Bhagwat Swaroop Sharma

From: Bhagwat Swaroop Sharma
Sent: Tuesday, May 30, 2023 7:59 PM
To: eccompliance-guj@gov.in; iro.gandhingr-mefcc@gov.in
Cc: ec-rdw.cpcb@gov.in; ro-gpcb-kute@gujarat.gov.in; ms-gpcb@gujarat.gov.in; mefcc.ia3@gmail.com; monitoring-ec@nic.in; direnv@gujarat.gov.in; Snehal Jariwala
Subject: Half Yearly EC Compliance Report Submission - APSEZ, Mundra - Port Expansion 2000 (Oct.22 to March'23)
Attachments: EC Compliance Report_Port Expension-2000_Oct'22 to Mar'23.pdf

adani
Ports and Logistics

APSEZL/EnvCell/2023-24/006 **Dat**

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 3 Circle, Sector – 10A,
Gandhinagar – 382007.
E-mail: eccompliance-guj@gov.in, iro.gandhingr-mefcc@gov.in

Sub : Half yearly Compliance report of Environment Clearance under CRZ notification for " project including dry/break bulk cargo container terminal, railway link and related anc up facilities at Mundra Port, Dist. Kutch in Gujarat by M/s. Adani Ports & SEZ Limited."

Ref : Environment clearance under CRZ notification granted to M/s Adani Ports & SEZ Lim dated 20th September, 2000 bearing no. J-16011/40/99-IA.III

Dear Sir,

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

Kindly consider above submission and acknowledge.

Thank you,
Yours Faithfully,
For, **M/s Adani Ports and Special Economic Zone Limited**

Bhagwat Swaroop Sharma
Head - Environment
Mundra & Tuna Port

Encl: As above

Copy to:

1) The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavar Bagh Road, New Delhi-110003.
2) The Zonal Officer, Regional Office, CPCB – Western Region, Parivesh Bhawan, Opp. VMC War

Thanks & Regards,

Bhagwat Swaroop Sharma
Sr. Manager - Environment
Mundra & Tuna port

Adani Ports & Special Economic Zone Ltd.

Environment Cell | 1st floor | Adani House | Mundra Kutch | 370421 | Gujarat | India
Mob +91 6357231713 | Ext. 52474 | www.adani.com

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Ports and Logistics

APSEZL/EnvCell/2023-24/006 **Date:** 25.05.2023

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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 Bhavan, Sector 10 A, Gandhi Nagar – 382010.
4) The Director, Forests & Environment Department, Block – 14, 8th floor, Sachivalaya, Gandhi Nagar – 382010.
5) The Regional Officer, Regional Office GPCB (Kutch-East), Gandhidham – 370201.

Adani Ports and Special Economic Zone Ltd
Adani House,
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Mundra, Kutch 370 421
Gujarat, India
CIN: L63090GJ1998PLC034182

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Ports and Logistics

Environmental Clearance Compliance Report

Port Expansion Project including Dry/Break Bulk Cargo Container Terminal, Railway Link and related Ancillary and Back-up facilities at Mundra Port, Dist. Kutch, Gujarat

Adani Ports and SEZ Limited

For the Period of:
October – 2022 to March – 2023

Index

EC & CRZ Clearance Compliance Report

adani Ports and Logistics	**Adani Ports and Special Economic Zone Limited, Mundra.**	**From : Oct'22** **To : Mar'23**
Status of the conditions stipulated in Environment Clearance under CRZ notification		

- Chronology of company name change from **M/s. Gujarat Adani Port Limited** to **M/s. Adani Ports and Special Economic Zone Ltd.** was submitted along with half yearly EC Compliance report for the period Oct'20 to Apr'21.

- **Half yearly Compliance report of Environment Clearance under CRZ notification for "Port expansion project including dry/break bulk cargo container terminal, railway link and related ancillary and back-up facilities at Mundra Port, Dist. Kutch in Gujarat vide letter no. J-16011/40/99-IA.III dated 20th September, 2000'**

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td colspan="3">A. Specific Condition</td></tr>
<tr><td>i</td><td>All the conditions stipulated by the Gujarat Pollution Control Board vide their NOC No. PC/NOC/Kutch/391/18424 dated 10.6.99 and No. PC/NOC/Kutch/222(2)16880 dated 1.5.99 shall be strictly implemented.</td><td>Complied.

Consent to operate (CC&A) has been renewed from GPCB vide consent no. AWH-117045 valid till 20th November, 2026. The copy of CtO renewal was submitted along with last half yearly compliance report for the period Oct'21 to Mar'22.

