97
23	18/12/2023	54.91	30.84	7.48	16.53
24	21/12/2023	63.01	27.65	10.22	20.54
25	25/12/2023	45.11	17.62	15.43	26.48
26	28/12/2023	68.07	37.81	6.41	21.40
27	01/01/2024	75.94	33.87	13.39	17.95
28	04/01/2024	53.61	22.26	10.61	25.67
29	08/01/2024	65.42	32.46	7.29	14.81
30	11/01/2024	51.62	25.41	11.17	18.68
31	15/01/2024	66.11	28.60	8.44	30.46
32	18/01/2024	59.23	29.64	12.66	15.64
33	22/01/2024	50.41	23.67	9.53	19.69
34	25/01/2024	61.04	26.45	16.23	26.42
35	29/01/2024	55.63	27.57	6.56	13.66
36	01/02/2024	56.88	28.27	10.24	22.37
37	05/02/2024	69.14	38.59	6.59	16.24
38	08/02/2024	50.23	22.59	11.62	29.74
39	12/02/2024	70.41	43.53	9.49	19.93
40	15/02/2024	65.87	37.23	16.52	21.00
41	19/02/2024	72.27	41.54	8.61	17.45
42	22/02/2024	66.25	32.63	19.52	24.44
43	26/02/2024	59.82	27.65	13.40	27.57
44	29/02/2024	48.44	33.37	7.68	14.26
45	04/03/2024	60.31	39.76	16.46	24.42
46	07/03/2024	51.64	26.57	14.64	22.42
47	11/03/2024	62.61	36.48	12.61	26.41
48	14/03/2024	54.56	21.93	6.56	17.64
49	18/03/2024	68.70	25.54	17.53	20.62
50	21/03/2024	52.60	19.86	10.73	23.17
51	25/03/2024	61.32	27.15	7.34	21.11
52	28/03/2024	50.39	22.88	11.10	25.84

**TABLE NO. 2 RESULTS OF AAQM FOR STARTING OF PILE APPROACH [OCTOBER 2023 TO MARCH 2024]**

Sr No.	Date of Sampling	Particulate Matter (PM <sub>10</sub> ) (µg/m <sup>3</sup> )	Particulate Matter (PM <sub>2.5</sub> ) (µg/m <sup>3</sup> )	Sulphur Dioxide (SO <sub>2</sub> )(µg/m <sup>3</sup> )	Oxides of Nitrogen (NO <sub>2</sub> ) (µg/m <sup>3</sup> )
1	02/10/2023	50.73	31.54	10.33	17.51
2	05/10/2023	70.34	33.84	13.91	23.47
3	09/10/2023	82.61	42.16	19.43	29.91
4	12/10/2023	75.68	34.13	22.32	32.54
5	16/10/2023	89.48	47.64	17.68	34.14
6	19/10/2023	60.47	30.62	12.64	27.77
7	23/10/2023	86.26	44.42	8.76	30.54
8	26/10/2023	71.66	38.48	20.29	36.58
9	30/10/2023	78.67	46.22	18.29	31.53
10	02/11/2023	72.67	36.48	11.32	34.58
11	06/11/2023	87.65	51.28	22.37	18.40
12	09/11/2023	83.42	46.39	12.61	22.63
13	13/11/2023	76.84	39.82	20.95	33.86
14	16/11/2023	81.18	43.75	15.46	19.63
15	20/11/2023	59.63	33.42	13.67	25.66
16	23/11/2023	79.52	45.43	21.37	36.49
17	27/11/2023	62.32	31.50	16.10	28.32
18	30/11/2023	84.34	41.33	19.32	24.25
19	04/12/2023	70.27	32.63	18.47	35.48
20	07/12/2023	79.68	41.91	20.14	32.83
21	11/12/2023	85.34	49.61	16.13	30.16
22	14/12/2023	81.26	45.34	12.95	25.55
23	18/12/2023	71.18	40.37	14.89	22.60
24	21/12/2023	84.32	38.07	22.50	37.17
25	25/12/2023	76.21	46.47	17.28	34.27
26	28/12/2023	82.41	50.32	10.91	31.13
27	01/01/2024	85.25	47.73	19.63	31.34
28	04/01/2024	65.25	34.64	14.27	28.56
29	08/01/2024	77.53	38.36	17.38	24.28
30	11/01/2024	55.37	28.03	13.24	34.15
31	15/01/2024	75.15	31.50	16.33	18.13
32	18/01/2024	86.34	48.40	18.67	32.48
33	22/01/2024	74.26	37.52	12.37	23.59
34	25/01/2024	80.32	42.50	20.25	30.08
35	29/01/2024	71.56	32.79	10.21	26.98
36	01/02/2024	76.25	46.56	11.46	25.12
37	05/02/2024	64.37	29.82	19.95	20.26
38	08/02/2024	73.96	37.44	12.55	23.42
39	12/02/2024	82.61	47.06	16.47	26.94
40	15/02/2024	72.62	43.54	18.39	29.42
41	19/02/2024	90.36	52.41	13.55	24.34
42	22/02/2024	80.38	42.50	21.61	27.28
43	26/02/2024	70.52	31.16	15.62	33.56
44	29/02/2024	75.13	45.93	17.34	19.03
45	04/03/2024	71.95	45.34	18.46	27.18
46	07/03/2024	66.43	35.64	20.24	17.57
47	11/03/2024	80.25	46.26	10.65	30.44
48	14/03/2024	69.92	38.53	15.35	24.67
49	18/03/2024	86.32	44.59	22.42	26.35
50	21/03/2024	72.63	36.48	17.70	29.66
51	25/03/2024	67.51	39.49	16.52	25.94
52	28/03/2024	63.25	32.42	19.28	36.48