Consent to Establish (CtE) and Consent to Operate (CtO) are obtained from GPCB and renewed/amended from time to time as per the progress of the project activity. The present in-force CtE / CtO are mentioned below.

<table>
<tr><th>Sr. No.</th><th>Permission</th><th>Project</th><th>Ref. No. / Order No.</th><th>Valid till</th></tr>
<tr><td>1</td><td>CtO – Renewal</td><td>Mundra Port Terminal</td><td>AWH-117045</td><td>20.11.2026</td></tr>
<tr><td>2</td><td>CtE – Amendment</td><td>WFDP</td><td>17739 / 15618</td><td>18.05.2027</td></tr>
</table>

The permission mentioned above (Sr. No. 2) was submitted along with earlier compliance report submission. The copy of CtO renewal was submitted along with last half yearly compliance report for the period Oct'21 to Mar'22.</td></tr>
<tr><td>ii</td><td>The conditions stipulated in the letter No ENV-1098-6477-PI dated October 28, 1999 and No. ENV-1099-2702-PI dated 27.12.99 of shall be strictly implemented.</td><td>Complied.

Point wise compliance report of CRZ recommendations issued vide letter No ENV-1098-6477-PI dated October 28, 1999 and No. ENV-1099-2702-PI dated 27.12.99 is enclosed as Annexure- A.</td></tr>
<tr><td>iii</td><td>The turning circle should be increased from 550 m to 600 m.</td><td>Complied.
Construction activities are completed and project is in operation phase.</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023
iv	A girdle canal with settlement tanks shall be provided around the coal storage area.	Not applicable at present. Coal handling is not practiced at project site.
v	All efforts shall be made for water conservation and rainwater harvesting. Arrangements shall be made for roof top rainwater harvesting from various structures.	Complied. Under the Water Conservation and Optimization Drive at APSEZ, various initiatives were taken for conservation of water such as, 1. 100% utilization of treated water for horticultural purpose. 2. Total 128 Water-free urinals are installed and in operation within APSEZ. 3. Recirculation of water from fixed firefighting system to reservoir through flexible pipe during testing of firefighting system. 4. Conservation of Condensate from Air Conditioner and use for gardening. 5. Water flow reducers (total 8740 nos.) are provided in taps of Adani House, Tug Berth, CT2, CT3 & CT4 buildings to reduce the water consumption and are in use. 6. Water Maker machine is installed near Tug Berth jetty which generates drinking water from atmospheric moisture. The capacity of this machine is 250 liters per day. 7. Attending leakages and damages of water lines at various locations of APSEZ. 8. Process optimization 9. Aware to people by display of poster/sticker/ slogan of water saving at wash basin/bathroom/toilets areas of APSEZ & Residential colonies. Above initiative have saved substantial amount of water consumption. Groundwater recharge cannot be done at the project site since the entire project is in the intertidal / sub tidal areas. Rainwater within project area is managed through storm water drainage. We have installed Rainwater recharge bore well (4 Nos.) within our township to recharge ground water. Details of the same were submitted along with half yearly EC compliance report for the period Apr'19 to Sep'19. During FY 2022-23 Approx. 5.56 ML of rainwater has

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		been recharged to increase the ground water table. We have also connected roof top rainwater duct of operational building (Tug berth building within MPT) with u/g water tank for utilization of collected rain water for gardening / horticulture purpose. Details of the same were submitted along with EC Compliance report for the period Oct'18 to Mar'19. However, Adani Foundation – CSR arm of Adani Group has carried out rainwater harvesting activities in the nearby villages for benefit of the locals. Water conservation Projects i.e. Roof Top Rain Water Harvesting, Desilting of Check dams, Bore Well Recharge and Pond deepening were taken up in past years, review and monitoring of all water harvesting structures had been taken up. To make connections between human actions and the level of biological diversity found within a habitat and/or ecosystem, this year Adani Foundation launch project "Sanrakshan" in coordination with GUIDE and Sahjeevan. Since 10 years considerable Water Conservation Work carried out in Mundra Taluka. Due to satisfactory rain in current year 1.11 mtr ground water table increased as per increased in coastal belt of Mundra as per Government Figures. **Our water conservation work is as below.** • Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams. • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers. • New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum. • Roof Top Rainwater Harvesting 145 Nos. (40 Nos. current FY 2022-23) which is having 10,000 litre storage which is