**TABLE NO. 3 RESULTS OF AAQM FOR SOUTH WEST CORNER AT PUMP HOUSE [OCTOBER 2023 TO MARCH 2024]**

Sr No.	Date of Sampling	Particulate Matter (PM <sub>10</sub> ) (µg/m <sup>3</sup> )	Particulate Matter (PM <sub>2.5</sub> ) (µg/m <sup>3</sup> )	Sulphur Dioxide (SO <sub>2</sub> )(µg/m <sup>3</sup> )	Oxides of Nitrogen (NO <sub>2</sub> ) (µg/m <sup>3</sup> )
1	02/10/2023	55.63	31.92	8.45	22.33
2	05/10/2023	75.44	38.22	11.47	17.33
3	09/10/2023	70.65	34.29	13.44	15.66
4	12/10/2023	65.24	39.72	10.60	21.78
5	16/10/2023	57.97	32.46	7.57	14.46
6	19/10/2023	66.44	28.25	17.40	24.23
7	23/10/2023	76.36	40.89	12.82	19.62
8	26/10/2023	67.73	25.62	14.53	25.73
9	30/10/2023	60.34	22.70	15.29	18.63
10	02/11/2023	57.62	33.46	6.37	31.67
11	06/11/2023	63.11	26.62	12.48	20.36
12	09/11/2023	51.52	24.45	9.34	16.35
13	13/11/2023	60.37	31.62	14.34	23.87
14	16/11/2023	68.42	38.26	10.29	27.53
15	20/11/2023	48.37	19.23	8.47	14.67
16	23/11/2023	61.61	28.62	17.60	28.67
17	27/11/2023	69.63	30.41	13.48	26.50
18	30/11/2023	55.03	32.25	16.37	22.43
19	04/12/2023	49.53	21.36	12.28	21.35
20	07/12/2023	55.67	27.37	15.36	24.65
21	11/12/2023	64.53	32.38	11.66	18.21
22	14/12/2023	68.21	29.79	17.45	33.84
23	18/12/2023	59.64	23.41	8.55	19.62
24	21/12/2023	73.51	38.63	6.34	17.24
25	25/12/2023	65.41	30.29	13.42	20.26
26	28/12/2023	76.87	41.10	7.72	14.36
27	01/01/2024	54.26	22.65	10.45	19.23
28	04/01/2024	58.87	28.20	8.69	17.61
29	08/01/2024	62.02	35.17	12.52	21.36
30	11/01/2024	57.65	23.28	7.50	16.59
31	15/01/2024	70.33	34.92	13.77	22.47
32	18/01/2024	76.56	41.14	15.45	28.70
33	22/01/2024	52.56	32.25	6.73	18.52
34	25/01/2024	60.38	39.43	9.83	24.38
35	29/01/2024	65.87	36.38	11.61	15.76
36	01/02/2024	71.21	41.18	7.28	18.84
37	05/02/2024	53.67	23.95	9.36	13.17
38	08/02/2024	67.56	34.50	15.37	20.76
39	12/02/2024	49.44	28.45	6.41	22.87
40	15/02/2024	60.84	33.13	14.15	26.54
41	19/02/2024	65.32	27.87	12.71	21.71
42	22/02/2024	72.37	35.71	17.54	17.98
43	26/02/2024	50.62	25.66	10.32	19.16
44	29/02/2024	70.43	42.43	13.60	24.51
45	04/03/2024	66.86	40.33	13.58	15.82
46	07/03/2024	60.44	31.55	16.34	24.56
47	11/03/2024	56.71	27.64	8.62	18.63
48	14/03/2024	62.72	35.25	12.49	23.43
49	18/03/2024	80.66	41.37	10.34	19.41
50	21/03/2024	59.36	29.97	6.40	16.62
51	25/03/2024	48.66	17.52	11.80	29.46
52	28/03/2024	55.35	26.47	14.34	31.26

**TABLE NO. 4 RESULTS OF AAQM FOR NORTH EAST CORNER AT RAILWAY BUILDING [OCTOBER 2023 TO MARCH 2024]**

Sr No.	Date of Sampling	Particulate Matter (PM <sub>10</sub> ) (µg/m <sup>3</sup> )	Particulate Matter (PM <sub>2.5</sub> ) (µg/m <sup>3</sup> )	Sulphur Dioxide (SO <sub>2</sub> )(µg/m <sup>3</sup> )	Oxides of Nitrogen (NO <sub>2</sub> ) (µg/m <sup>3</sup> )
1	02/10/2023	74.38	40.22	13.22	29.57
2	05/10/2023	81.71	47.15	19.28	25.86
3	09/10/2023	91.42	55.61	23.51	32.60
4	12/10/2023	80.36	44.72	18.59	35.98
5	16/10/2023	94.31	57.92	21.56	28.60
6	19/10/2023	76.96	34.20	15.79	34.53
7	23/10/2023	92.66	46.53	11.92	21.24
8	26/10/2023	79.47	41.63	17.24	39.29
9	30/10/2023	84.41	49.96	22.67	36.21
10	02/11/2023	80.11	41.58	9.84	38.45
11	06/11/2023	93.62	54.33	21.63	30.45
12	09/11/2023	88.28	48.68	14.60	25.41
13	13/11/2023	81.33	47.48	23.43	37.36
14	16/11/2023	90.31	51.82	19.67	32.94
15	20/11/2023	70.45	36.47	16.49	16.90
16	23/11/2023	89.41	49.22	22.71	39.44
17	27/11/2023	76.63	39.40	18.68	31.23
18	30/11/2023	91.23	55.86	20.90	33.52
19	04/12/2023	78.46	30.36	20.42	37.48
20	07/12/2023	84.28	37.42	25.38	34.35
21	11/12/2023	90.32	52.35	13.54	24.29
22	14/12/2023	86.35	49.13	22.61	39.95
23	18/12/2023	77.15	45.13	14.52	27.63
24	21/12/2023	92.65	53.63	17.62	29.02
25	25/12/2023	68.93	36.22	21.25	41.80
26	28/12/2023	88.35	54.33	11.97	35.78
27	01/01/2024	92.55	50.49	23.47	26.34
28	04/01/2024	71.98	30.86	17.27	31.62
29	08/01/2024	83.43	42.37	20.91	36.22
30	11/01/2024	69.31	32.43	16.95	30.38
31	15/01/2024	80.97	39.48	18.27	33.84
32	18/01/2024	93.64	54.29	21.10	37.51
33	22/01/2024	82.66	48.64	15.23	25.31
34	25/01/2024	89.36	51.24	22.40	32.24
35	29/01/2024	78.51	40.22	19.29	23.13
36	01/02/2024	80.05	52.76	15.12	29.37
37	05/02/2024	74.37	39.15	24.60	22.55
38	08/02/2024	81.25	41.83	14.40	26.31
39	12/02/2024	88.47	53.47	18.39	31.79
40	15/02/2024	79.62	46.86	21.19	35.30
41	19/02/2024	95.35	55.45	16.86	30.64
42	22/02/2024	85.15	49.22	23.58	32.38
43	26/02/2024	75.67	40.43	20.33	36.27
44	29/02/2024	84.53	47.07	22.69	33.26
45	04/03/2024	81.42	51.67	25.43	35.41
46	07/03/2024	72.35	38.19	18.12	25.46
47	11/03/2024	85.14	55.19	15.68	20.47
48	14/03/2024	82.17	49.49	10.09	26.84
49	18/03/2024	92.66	47.52	19.51	28.45
50	21/03/2024	79.67	34.38	20.67	38.43
51	25/03/2024	73.42	42.83	22.71	34.52
52	28/03/2024	66.34	35.72	24.51	40.37

## AMBIENT AIR QUALITY ANALYSIS REPORT OBSERVATIONS

<b>Ambient Air Quality Monitoring Sample Analysis</b>									
Sr.No.	Month	Particulate Matter (PM <sub>10</sub> ) (µg/m <sup>3</sup> )		Particulate Matter (PM <sub>2.5</sub> ) (µg/m <sup>3</sup> )		Sulphur Dioxide (SO <sub>2</sub> ) (µg/m <sup>3</sup> )		Oxides of Nitrogen (NO <sub>2</sub> ) (µg/m <sup>3</sup> )	
		Max	Min	Max	Min	Max	Min	Max	Min
<b>L.C. Gate No.2 / NEAR SUB STATION -1</b>									
1	October-23	74.96	43.54	40.34	23.34	17.50	7.29	30.48	14.22
2	November-23	80.42	50.31	39.42	22.43	16.56	6.41	29.47	13.58
3	December-23	75.21	45.11	40.25	17.62	19.28	6.41	26.48	15.67
4	January-24	75.94	50.41	33.87	22.26	16.23	6.56	30.46	13.66
5	February-24	72.27	48.44	43.53	22.59	19.52	6.59	29.74	14.26
6	March-24	68.70	50.39	39.76	19.86	17.53	6.56	26.41	17.64
<b>Starting Of Pile Approach</b>									
1	October-23	89.48	50.73	47.64	30.62	22.32	8.76	36.58	17.51
2	November-23	87.65	59.63	51.28	31.50	22.37	11.32	36.49	18.40
3	December-23	85.34	70.27	50.32	32.63	22.50	10.91	37.17	22.60
4	January-24	86.34	55.37	48.40	28.03	20.25	10.21	34.15	18.13
5	February-24	90.36	64.37	52.41	29.82	21.61	11.46	33.56	19.03
6	March-24	86.32	63.25	46.26	32.42	22.42	10.65	36.48	17.57
<b>South West Corner at Pump House</b>									
1	October-23	76.36	55.63	40.89	22.70	17.40	7.57	25.73	14.46
2	November-23	69.63	48.37	38.26	19.23	17.60	6.37	31.67	14.67
3	December-23	76.87	49.53	41.10	21.36	17.45	6.34	33.84	14.36
4	January-24	76.56	52.56	41.14	22.65	15.45	6.73	28.70	15.76
5	February-24	72.37	49.44	42.43	23.95	17.54	6.41	26.54	13.17
6	March-24	80.66	48.66	41.37	17.52	16.34	6.40	31.26	15.82
<b>North East Corner at Railway Building</b>									
1	October-23	94.31	74.38	57.92	34.20	23.51	11.92	39.29	21.24
2	November-23	93.62	70.45	55.86	36.47	23.43	9.84	39.44	16.90
3	December-23	92.65	68.93	54.33	30.36	25.38	11.97	41.80	24.29
4	January-24	93.64	69.31	54.29	30.86	23.47	15.23	37.51	23.13
5	February-24	95.35	74.37	55.45	39.15	24.60	14.40	36.27	22.55
6	March-24	92.66	66.34	55.19	34.38	25.43	10.09	40.37	20.47