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		sufficient for one year drinking water purpose for 5 people family. • Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil. • Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date. • Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which borewell depth decreased by 50-100 Ft in Zarpara, Bhujpur and Navinal Vadi Vistar. • Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area. • Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year. With the objective of to preserve the rainwater to reduce the impact of salinity and recharge the ground water (the main source of water) to facilitate the Agricultural activities as well as for drinking water. Please refer **Annexure – 1** for full details of CSR activities carried out by Adani Foundation in the Kutch region. Budget for CSR Activity for the FY 2022-23 is to the tune of INR 1894.42 lakh. Out of which, Approx. INR 1527.49 lakh are spent in FY 2022-23.
vi	To obviate the problem of coastal erosion due to dredging, the setback distance of at least 50 m from the Chart Datum line of Bocha island would be maintained.	Complied. During Maintenance dredging in this area, it is ensured that at least 50 m distance is maintained.
vii	The dredged material shall be disposed of only in the identified locations outside the CRZ area. While dumping the dredged material, sufficient distance should be ensured from the existing	Complied. Capital dredging is completed and only maintenance dredging is being carried out, if required which is being ensured that there no damage of marine ecology. In order to ensure no damage to marine ecology Marine water & sediment monitoring is being carried out once

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td>mangroves so that there is no damage to the ecology. During dumping of dredged material the mitigative measures as suggested by NIO shall be implemented. It shall be ensured that there is no dumping of dredged material in the CRZ.</td><td>in a month by NABL and MoEF&CC accredited agency namely M/s. Research Labs Pvt. Ltd., Vapi. Summary of the same for duration from Oct'22 to Mar'23 is mentioned below.

Total Sampling Locations: 09 Nos.
<table>
<tr><th rowspan="2">Parameter</th><th rowspan="2">Unit</th><th colspan="3">Surface</th><th colspan="3">Bottom</th></tr>
<tr><th>Min</th><th>Max</th><th>Average</th><th>Min</th><th>Max</th><th>Average</th></tr>
<tr><td>pH</td><td>--</td><td>7.96</td><td>8.28</td><td>8.17</td><td>7.68</td><td>8.14</td><td>8.02</td></tr>
<tr><td>BOD (3 Days @ 27 oC)</td><td>mg/L</td><td>2.4</td><td>3.4</td><td>2.92</td><td>BDL(MDL:1.0)</td><td>BDL(MDL:1.0)</td><td>BDL(MDL:1.0)</td></tr>
<tr><td>TSS</td><td>mg/L</td><td>86</td><td>162</td><td>129.76</td><td>78</td><td>148</td><td>110.48</td></tr>
<tr><td>DO</td><td>mg/L</td><td>5.8</td><td>6.32</td><td>6.08</td><td>5.63</td><td>6.22</td><td>5.91</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>35.02</td><td>36.82</td><td>35.71</td><td>35.56</td><td>37.02</td><td>36.24</td></tr>
<tr><td>TDS</td><td>mg/L</td><td>35108</td><td>37210</td><td>35902</td><td>35614</td><td>37840</td><td>36425</td></tr>
</table>
*BDL – Below Detection Limit
*MDL – Minimum Detection Limit

Please refer Annexure – 2 for detailed analysis reports. Approx. INR 15.32 Lakh is spent for all environmental monitoring activities during the FY 2022-23 for overall APSEZ, Mundra.</td></tr>
<tr><td>viii</td><td>The mangrove afforestation shall be undertaken at the identified sites and the progress report in this regard shall be submitted to this Ministry regularly. All the recommendations suggested in the NIO report for restoration of the coastal habitat by mangrove afforestation at Navinal island shall be strictly implemented.</td><td>Complied.

All construction activities are completed and project is in operation phase since long time. 24 hectare of mangrove afforestation was carried out at identified sites in consultation with Dr Maity, (Mangrove Consultant of India).

Green belt was developed 72.67 ha. Total 149959 trees were planted with the density of 2060 trees per hectare within the port area. So, far APSEZ has developed 457.99 ha. area as greenbelt with plantation of more than 9.06 Lacs saplings within the APSEZ area.

To enhance the marine biodiversity, till date APSEZ has carried out mangrove afforestation in 3890 ha. area across the coast of Gujarat. Total expenditure for the same till date is INR 1070.8 lakh.

Details on Mangroves afforestation & Green belt development carried out by APSEZ till date is annexed as Annexure – 3.

Other than this Adani Foundation – CSR Arm of Adani</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		Group at Mundra-Kutch has initiated multi-species plantation of mangroves in Luni village in association with M/s. GUIDE, Gujarat. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE, Gujarat. Please refer attached **Annexure – 1** for CSR activity report carried out by Adani Foundation.
ix	No ground water shall be withdrawn for this project.	Complied. Present source of water for various project activities is desalination plant of APSEZ and/or through Gujarat Water Infrastructure Limited (GWIL). Average water consumption for entire APSEZ area is 4.52 MLD during compliance period i.e. Oct'22 to Mar'23.
x	The project proponent shall ensure that the construction workers do not cut the Mangroves for fuel wood etc.	Complied. All construction activities are completed and project is in operation phase since long time.
xi	The project proponent shall ensure that no creeks are blocked and the natural drainage of the area is not affected due to project activities.	Complied. Prominent creek system (main creeks and small branches of creeks) in the study region are: (1) Kotdi (2) Baradimata (3) Navinal (4) Bocha (5) Mundra (Oldest port (Juna Bandar) leading to Bhukhi river). All above creeks are in existence allowing free flow of water and there is no filling or reclamation of any creek area. APSEZ has so far constructed 19 culverts having total length of approx. 1100 m with total cost of INR 20 Crores. Apart from that three RCC Bridges have been constructed over Kotdi creek with total length of 230 m at the cost of INR 10 Crores. Photographs of the same were submitted as part of compliance report for the duration of Apr'17 to Sep'17.

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>As per the bathymetry study carried out by NCSCM in 2017-18, it can be concluded that there are sufficient depths at the creek mouths and all creek mouths are open allowing flushing of water.</td></tr>
<tr><td>xii</td><td>The project proponent shall ensure that there will be no disposal of sludge and sewage generated from construction camps, surface run-off from construction sites, and oil and grease spillage from the construction equipment's in the creeks.</td><td>Complied.

Project is in operation phase.

Sewage generated from port is being treated in designated ETP and treated sewage is used for horticulture purposes.

<table>
<tr><th>Location</th><th>Capacity</th><th>Quantity of Treated Water (Avg. from Oct'22 to Mar'23)</th><th>Type of ETP / STP</th></tr>
<tr><td>LT</td><td>265 KLD</td><td>107 KLD</td><td>Activated Sludge</td></tr>
</table>

Summary of ETP treated water analysis results during compliance period as mentioned below.

Frequency of Analysis: Once in a month
<table>
<tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>Average</th><th>Perm. Limit$</th></tr>
<tr><td>pH</td><td>--</td><td>6.94</td><td>7.48</td><td>7.19</td><td>6.5 – 8.5</td></tr>
<tr><td>SS</td><td>mg/L</td><td>26</td><td>42</td><td>33</td><td>100</td></tr>
<tr><td>TDS</td><td>mg/L</td><td>904</td><td>1480</td><td>1226</td><td>2100</td></tr>
<tr><td>COD</td><td>mg/L</td><td>79</td><td>86</td><td>82</td><td>100</td></tr>
<tr><td>BOD</td><td>mg/L</td><td>21</td><td>23</td><td>22</td><td>30</td></tr>
<tr><td>Ammonical Nitrogen as NH_3-N</td><td>mg/L</td><td>18.6</td><td>29.8</td><td>24.72</td><td>50</td></tr>
</table>
$ as per CC&A granted by GPCB

The quality of marine water, treated effluents, air emissions and noise levels are being regularly analyzed by NABL accredited and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Please refer Annexure – 2 for detailed analysis reports for the period Oct'22 to Mar'23. Approx. INR 15.32 Lakh is spent for all environmental monitoring activities during the FY 2022-23 for overall APSEZ.</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		It is also noted that GPCB is doing regular site inspection along with wastewater sampling and analysis. The last GPCB sample analysis report were submitted as part of compliance report submission for the duration of Apr'21 to Sep'21 which shows all the parameters are well within the permissible limit.
xiii	The project proponent shall stick to the time bound program submitted to the Department of Environment, Government of Gujarat for the proposed activities including installation of desalination plant for meeting the entire water requirement. They shall coordinate their construction/operations schedule with the installation schedule of desalination plant.	Complied. Desalination plant has already been installed as per time bound program for overall APSEZ area and is in use. Details regarding water consumption are mentioned in Sr. no. ix above.
xiv	The project proponent shall ensure that the commercial fisheries are not hampered due to presence of barges, vessels and other activities in the region. Necessary plan in this regard shall be prepared in consultation with the NIO and submitted within 3 months.	Complied. No commercial fisheries are prevailing in this area except Pagadia and fishermen with small boats. Unhindered access is provided to the fishing boats. During project proposal, APSEZ proposed to provide four (4) dedicated accesses at Juna Bandar, Luni, Bavdi Bandar and Zarpara for the fishermen to approach the sea for fishing activity. However, during construction as well as operation, through fishermen consultative process, APSEZ has provided seven (7) access roads. Total length of all the approach roads is approx. 23 Kms and expenditure involved was Rs. 637 Lacs. There is no hindrance to the movement of fisherman boats. Details of the same were submitted along with EC Compliance report for the period Apr'18 to Sep'18.
xv	The project proponent shall bear the cost of the external agency that may be appointed by the Department of Environment, Government	Complied. Construction activities are completed and project is in operation phase. As part of the directions given by MoEF&CC vides order dated 18th Sep, 2015, following studies were conducted.