### **RESULTS OF NOISE LEVEL MONITORING**

Sampling Date	: As Per Table
Test Method	: IS 9876/IS 9989
Sampling Location	: As Per Table
Sampling By	: Pollucon Laboratories Pvt. Ltd.
Protocol (purpose)	: Environmental Monitoring

**TABLE NO. 5 RESULTS OF DAY TIME NOISE LEVEL MONITORING [OCTOBER 2023 TO MARCH 2024]**

Noise Level Day Time dB(A)Leq*									
Sr. No.	Name of Location	LC Gate No.2 / Near Sub Station-1		Starting Of Pile Approach		South West Corner at Pump House		North East Corner at Railway Building	
	Month	Max	Min	Max	Min	Max	Min	Max	Min
1.	October-23	66.1	56.7	66.4	58.6	69.3	59.6	68.8	57.9
2.	November-23	68.4	55.2	68.3	57.4	69.5	58.2	69.4	58.6
3.	December-23	69.1	53.8	69.3	54.9	69.2	58.5	68.8	59.2
4.	January-24	69.8	56.1	68.7	55.6	69.9	56.3	69.6	58.9
5.	February-24	69.5	55.9	68.2	56.5	69.7	57.1	69.8	57.7
6.	March-24	68.9	57.7	68.3	55.8	67.2	56.7	69.6	58.2

**TABLE NO. 6 RESULTS OF NIGHT TIME NOISE LEVEL MONITORING [OCTOBER 2023 TO MARCH 2024]**

Noise Level Night Time dB(A)Leq*									
Sr. No.	Name of Location	LC Gate No.2 / Near Sub Station-1		Starting Of Pile Approach		South West Corner at Pump House		North East Corner at Railway Building	
	Month	Max	Min	Max	Min	Max	Min	Max	Min
1.	October-23	62.1	50.8	61.8	53.5	64.3	56.6	61.3	55.9
2.	November-23	62.8	49.4	62.2	52.8	63.5	54.7	61.9	54.6
3.	December-23	60.5	49.9	60.3	52.1	64.2	54.5	60.2	52.2
4.	January-24	60.4	51.1	61.2	54.2	63.3	53.2	62.3	52.2
5.	February-24	61.3	51.2	58.7	53.8	64.9	53.5	63.5	53.7
6.	March-24	60.3	53.1	59.1	54.3	63.9	52.7	61.7	54.6

### **AMBIENT AIR QUALITY STANDARDS FOR NOISE SPECIFIED BY CPCB**

Area Code	Category of Area/Zone	Limits in dB(A) Leq <sup>#</sup>	
		Day time	Night time
A	Industrial area	75	70
<b>Notes:</b>			
1. Day time shall mean from 6.00 a.m. to 10.00 p.m.			
2. Night time shall mean from 10.00 p.m. to 06.00 a.m.			
<sup>#</sup> dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing			

## AMBIENT AIR QUALITY MONITORING & NOISE QUALITY MONITORING LOCATIONS

Sr. No	Name of Location	GPS Coordinate
1.	LC Gate No.2 / Near Sub Station-1	N 22° 58' 14.29" E 70° 05' 51.07" / N 22° 55' 51.53" E 70° 06' 01.09"
2.	Starting Of Pile Approach	N 22° 54' 27.47" E 70° 06' 15.63"
3.	South West Corner at Pump House	N 22° 55' 22.98" E 70° 06' 7.37"
4.	North East Corner at Railway Building	N 23° 0' 48.34" E 70° 12' 30.47"

**FIGURE NO. 1 GOOGLE EARTH IMAGE OF AMBIENT AIR QUALITY MONITORING & NOISE QUALITY MONITORING LOCATION**





**RESULTS OF SEA WATER MONITORING**  
**TABLE NO. 7 RESULTS OF SEA WATER [OCTOBER 2023 TO MARCH 2024]**

Description of Sample	: Sea Water (Surface & Bottom)	Quantity/No. of Samples	: 10 Lit/12
Sampling By	: Pollucon Laboratories Pvt. Ltd.	Sampling Procedure	: Grab
Packing/Seal	: Sealed	Protocol (purpose)	: Env. Monitoring
Test Method	: IS 3025 & APHA (22 <sup>nd</sup> Edi.) 2008	Test Parameters	: As per table