Sr. No.	Conditions	Compliance Status as on 31-03-2023
	of Gujarat for carrying out the supervision and/or the monitoring of the construction activities.	1. NCSCM (MoEF&CC promoted Government Agency) study on comprehensive and integrated plan for preservation and conservation of mangroves and associated creeks in and around APSEZ in year 2016-17. The cost of said study was 3.15 Cr, which was incurred by APSEZ. As a part of mangrove conservation plan, APSEZ has done following activities. a. Monitoring of mangrove distribution in creeks in and around APSEZ and shoreline changes in Bocha island through NCSCM, Chennai. The cost of the said study was INR 23.56 Lacs incurred by APSEZ. b. Tidal observation in creeks in and around APSEZ – The cost of the said activity was INR 1.0 Lacs incurred by APSEZ. c. Algal & Prosopis removal from Mangrove area - The cost of the said activity is INR 2.35 Lacs incurred by APSEZ during FY 2022-23. The details of algal & prosopis removal is attached as **Annexure-4.** d. Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 206.89 Lacs during FY 2022-23, which was incurred by APSEZ. This is activity is being done on continuous basis as a part of CSR activity. To comply with the GCZMA recommendations regarding mangrove monitoring at every 2 years, APSEZ earlier awarded work order to NCSCM, Chennai vide order no. 4802018994, dated 29/07/2022 with cost 23.77 Lacs for mangrove mapping in and around APSEZ, but due to some financial disputes and no proper response from NCSCM side regarding resolution, the work order has been revoked. After that as suggested by Joint Review Committee in its report that mangrove related studies may be undertaken by different agencies on a rotation basis for a better review of the mangroves, APSEZ issued work order to the Gujarat Institute of Desert Ecology (GUIDE),

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		Bhuj vide order no. 4802027981, dated 10/04/2023 for mangrove mapping in and around APSEZ, Mundra. The cost of said work is 23.60 Lacs (Including Taxes), which will be paid by APSEZ. 2. A Regional Impact Assessment study through Chola MS, Chennai (NABET accredited consultant) to identify impacts of all the existing as well as proposed project activities in Mundra region inline to ToR issued by GCZMA. The cost of said study was 1.3 Cr, which was incurred by APSEZ.
xvi	The project proponent shall carry out the post-project monitoring of various environmental parameters in consultation with the Department of Environment, Government of Gujarat and Gujarat Pollution Control Board.	Complied. Monitoring of various environmental parameters for Ambient Air, Noise, Wastewater, ground water, marine water and sediments along with the parameters mentioned in the consent order issued by GPCB is being carried out by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Monitoring reports for the period from Oct'22 to Mar'23 are enclosed as **Annexure – 2**.
xvii	The project proponent shall prepare the detailed traffic control management plan for the port and shall participate in the VTMS to be developed for the Gulf of Kachchh.	Complied. APSEZ is practicing well defined traffic control procedure. A VTMS service for Gulf of Kutch is operated by Directorate General of Lighthouses and Lightships (DGLL), Govt. of India. APSEZ is practicing well defined traffic control procedure. Marine Control of APSEZ provides traffic update to vessels in Mundra Port Limit on VHF Channel-77. Arrival and departure information in Gulf of Kutch is provided to VTMS information cell through an agent or directly by sending an e-mail to vtsmanagergulfofkutch @ yahoo.com and vtsgok@yahoo.com. Mundra port has subscribed and taking VTMS feed from Kandla from link www.vts.gov.in.
xviii	Action plan shall be prepared by the project proponents to prevent	Complied. Oil spill contingency response plan is being updated on