SR. NO	TEST PARAMETERS	UNIT	Near Mouth of Creek (M1)		Near Jetty (M2)		Near Mouth of Creek (M1)	
			October-23		November-23		December-23	
			16/10/2023		14/11/2023		15/12/2023	
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	pH	--	8.31	8.27	8.25	8.20	8.14	8.07
2	Temperature	°C	31.4	31.1	29.8	29.5	29.7	29.4
3	Total Suspended Solids	mg/L	52	45	63	52	48	37
4	BOD (3 Days@27°C)	mg/L	4.30	3.60	4.12	3.85	3.72	3.46
5	Dissolved Oxygen	mg/L	6.00	5.90	5.80	5.75	5.90	5.70
6	Salinity	ppt	37.18	36.84	36.72	36.98	35.42	35.78
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO <sub>3</sub>	µmol/L	3.62	3.37	4.02	3.56	2.83	2.71
9	Nitrite as NO <sub>2</sub>	µmol/L	0.59	0.48	0.73	0.61	0.56	0.43
10	Ammonical Nitrogen as NH <sub>3</sub>	µmol/L	2.84	2.69	2.51	2.24	2.17	1.95
11	Phosphates as PO <sub>4</sub>	µmol/L	2.71	2.56	2.37	2.19	1.9	1.83
12	Total Nitrogen	µmol/L	7.36	6.83	7.49	6.93	5.96	5.7
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
14	Total Dissolved Solids	mg/L	37546	37204	35998	36218	36472	36798
15	COD	mg/L	19.60	14.80	17.20	15.20	14.86	13.20
<b>A</b>	<b>Flora and Fauna</b>							
16.1	Primary Productivity	mgC/L/day	50.13		48.24		50.49	
<b>B</b>	<b>Phytoplankton</b>							
17.1	Chlorophyll	mg/m <sup>3</sup>	2.93	2.58	2.80	2.50	2.69	2.37
17.2	Phaeophytin	mg/m <sup>3</sup>	0.84	0.81	0.95	0.74	0.16	0.67
17.3	Cell Count	No.x 10 <sup>3</sup> /L	518	496	502	486	498	478
17.4	Name of Group Number and name of group species of each group	--	<i>Biddulphia sp.</i> <i>Fragillaria sp.</i> <i>Skeletonema sp.</i> <i>Pleurosigma sp.</i> <i>Thalassionema sp.</i>	<i>Oscillatoria sp.</i> <i>Synedra sp.</i> <i>Nitzschia sp.</i> <i>Rhizosolenia sp.</i> <i>Navicula sp.-</i>	<i>Chaetognathes</i> <i>Thalassiosira sp.</i> <i>Coscinodiscus sp.</i> <i>Skeletonema sp.</i> <i>Pleurosigma sp.</i>	<i>Nitzschia sp.</i> <i>Biddulphia sp.</i> <i>Navicula sp.</i> <i>Synedra sp.</i> <i>Ulothrix sp.</i>	<i>Skeletonema sp.</i> <i>Oscillatoria sp.</i> <i>Cyclotella sp.</i> <i>Coscinodiscus sp.</i> <i>Biddulphia sp.</i> <i>Spirulina sp.</i>	<i>Navicula sp.</i> <i>Synedra sp.</i> <i>Ulothrix sp.</i> <i>Pleurosigma sp.</i> <i>Thalassiosira sp.</i> <i>Melosira sp.</i>
<b>C</b>	<b>Zooplanktons</b>							
18.1	Abundance (Population)	noX10 <sup>3</sup> /100 m <sup>3</sup>	40		34		28	
18.2	Name of Group Number and name of group species of each group	--	<i>Copepods</i> <i>Polychaetes</i> <i>Mysids</i> <i>Bivalves</i>		<i>Mysids</i> <i>Ostracodes</i> <i>Polychaetes</i> <i>Copepods</i> <i>Bivalves</i>		<i>Copepods</i> <i>Ostracodes</i> <i>Decapods</i> <i>Polychaetes</i>	
18.3	Total Biomass	mL/100 m <sup>3</sup>	4.05		3.15		2.70	
<b>D</b>	<b>Microbiological Parameters</b>							
19.1	Total Bacterial Count	CFU/mL	2460		2740		2830	
19.2	Total Coliform	/mL	Present		Present		Present	
19.3	E.coli	/mL	Absent		Absent		Absent	
19.4	Enterococcus species	/mL	Present		Present		Present	
19.5	Salmonella species	/mL	Absent		Absent		Absent	
19.6	Shigella species	/mL	Absent		Absent		Absent	
19.7	Vibrio species	/mL	Absent		Absent		Absent	

Note: Minimum Detection Limit; Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1.0 µg/L

**TABLE NO. 8 RESULTS OF SEA WATER [OCTOBER 2023 TO MARCH 2024]**

SR. NO.	TEST PARAMETERS	UNIT	Near Jetty (M2)		Near Mouth of Creek (M1)		Near Jetty (M2)	
			January-24		February-24		March-24	
			16/01/2024		12/02/2024		12/03/2024	
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM
1	pH	--	8.14	8.05	7.99	7.87	8.24	8.13
2	Temperature	°C	29.4	29.1	30	29.8	30.7	30.5
3	Total Suspended Solids	mg/L	61	53	73	49	61	42
4	BOD (3 Days @27°C)	mg/L	4.36	4.10	3.96	3.12	4.28	3.96
5	Dissolved Oxygen	mg/L	5.85	5.60	5.99	5.83	5.90	5.75
6	Salinity	ppt	36.12	35.86	36.04	36.76	35.70	36.24
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
8	Nitrate as NO <sub>3</sub>	µmol/L	3.81	3.64	3.4	3.28	4.18	3.96
9	Nitrite as NO <sub>2</sub>	µmol/L	0.94	0.87	0.79	0.56	0.94	0.89
10	Ammonical Nitrogen as NH <sub>3</sub>	µmol/L	1.75	1.63	2.08	1.85	2.29	2.06
11	Phosphates as PO <sub>4</sub>	µmol/L	3.06	2.92	2.35	2.06	1.87	1.79
12	Total Nitrogen	µmol/L	7.06	6.92	6.7	5.92	7.69	7.28
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
14	Total Dissolved Solids	mg/L	37114	36878	37056	37728	36748	37236
15	COD	mg/L	18.26	16.40	15.92	12.30	18.24	16.48
<b>A</b>	<b>Flora and Fauna</b>							
16.1	Primary Productivity	mgC/L/day	44.01		55.08		53.10	
<b>B</b>	<b>Phytoplankton</b>							
17.1	Chlorophyll	mg/m <sup>3</sup>	3.84	3.15	3.12	2.67	3.23	2.56
17.2	Phaeophytin	mg/m <sup>3</sup>	0.90	1.22	1.08	1.14	0.90	1.32
17.3	Cell Count	No. x 10 <sup>3</sup> /L	596	501	526	475	504	468
17.4	Name of Group Number and name of group species of each group	--	<i>Thalassiosira sp.</i> <i>Biddulphia sp.</i> <i>Pediastrum sp.</i> <i>Rhizosolenia sp.</i> <i>Ulothrix sp.</i> <i>Chaetognathes</i>	<i>Synedra sp.</i> <i>Spirulina sp.</i> <i>Skeletonema sp.</i> <i>Navicula sp.</i> <i>Coscinodiscus sp.</i>	<i>Nitzschia sp.</i> <i>Pediastrum sp.</i> <i>Pleurosigma sp.</i> <i>Melosira sp.</i> <i>Spirulina sp.</i> <i>Thalassiosira sp.</i>	<i>Synedra sp.</i> <i>Coscinodiscus sp.</i> <i>Skeletonema sp.</i> <i>Ulothrix sp.</i> <i>Cyclotella sp.</i>	<i>Pediastrum sp.</i> <i>Pleurosigma sp.</i> <i>Melosira sp.</i> <i>Thalassiosira sp.</i> <i>Ulothrix sp.</i> <i>Navicula sp.</i>	<i>Nitzschia sp.</i> <i>Coscinodiscus sp.</i> <i>Skeletonema sp.</i> <i>Cymbella sp.</i> <i>Spirulina sp.</i>
<b>C</b>	<b>Zooplanktons</b>							
18.1	Abundance (Population)	noX10 <sup>3</sup> /100m <sup>3</sup>	22		31		35	
18.2	Name of Group Number and name of group species of each group	--	<i>Hydrozoa</i> <i>Polychaetes</i> <i>Gastropods</i> <i>Mysis</i>		<i>Copepods</i> <i>Polychaetes</i> <i>Gastropods</i> <i>Bivalves</i>		<i>Polychaetes</i> <i>Gastropods</i> <i>Bivalves</i> <i>Mysis</i>	
18.3	Total Biomass	mL/100 m <sup>3</sup>	2.05		2.95		3.20	
<b>D</b>	<b>Microbiological Parameters</b>							
19.1	Total Bacterial Count	CFU/mL	2570		2460		2650	
19.2	Total Coliform	/mL	Present		Present		Present	
19.3	E.coli	/mL	Absent		Absent		Absent	
19.4	Enterococcus species	/mL	Present		Present		Present	
19.5	Salmonella species	/mL	Absent		Absent		Absent	
19.6	Shigella species	/mL	Absent		Absent		Absent	
19.7	Vibrio species	/mL	Absent		Absent		Absent	

Note: Minimum Detection Limit; BOD: 1.0 mg/L, Oil & Grease: 2.0 mg/L, Petroleum Hydrocarbon: 1.0 µg/L

### SEA WATER REPORT OBSERVATION

SeaWater Sample Analysis		Month : OCTOBER 2023 TO MARCH 2024			
Test Parameter	Unit	Surface		Bottom	
		Max	Min	Max	Min
pH	--	8.31	7.99	8.27	7.87
Total Dissolved Solids	mg/L	37546	35998	37728	36218
Total Suspended Solids	mg/L	73	48	53	37
BOD (3 Days @ 27 °C)	mg/L	4.36	3.72	4.10	3.12
Dissolved Oxygen	mg/L	6.00	5.80	5.90	5.60
Salinity	ppt	37.18	35.42	36.98	35.78
COD	mg/L	19.60	14.86	16.48	12.30

**RESULTS OF SEA SEDIMENT MONITORING**

**TABLE NO. 9 RESULTS OF SEA SEDIMENT [OCTOBER 2023 TO MARCH 2024]**

Description of Sample	: Sea Sediment	Quantity/No. of Samples	: 10 Kg/06
Sampling By	: Pollucon Laboratories Pvt. Ltd.	Sampling Procedure	: Grab
Packing/Seal	: Sealed	Protocol (purpose)	: Env. Monitoring
Test Method	: IS/ASTM/CPCB Guidelines	Test Parameters	: As per table

SR. NO.	TEST PARAMETERS	UNIT	Near Mouth of Creek (M1)	Near Jetty (M2)	Near Mouth of Creek (M1)	Near Jetty (M2)	Near Mouth of Creek (M1)	Near Jetty (M2)
			Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
			16/10/2023	14/11/2023	15/12/2023	16/01/2024	12/02/2024	12/03/2024
1	Organic Matter	%	0.432	0.730	0.582	0.406	0.478	0.524
2	Phosphorus as P	µg/g	719	846	750	613	719	802
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
<b>5</b>	<b>Heavy Metals</b>							
5.1	Aluminum as Al	%	4.86	5.12	4.93	5.39	4.99	5.28
5.2	Total Chromium as Cr+3	µg/g	109	89.73	97.28	71.68	98.56	83.47
5.3	Manganese as Mn	µg/g	803	756	849	703	809	756
5.4	Iron as Fe	%	4.97	4.70	5.12	5.86	5.42	4.92
5.5	Nickel as Ni	µg/g	35.68	43.95	54.97	34.17	49.17	58.24
5.6	Copper as Cu	µg/g	42.35	39.17	43.86	29.36	56.23	37.51
5.7	Zinc as Zn	µg/g	91.84	83.14	97.58	73.18	93.56	83.36
5.8	Lead as Pb	µg/g	1.32	1.63	1.79	2.06	1.83	Not Detected
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
<b>6</b>	<b>Benthic Organisms</b>							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	<i>Polychaetes</i> <i>Bivalves</i> <i>Gastropods</i> <i>Crustaceans</i>	<i>Amphipods</i> <i>Bivalves</i> <i>Gastropods</i> <i>Crustaceans</i>	<i>Bivalves</i> <i>Gastropods</i> <i>Crustaceans</i> <i>Isopods</i>	<i>Echinoderms</i> <i>Bivalves</i> <i>Gastropods</i> <i>Polychaetes</i>	<i>Crustaceans</i> <i>Bivalves</i> <i>Gastropods</i> <i>Polychaetes</i>	<i>Crustaceans</i> <i>Bivalves</i> <i>Gastropods</i> <i>Isopods</i>
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	--	<i>Nematodes</i>	<i>Foraminiferans</i>	<i>Nematodes</i>	--	<i>Foraminiferans</i>	<i>Nematodes</i>
6.3	Population	no/m <sup>2</sup>	625	525	325	556	673	468

Note: Minimum Detection Limit, Mercury as Hg: 0.00025 mg/L, Petroleum Hydrocarbon: 5 µg/g

### SEA SEDIMENT REPORT OBSERVATION

Sea Sediment Sample Analysis		Month : OCTOBER 2023 TO MARCH 2024	
Test Parameter	Unit	Sediment	
		Max	Min
Organic Matter	%	0.730	0.406
Phosphorus as P	µg/g	846	613
Aluminum as Al	%	5.39	4.86
Total Chromium as Cr <sup>+3</sup>	µg/g	109	71.68
Manganese as Mn	µg/g	849	703
Iron as Fe	%	5.86	4.7
Nickel as Ni	µg/g	58.24	34.17
Copper as Cu	µg/g	56.23	29.36
Zinc as Zn	µg/g	97.58	73.18
Lead as Pb	µg/g	2.06	1.32
Mercury as Hg	µg/g	Not Detected	Not Detected

### SEA WATER & SEA SEDIMENT LOCATIONS

Sr. No	Name of Location	GPS Coordinate
1.	NEAR MOUTH OF CREEK (M1)	N 22°54'10.58" E 70° 8'34.86"
2.	NEAR JETTY (M2)	N 22°53.60" E 70° 6.47"

**FIGURE NO. 2 GOOGLE EARTH IMAGE OF SEA WATER AND SEDIMENT LOCATION**



## RESULTS OF DRINKING WATER ANALYSIS

### STANDARD METHODS & PERMISSIBLE LIMIT FOR DRINKING WATER

SR. NO.	PARAMETERS	UNIT	DESIRABLE LIMIT AS PER IS:10500:2012	TEST METHOD
<b>Chemical Parameters</b>				
1	Odour	--	Agreeable	IS3025(P-5)83Re.02
2	Colour	Hazen	Max 5	IS3025(P-4)83Re.02
3	Taste	--	Agreeable	IS3025(P-8)84Re.02
4	pH Value	--	6.5 to 8.5	IS3025(P-11)83Re.02
5	Turbidity	NTU	Max 1	APHA 2130-B
6	Total Dissolved Solids	mg/L	Max 500	IS3025(P16)84Re.02
7	Total Hardness as CaCO <sub>3</sub>	mg/L	Max 200	IS3025(P-21) 84EDTARe.02
8	Alkalinity	mg/L	Max 200	IS3025(P23)86Re.03
9	Residual Free Chlorine	mg/L	Min 0.2	APHA(22 <sup>nd</sup> Edi)4500 Cl
10	Chloride as Cl	mg/L	Max 250	IS3025(P-32) 88Re.99Argentometric method
11	Calcium as Ca	mg/L	Max 75	IS3025(P40)91Re.03EDTA
12	Magnesium as Mg	mg/L	Max 30	IS3025(P46)94Re.99EDTA
13	Mineral Oil	mg/L	Max 0.5	APHA(22 <sup>nd</sup> Edi)5520D
14	Phenolic compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/L	Max 0.001	IS3025(P43)92Re.03
15	Hexavalent Chromium as Cr <sup>+6</sup>	mg/L	Max 0.05	APHA(22 <sup>nd</sup> Edi)3500CrB
16	Cadmium as Cd	mg/L	Max 0.003	APHA(22 <sup>nd</sup> Edi)3500Cd
17	Copper as Cu	mg/L	Max 0.05	IS3025(P42)92Re.03
18	Zinc as Zn	mg/L	Max 5	APHA(22 <sup>nd</sup> Edi)3500 Zn
19	Iron as Fe	mg/L	Max 0.3	APHA(22 <sup>nd</sup> Edi)3500Fe B
20	Lead as Pb	mg/L	Max 0.01	APHA(22 <sup>nd</sup> Edi)3500PbD
21	Mercury as Hg	mg/L	Max 0.001	IS3025(P48)94
22	Selenium as Se	mg/L	Max 0.01	APHA(22 <sup>nd</sup> Edi)3500 Se
23	Aluminum as Al	mg/L	Max 0.03	APHA(22 <sup>nd</sup> Edi)3500 Al
24	Manganese as Mn	mg/L	Max 0.1	APHA(22 <sup>nd</sup> Edi)3500 Mn B
25	Arsenic as As	mg/L	Max 0.01	IS3025(P-37)88
26	Sulphate as SO <sub>4</sub>	mg/L	Max 200	APHA(22 <sup>nd</sup> Edi)4500 SO <sub>4</sub> E
27	Cyanide as CN	mg/L	Max 0.05	APHA(22 <sup>nd</sup> Edi)4500CN E
28	Boron as B	mg/L	Max 0.5	APHA(22 <sup>nd</sup> Edi)4500 B
29	Fluoride as F	mg/L	Max 1.0	APHA(22 <sup>nd</sup> Edi) 4500 F D SPANDS
30	Nitrate Nitrogen as NO <sub>3</sub>	mg/L	Max 45	IS3025(P34)88
31	Anionic Detergents as MBAS	mg/L	Max 0.2	14542/Methylene Blue extraction method
32	Pesticides	mg/L	Absent	GC MS
33	Coliform	/100 ml	Absent	APHA (22 <sup>nd</sup> Edi. Method) 9221-D
34	E-Coli	/100 ml	Absent	IS: 1622:1981 Edi. 2.4 (2003-05)