Sr. No.	Conditions	Compliance Status as on 31-03-2023
	damage to marine life and also to the coastline in case of any oil spillage and the same shall be strictly implemented. Regular mock drills shall be carried out to ensure fitness of the equipment in place.	regular basis and the same was last updated on 30.07.2022 is in place and implemented. The updated Oil spill contingency response plan was submitted along with EC Compliance report for the period Apr'22 to Sep'22. For responding to oil spill, the Indian Coast Guard has developed the National Oil Spill Disaster Contingency Plan NOSDCP which has the approval of the Committee of Secretaries and has been in operation since 1996. Oil Spill Contingency Response Plan (OSCRP) prepared by APSEZ is in accordance with the NOSDCP. Latest Regional Level Pollution Response exercise **"SWACHCHH SAMUDRA-NW 2022"** was carried out by Indian Coast Guard on 12th April, 2022 at Vadinar, Gujarat. All participants from various Oil Handling Agencies and Stakeholders (ICG, RELIANCE, ESBTL, OOCL, APSEZ, BORL, VOTL (NAYARA) were participated in this exercise. Details of the same were submitted along with EC Compliance report for the period Apr'22 to Sep'22. Mock drills are conducted regularly by APSEZ. Last Oil Spill Mock drill was conducted on 30.11.2022. Oil Spill Mock Drill report is enclosed as **Annexure – 5**.
xix	The project proponents shall work out the maximum quantity of spilled material, which can find its way into the coastal waters, under different accident scenarios, and their impact on aquatic life shall be studied after clearly demarcating the impact zones. On the basis of such studies, the necessary action plan to mitigate the likely impacts shall be prepared before commencement of the	Complied. Oil spill contingency plan is in place to handle Tier 1 level oil spills considering different accident scenarios, and the vulnerable areas are identified and mitigation plan is prepared. Based on the oil spill modeling study, it has been observed that crude oil spill of 700 tons (Tier-I) will spread over an area having radius of around 400 m within 4hr. APSEZ already has facilities for combating a Tier-1 spill. Recommendations of Marine EIA by NIO with respect to pollution emergency contingency plan for Multipurpose Terminal, Container, Dry & Break Bulk Terminal as well as associated facilities are addressed in Oil Spill

Sr. No.	Conditions	Compliance Status as on 31-03-2023
	operations. Action taken report in this regard shall be submitted to the Ministry.	Response Plan. This action plan prepared by APSEZ to combat the oil spill (LOS-DCP) is in accordance with the NOS DCP, International Petroleum Industry Environmental Conservation Association (IPIECA). Please refer Point No. xviii.
B. General Condition		
i	Construction of the proposed structures should be undertaken meticulously conforming to the existing Central / local rules and regulations. All the construction designs / drawings relating to the proposed construction activities must have approvals of the concerned State Government Departments / Agencies.	Already complied. Not applicable at present. All construction activities are carried out confirming to the existing rules and regulation and as per the CRZ notification. Approval under the preview of GMB, PESO and Factories act were taken prior to start of construction.
ii	The proponent shall ensure that as a result of the proposed constructions ingress of the saline water into the ground water does not take place. Piezometers shall be installed for regular monitoring for this purpose at appropriate locations on the project site.	Complied. To monitor the ground water quality, bore wells are provided at various location in the port and SEZ areas. Third party analysis of the ground water is being carried out twice a year by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Summary of the same for duration from Oct'22 to Mar'23 is mentioned below. Monitoring Reports are attached as **Annexure – 2** for the same. **Number of Sampling Locations: 5**

Parameters	Unit	MIN	MAX	AVERAGE
pH @ 25 ° C	--	7.98	8.01	8.00
Salinity	ppt	1.02	7.17	4.10
Oil & Grease	mg/L	*BDL	*BDL	*BDL
Hydrocarbon	mg/L	ND*	ND*	ND*
Lead as Pb	mg/L	*BDL	*BDL	*BDL
Arsenic as As	mg/L	*BDL	*BDL	*BDL
Nickel as Ni	mg/L	0.02	0.13	0.07
Total Chromium as Cr	mg/L	*BDL	*BDL	*BDL

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Cadmium as Cd</td><td>mg/L</td><td>0.09</td><td>0.09</td><td>0.09</td></tr>
<tr><td>Mercury as Hg</td><td>mg/L</td><td>*BDL</td><td>*BDL</td><td>*BDL</td></tr>
<tr><td>Zinc as Zn</td><td>mg/L</td><td>0.05</td><td>0.05</td><td>0.05</td></tr>
<tr><td>Copper as Cu</td><td>mg/L</td><td>*BDL</td><td>*BDL</td><td>*BDL</td></tr>
<tr><td>Iron as Fe</td><td>mg/L</td><td>0.34</td><td>0.34</td><td>0.34</td></tr>
<tr><td>Insecticides/Pesticides</td><td>µg/L</td><td>ND*</td><td>ND*</td><td>ND*</td></tr>
<tr><td>Depth of Water Level from Ground Level</td><td>meter</td><td>2.00</td><td>2.15</td><td>2.08</td></tr>
</table>
*ND = Not Detectable
*BDL – Below Detection Limit

Approx. INR 15.32 Lakh is spent for all environmental monitoring activities during the compliance period i.e. FY 2022-23 for overall APSEZ, Mundra.</td></tr>
<tr><td>iii</td><td>A comprehensive contingency plan in collaboration with the concerned authorities must be formulated to contain in case of any oil spills. Appropriate devices such as oil skimmer, oil monitor, oil water separator must be acquired for strengthening the contingency plan. All the service vessels that required for oil spill operations must be equipped with booms and dispersants. The personal onboard of these vessels must be properly trained in operation of these booms and dispersants.</td><td>Complied.

Oil spill contingency response plan is being updated on regular basis and the same was last updated on 30.07.2022 is in place and implemented. The updated Oil spill contingency response plan was submitted along with EC Compliance report for the period Apr'22 to Sep'22.

Shoreline Resources available with APSEZ, for deployment during shoreline cleanup/ emergent situation:

<table>
<tr><th>Item</th><th>Quantity</th></tr>
<tr><td>Oil Spill Dispersants</td><td>5000 ltr.</td></tr>
<tr><td>Absorbent pads</td><td>2000 Nos.</td></tr>
<tr><td>Portable dispersant storage tank: 1000 ltr. Capacity</td><td>1 no.</td></tr>
<tr><td>Portable pumps</td><td>2 nos.</td></tr>
<tr><td>Oil Containment Boom-Length 2000 metres, Height -1500 mm, Draft-900mm, Free Board-600mm</td><td>2000 m</td></tr>
<tr><td>Skimmer-KOMARA 15 Duplex Skimmer System with floating IMP 6 Pump.</td><td>4 Nos.</td></tr>
<tr><td>12.5T Flexible Floating Storage Tank (PUA).</td><td>3 Nos.</td></tr>
<tr><td>Lamor Minimax 12 m³ skimmer</td><td>2 sets</td></tr>
<tr><td>Lamor Side Collector system (Recovery Capacity 123 m³/ hr)</td><td>2 Nos.
2 sets</td></tr>
<tr><td>Canadyne Fence Boom (Reel model 7296/8496 with Power Pack, Towing</td><td>1 No.</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		bridles and Tow lines - 235 meter 11 Dolphin tugs are fitted with Oil Spill Dispersant boom and proportionate pump to mix OSD and Sea water as required. The tugs are fitted with a fire curtain and remote-controlled fire monitors. IMO module course organized by Maritime Training Institute is conducted & 24 personnel have achieved IMO level 1 & 04 personnel have achieved IMO Level 2. Different training modules as Oil Spill, Oil Spill Equipment, Oil spill Management course, Notification exercise, Table Top, Incident are conducted at different frequency. Detail of resource available at APSEZL provided Oil Spill Contingency Response Plan which was submitted along with EC Compliance report for the period Apr'22 to Sep'22.
iv	The operation plan for responding to an oil spill must include clear procedures for notification of a spill, response decision, cleanup operations, communications, and termination of cleanup operations, cleanup cost, oil pollution, damage control and disaster management plan.	Complied. Oil spill contingency plan is in place to handle Tier 1 level oil spills considering different accident scenarios, and the vulnerable areas are identified and mitigation plan is prepared. Oil spill contingency response plan is being updated on regular basis and the same was last updated on 30.07.2022 is in place and implemented. The updated Oil spill contingency response plan was submitted along with EC Compliance report for the period Apr'22 to Sep'22. Oil Spill Contingency Plan includes procedures for notification of a spill as point no 7.1, response strategy as Point no. 3.0, cleanup operations, Clean-up cost and termination of cleanup in point no. 3.5, communications in point no. 6.0.
v	A well-equipped laboratory with suitable instruments to monitor the quality of air and water shall be set up so as to ensure that the	Being complied Site is provided with environment monitoring equipment with sufficient & competent staff of Third-Party laboratory accredited by NABL & MoEF&CC.

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td>quality of ambient air and water conforms to the prescribed standards. The laboratory will also be equipped with qualified manpower including a marine biologist so that the marine water quality is regularly monitored in order to ensure that the marine life is not adversely affected as a result of implementation of the said project. The quality of ambient air and water shall be monitored periodically in all the seasons and the results should be properly maintained for inspection of the concerned pollution Control agencies.
The periodic monitoring reports at least once in 6 months must be sent to this Ministry as well as its Regional Office at Bhopal.</td><td>Ambient Air Quality (twice in a week) and Noise (once in a month) monitoring are being carried out by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Summary of the same for duration from Oct'22 to Mar'23 is mentioned below.

Total Ambient Air & Noise Sampling Locations: 4 Nos.