**TABLE NO.10 RESULTS OF DRINKING WATER [OCTOBER 2023 TO MARCH 2024]**

**TABLE NO.10.1 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN OCTOBER 2023 TO MARCH 2024]**

SR. NO.	TEST PARAMETERS	UNIT	October-23	
			16/10/2023	16/10/2023
			Lo-Staff Canteen	Narmada Water Pump House
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	2	2
3	Taste	--	Agreeable	Agreeable
4	pH	--	7.13	7.13
5	Turbidity	NTU	0.07	0.05
6	Total Dissolved Solids	mg/L	168	362
7	Total Hardness as CaCO <sub>3</sub>	mg/L	39	98
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	31.99	67.97
10	Fluoride as F	mg/L	Not Detected	0.084
11	Iron as Fe	mg/L	Not Detected	0.128
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent



**TABLE NO.10.2 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN OCTOBER 2023 TO MARCH 2024]**

SR. NO.	TEST PARAMETERS	UNIT	November-23	
			14/11/2023	14/11/2023
			POB Building	Narmada Water Pump House
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	Not Detected	3
3	Taste	--	Agreeable	Agreeable
4	pH	--	7.29	6.97
5	Turbidity	NTU	0.08	0.06
6	Total Dissolved Solids	mg/L	216	413
7	Total Hardness as CaCO <sub>3</sub>	mg/L	42	105
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	35.98	71.97
10	Fluoride as F	mg/L	Not Detected	0.13
11	Iron as Fe	mg/L	Not Detected	0.098
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent

**TABLE NO.10.3 RESULTS OF DRINKING WATER [FULL PARAMETER IN OCTOBER 2023 TO MARCH 2024]**

SR. NO.	PARAMETERS	UNIT	December-23	
			15/12/2023	15/12/2023
			LO- Staff Canteen	Narmada Water Pump House
<b>Chemical Parameters</b>				
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	2	3
3	Taste	--	Agreeable	Agreeable
4	pH Value	--	7.41	7.87
5	Turbidity	NTU	0.07	0.12
6	Total Dissolved Solids	mg/L	178	270
7	Total Hardness as CaCO <sub>3</sub>	mg/L	47	136
8	Alkalinity	mg/L	65	128
9	Residual Free Chlorine	mg/L	Not Detected	Not Detected
10	Chloride as Cl	mg/L	52.48	68.97
11	Calcium as Ca	mg/L	15.2	22.4
12	Magnesium as Mg	mg/L	2.16	19.20
13	Mineral Oil	mg/L	Not Detected	Not Detected
14	Phenolic compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/L	Not Detected	Not Detected
15	Chromium as Cr <sup>+6</sup>	mg/L	Not Detected	Not Detected
16	Cadmium as Cd	mg/L	Not Detected	Not Detected
17	Copper as Cu	mg/L	Not Detected	Not Detected
18	Zinc as Zn	mg/L	Not Detected	Not Detected
19	Iron as Fe	mg/L	0.085	0.073
20	Lead as Pb	mg/L	Not Detected	Not Detected
21	Mercury as Hg	mg/L	Not Detected	Not Detected
22	Selenium as Se	mg/L	Not Detected	Not Detected
23	Aluminum as Al	mg/L	Not Detected	Not Detected
24	Manganese as Mn	mg/L	Not Detected	Not Detected
25	Arsenic as As	mg/L	Not Detected	Not Detected
26	Sulphate as SO <sub>4</sub>	mg/L	13.64	39.75
27	Cyanide as CN	mg/L	Not Detected	Not Detected
28	Boron as B	mg/L	Not Detected	Not Detected
29	Fluoride as F	mg/L	0.093	0.230
30	Nitrate Nitrogen as NO <sub>3</sub>	mg/L	1.60	2.70
31	Anionic Detergents as MBAS	mg/L	Not Detected	Not Detected
32	Pesticides	mg/L	Not Detected	Not Detected
<b>Microbiological Parameters</b>				
33	Coliform	/100 ml	Absent	Absent
34	E-Coli	/100 ml	Absent	Absent

**TABLE NO.10.4 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN OCTOBER 2023 TO MARCH 2024]**

SR. NO.	TEST PARAMETERS	UNIT	January-24	
			15/01/2024	15/01/2024
			POB Building	Narmada Water Pump House
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	3	2
3	Taste	--	Agreeable	Agreeable
4	pH	--	7.97	7.83
5	Turbidity	NTU	0.13	0.09
6	Total Dissolved Solids	mg/L	386	310
7	Total Hardness as CaCO <sub>3</sub>	mg/L	142	126
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	102	78
10	Fluoride as F	mg/L	0.29	0.17
11	Iron as Fe	mg/L	0.24	0.084
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent

**TABLE NO.10.5 RESULTS OF DRINKING WATER [ESSENTIAL PARAMETER IN OCTOBER 2023 TO MARCH 2024]**

SR. NO.	TEST PARAMETERS	UNIT	February-24	
			12/02/2024	12/02/2024
			Lo-Staff Canteen	Narmada Water Pump House
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	2	3
3	Taste	--	Agreeable	Agreeable
4	pH	--	7.75	7.29
5	Turbidity	NTU	0.09	0.08
6	Total Dissolved Solids	mg/L	290	372
7	Total Hardness as CaCO <sub>3</sub>	mg/L	103	139
8	Residual Free Chlorine	mg/L	Not Detected	Not Detected
9	Chloride as Cl	mg/L	81.97	97.96
10	Fluoride as F	mg/L	0.15	0.18
11	Iron as Fe	mg/L	0.093	0.095
12	Coliform	/100 ml	Absent	Absent
13	E-Coli	/100 ml	Absent	Absent

**TABLE NO.10.6 RESULTS OF DRINKING WATER [FULL PARAMETER IN OCTOBER 2023 TO MARCH 2024]**

SR. NO.	PARAMETERS	UNIT	March-24	
			12/03/2024	12/03/2024
			POB Building	Narmada Water Pump House
<b>Chemical Parameters</b>				
1	Odour	--	Agreeable	Agreeable
2	Colour	Hazen	3	3
3	Taste	--	Agreeable	Agreeable
4	pH Value	--	7.35	7.79
5	Turbidity	NTU	0.09	0.18
6	Total Dissolved Solids	mg/L	168	302
7	Total Hardness as CaCO <sub>3</sub>	mg/L	43	105
8	Alkalinity	mg/L	58	114
9	Residual Free Chlorine	mg/L	Not Detected	Not Detected
10	Chloride as Cl	mg/L	35.98	65.97
11	Calcium as Ca	mg/L	9.2	26
12	Magnesium as Mg	mg/L	4.80	9.60
13	Mineral Oil	mg/L	Not Detected	Not Detected
14	Phenolic compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/L	Not Detected	Not Detected
15	Chromium as Cr <sup>+6</sup>	mg/L	Not Detected	Not Detected
16	Cadmium as Cd	mg/L	Not Detected	Not Detected
17	Copper as Cu	mg/L	Not Detected	Not Detected
18	Zinc as Zn	mg/L	Not Detected	Not Detected
19	Iron as Fe	mg/L	0.097	0.098
20	Lead as Pb	mg/L	Not Detected	Not Detected
21	Mercury as Hg	mg/L	Not Detected	Not Detected
22	Selenium as Se	mg/L	Not Detected	Not Detected
23	Aluminum as Al	mg/L	Not Detected	Not Detected
24	Manganese as Mn	mg/L	Not Detected	Not Detected
25	Arsenic as As	mg/L	Not Detected	Not Detected
26	Sulphate as SO <sub>4</sub>	mg/L	Not Detected	43.56
27	Cyanide as CN	mg/L	Not Detected	Not Detected
28	Boron as B	mg/L	Not Detected	Not Detected
29	Fluoride as F	mg/L	0.160	0.318
30	Nitrate Nitrogen as NO <sub>3</sub>	mg/L	2.08	2.56
31	Anionic Detergents as MBAS	mg/L	Not Detected	Not Detected
32	Pesticides	mg/L	Not Detected	Not Detected
<b>Microbiological Parameters</b>				
33	Coliform	/100 ml	Absent	Absent
34	E-Coli	/100 ml	Absent	Absent

**TABLE NO.11 RESULTS OF SEWAGE WATER [OCTOBER 2023 TO MARCH 2024]**

SR. NO.	PARAMETERS	UNIT	STP OUTLET PERMISSIBLE LIMIT <sup>#</sup>	TEST METHOD
1	pH	--	Not Specified	IS: 3025 (Part – 11) (Electrometric Method)
2	Total Suspended Solids	mg/L	30	IS3025(P17)
3	BOD (3 Days @ 27 °C)	mg/L	20	IS 3025 (Part – 44)
4	Fecal Coliform	MPN/100 ml	Not Specified	APHA(22 <sup>nd</sup> Edi)9221 C & E

**RESULTS OF SEWAGE WATER ANALYSIS**

DATE OF SAMPLING			October-23			
			16/10/2023		27/10/2023	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	STP Inlet	STP Outlet
1	pH	--	7.63	7.84	7.29	7.41
2	Total Suspended Solids	mg/L	75	16	98	18
3	BOD (3 Days @ 27 °C)	mg/L	62	14.2	76	17.4
4	Fecal Coliform	MPN/100 ml	>1600	84	>1600	110

DATE OF SAMPLING			November-23			
			16/11/2023		27/11/2023	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	STP Inlet	STP Outlet
1	pH	--	7.51	7.69	7.35	7.83
2	Total Suspended Solids	mg/L	83	15	106	19
3	BOD (3 Days @ 27 °C)	mg/L	52	13.6	63	14.3
4	Fecal Coliform	MPN/100 ml	>1600	79	>1600	94

DATE OF SAMPLING			December-23			
			15/12/2023		28/12/2023	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	STP Inlet	STP Outlet
1	pH	--	7.59	7.71	7.35	7.48
2	Total Suspended Solids	mg/L	78	13	118	15
3	BOD (3 Days @ 27 °C)	mg/L	54	17	72	12
4	Fecal Coliform	MPN/100 ml	>1600	140	>1600	170

DATE OF SAMPLING			January-24			
			15/01/2024		29/01/2024	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	STP Inlet	STP Outlet
1	pH	--	7.31	7.45	7.56	7.81
2	Total Suspended Solids	mg/L	93	12	126	17
3	BOD (3 Days @ 27 °C)	mg/L	67	15	79	13
4	Fecal Coliform	MPN/100 ml	>1600	70	>1600	120

DATE OF SAMPLING			February-24			
			12/02/2024		26/02/2024	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	STP Inlet	STP Outlet
1	pH	--	7.19	7.35	7.43	7.21
2	Total Suspended Solids	mg/L	97	14	105	19
3	BOD (3 Days @ 27 °C)	mg/L	81	16	63	12
4	Fecal Coliform	MPN/100 ml	>1600	63	>1600	150

DATE OF SAMPLING			March-24			
			12/03/2024		28/03/2024	
SR. NO.	PARAMETERS	UNIT	STP Inlet	STP Outlet	STP Inlet	STP Outlet
1	pH	--	7.51	7.69	7.32	7.46
2	Total Suspended Solids	mg/L	98	13	118	17
3	BOD (3 Days @ 27 °C)	mg/L	76	10.2	67.2	12.8
4	Fecal Coliform	MPN/100 ml	>1600	94	>1600	110

### SEWAGE WATER REPORT OBSERVATION

SR. NO.	PARAMETERS	UNIT	STP Outlet		Permissible Limit**
			Max.	Min.	
1	pH	--	7.84	7.21	6.5-9.0
2	Total Suspended Solids	mg/L	19	12	30
3	BOD (3 Days @ 27 °C)	mg/L	17.4	10.2	20
4	Fecal Coliform	MPN/100 ml	170	63	<1000

\*\* : Details provided by customer.

**TABLE NO.12 RESULTS OF STACK MONITORING**  
**PERMISSIBLE LIMIT FOR STACK MONITORING**

SR. NO.	TEST PARAMETER	UNIT	GPCB LIMIT**	TEST/SAMPLING METHOD
1	Particulate Matter	mg/Nm <sup>3</sup>	150	IS:11255 (Part-1)
2	Sulfur Dioxide as SO <sub>2</sub>	ppm	100	IS:11255 (Part-2)
3	Oxides of Nitrogen as NO <sub>x</sub>	ppm	50	IS: 11255 (Part-7)

\*\*Details provided by customer.

**RESULTS OF STACK MONITORING**

Date of Monitoring			December-23		
Sampling Location			SS-1 DG Set -1 (125 KVA)	SS-2 DG Set -2 (125 KVA)	SS-3 DG Set -3 (125 KVA)
SR. NO.	TEST PARAMETER	UNIT	15/12/2023		
1	Particulate Matter	mg/Nm <sup>3</sup>	20.42	18.64	20.46
2	Sulfur Dioxide as SO <sub>2</sub>	ppm	5.71	6.74	5.85
3	Oxides of Nitrogen as NO <sub>x</sub>	ppm	31.43	30.46	27.6
4	<b>Noise Level Monitoring</b>				
4.1	Near DG Set	dB(A)	71.4	72.3	71.2



**TABLE NO. 13 RESULTS OF DUMP POND DISCHARGE**

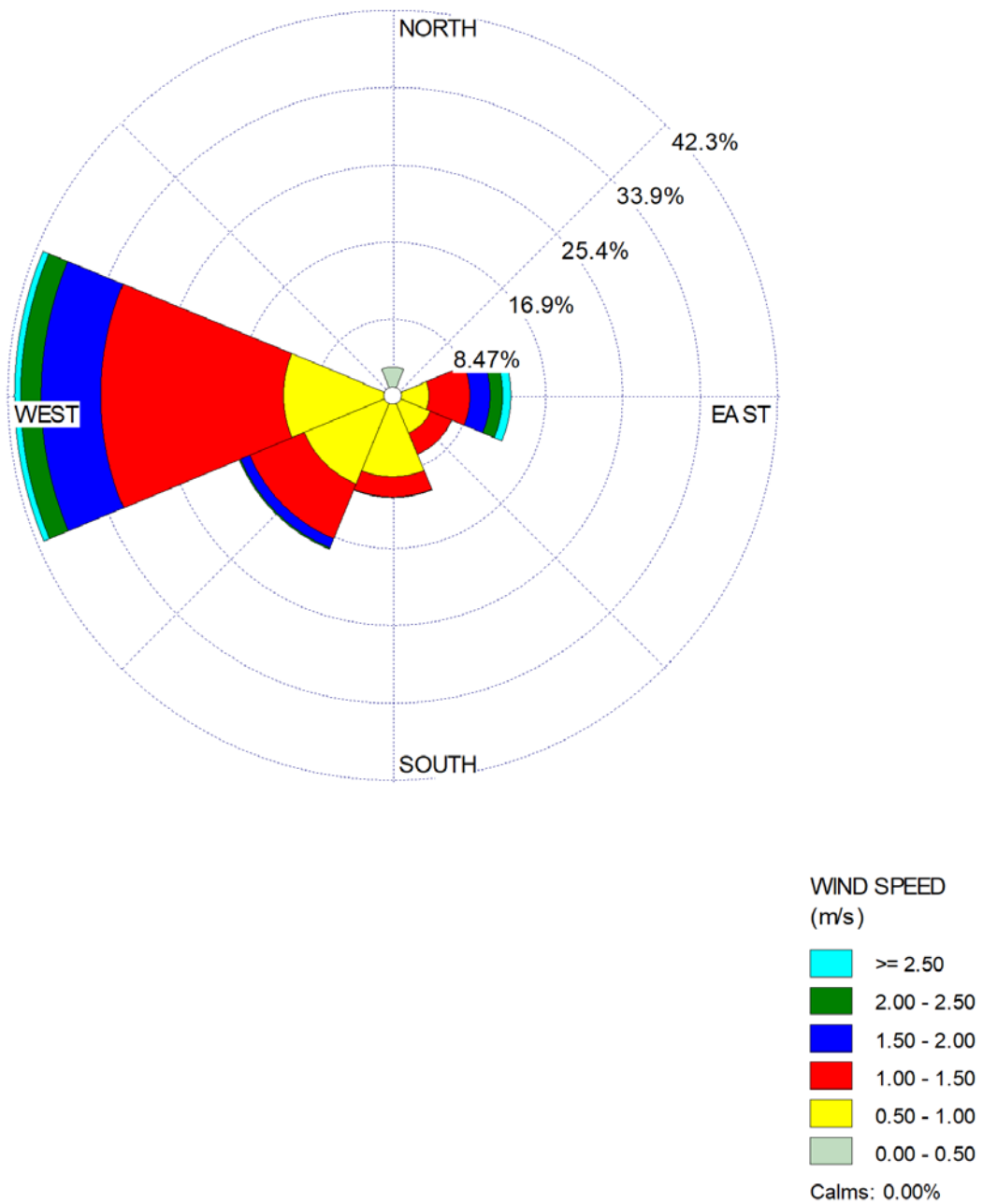
<b>SR. NO.</b>	<b>PARAMETERS</b>	<b>UNIT</b>	<b>TEST METHOD</b>
1	pH	--	IS3025(P11)83Re.02
2	Total Dissolved Solids	mg/L	IS3025(P16)84Re.02
3	Total Suspended Solids	mg/L	IS3025(P17)84Re.02
4	Turbidity	NTU	APHA 2130-B
5	BOD (3 Days @ 27 °C)	mg/L	IS 3025 (P44)1993 Re.03Edition2.1
6	Dissolved Oxygen	mg/L	IS3025(P38)89Re.99
7	COD	mg/L	APHA(22 <sup>nd</sup> Edi) 5520-D Open Reflux
8	Salinity	ppt	APHA 2550 B
9	Oil & Grease	mg/L	APHA(22 <sup>nd</sup> Edi)5520D
10	Total Hardness as CaCO <sub>3</sub>	mg/L	IS3025(P-21) 84EDTARE.02
11	Fluoride as F	mg/L	APHA(22 <sup>nd</sup> Edi) 4500 F D SPANDS
12	Chloride as Cl	mg/L	IS3025(P-32) 88Re.99Argentometric method
13	Zinc as Zn	mg/L	AAS- APHA (22 <sup>nd</sup> Edition) 3111 B
14	Cadmium as Cd	mg/L	AAS- APHA (22 <sup>nd</sup> Edition) 3111 B
15	Lead as Pb	mg/L	AAS- APHA (22 <sup>nd</sup> Edition) 3111 B
16	Mercury as Hg	mg/L	AAS-APHA (22 <sup>nd</sup> Edition) 3112 B

**RESULTS OF DUMP POND DISCHARGE**

Location Name			Dump Pond Near TT4
Date			15/01/2024
SR. NO.	TEST PARAMETER	UNIT	RESULT
1	pH	--	8.34
2	Total Dissolved Solids	mg/L	970
3	Total Suspended Solids	mg/L	61
4	Turbidity	NTU	8.7
5	BOD (3 Days @ 27 °C)	mg/L	28.4
6	Dissolved Oxygen	mg/L	5.85
7	COD	mg/L	126
8	Salinity	ppt	0.202
9	Oil & Grease	mg/L	Not Detected
10	Total Hardness as CaCO <sub>3</sub>	mg/L	149
11	Fluoride as F	mg/L	0.362
12	Chloride as Cl	mg/L	112
13	Zinc as Zn	mg/L	0.095
14	Cadmium as Cd	mg/L	Not Detected
15	Lead as Pb	mg/L	0.035
16	Mercury as Hg	mg/L	Not Detected

Note: Minimum Detection Limit: Oil & Grease: 2.0 mg/L, Cadmium as Cd: 0.001 mg/L, Mercury as Hg: 0.00025mg/L

**FIGURE NO.3 WIND ROSE DIAGRAM [OCTOBER 2023 TO MARCH 2024]**



# **Annexure – 4**

**Status of the conditions stipulated in Environment and CRZ Clearance**

Sr. No.	Village & Fisherman Vasahat	CSR Activities	Beneficiaries	Expense Amount in Lakhs
1.	<b>Health Projects</b>			
	Vira Bandar Fisherman Vasahat	Mobile Van	274	0.09
	Vandi, Dhavar varo	General Health Camp	107	0.04
	Tuna, Vandi & Rampar	Medical Support	94	0.95
2.	<b>Sustainable Livelihood Projects</b>			
	Vandi Village	Water Supply (Through a under Pipeline Narmada )	2000	8.2
	Vira Bandar Fisherman Vasahat	Water Supply by tanker	350	3.84
	Dhavar varo Fisherman Vasahat	Water Supply by tanker	340	3.46
	Rampar	Fodder Support	129	6.41
	Tuna	Fodder Support	140	6.03
	Tuna Vadi Vistar	Fodder Support	70	3.21
	Tuna & Vadi Vistar	Dry Fodder Support	339	0.67
	Tuna, Vandi & Rampar	Tree Plantation at 2 Primary School's & 3 Villages	780	0.1
3.	<b>Rural Infrastructure Development</b>			
	Tuna	Development of Common Gathering Place P.B Work Near Imam Publik square.	1500	3.55
	Vandi	Development of Common Gathering Place P.B. Work Near Madina Masjid public square.	2000	4.61
	Rampar	Common gathering training center	650	13.79
	Vira Bandar Fisherman Vasahat	Maintenance work of water tanks	360	0.65
<b>TOTAL</b>			<b>9133</b>	<b>55.5</b>