<table>
<tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>Average</th><th>Perm. Limit$</th></tr>
<tr><td>AAQM</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>PM_{10}</td><td>$\mu g/m^3$</td><td>62.18</td><td>89.79</td><td>80.06</td><td>100</td></tr>
<tr><td>$PM_{2.5}$</td><td>$\mu g/m^3$</td><td>21.25</td><td>49.12</td><td>35.29</td><td>60</td></tr>
<tr><td>SO_2</td><td>$\mu g/m^3$</td><td>11.24</td><td>36.28</td><td>25.71</td><td>80</td></tr>
<tr><td>NO_2</td><td>$\mu g/m^3$</td><td>16.78</td><td>43.65</td><td>33.20</td><td>80</td></tr>
</table>
<table>
<tr><th>Noise</th><th>Unit</th><th>Leq Min</th><th>Leq Max</th><th>Leq Ave.</th><th>Leq Perm. Limit*</th></tr>
<tr><td>Day Time</td><td>dB(A)</td><td>58.20</td><td>69.80</td><td>64.75</td><td>75</td></tr>
<tr><td>Night Time</td><td>dB(A)</td><td>54.20</td><td>64.50</td><td>59.93</td><td>70</td></tr>
</table>
$ as per NAAQ standards, 2009
* as per CC&A granted by GPCB
Values recorded confirms to the stipulated standards.

Sewage generated from port is being treated in designated ETP / STPs and treated sewage is being used for horticulture purposes.

Please refer Specific Condition No. xii for further details.

<u>Marine Monitoring:</u>
Summary of the marine water monitoring for duration from Oct'22 to Mar'23 is provided above in point No. vii (specific conditions).

Adani group has appointed a marine biologist Mr. Dhiraj Narale to monitor marine water quality. Also the third party monitoring of the Marine water is being carried out once in a month by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi, who has marine biologist to ensure that the marine water quality do not adversely affects the marine life. Monitoring Reports are attached as</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>Annexure – 2 for the same.

Approx. INR 15.32 Lakh is spent for all environmental monitoring activities during the FY 2022-23 for overall APSEZ.

Compliance report of EC conditions is uploaded regularly. Last compliance report including results of monitoring data for the period of Apr'22 to Sep'22 was submitted to Regional Office of Integrated Regional Office (IRO) @ Gandhinagar, IRO MoEF&CC @ Gandhinagar, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar & Gandhidham and Dept. of Forests & Env., Gandhinagar vide our letter dated 21.11.2022. Copy of the same is also available on our web site https://www.adaniports.com /ports-downloads. A soft copy of the same was also submitted through e-mail on 30.11.2022 to all the concern authorities. Please refer below for the details regarding past six compliance submissions.

<table>
<tr><th>Sr. No.</th><th>Compliance period</th><th>Date of submission</th></tr>
<tr><td>1</td><td>Oct'19 to Mar'20</td><td>20.05.2020</td></tr>
<tr><td>2</td><td>Apr'20 to Sep'20</td><td>26.11.2020</td></tr>
<tr><td>3</td><td>Oct'20 to Mar'21</td><td>25.05.2021</td></tr>
<tr><td>4</td><td>Apr'21 to Sep'21</td><td>30.11.2021</td></tr>
<tr><td>5</td><td>Oct'21 to Mar'22</td><td>30.05.2022</td></tr>
<tr><td>6</td><td>Apr'22 to Sep'22</td><td>30.11.2022</td></tr>
</table>
</td></tr>
<tr><td>vi</td><td>Adequate provision for infrastructure facilities such as water supply, fuel for cooking, sanitation etc. must be provided for the laborers during the construction period in order to avoid damage to the environment. Colonies for the laborers should not be located in the CRZ area. It should also be ensured that the construction workers do not cut trees including mangroves for</td><td>Already complied. Not Applicable at present.

Construction Activity is already completed. Adequate infrastructure facilities as mentioned in the condition were provided during construction phase.

The facility for drinking water, toilet and rest shelter are provided for the dignity of operation labours.

Photographs of the same were provided along with the compliance submission for the duration of Oct'16 to Mar'17.</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td>fuel wood purpose.</td><td></td></tr>
<tr><td>vii</td><td>To prevent discharge of sewage and other liquid wastes in to the water bodies, adequate system for collection and treatment of the wastes must be provided. No sewage and other liquid wastes without treatment should be allowed to enter into the water bodies. The quality of treated effluents, emissions, solid wastes and noise levels must confirm to the standards laid down by the competent authority including the Central/State Pollution Control Board.</td><td>Complied.

Adequate pipelines are provided to ensure the collection and treatment of effluent. Raw sewage is collected from 30 different collection pits at APSEZ locations through dedicated browsers and is transferred to ETP for treatment.

Sewage generated from port is being treated in designated ETP and treated sewage is used for horticulture purposes. No treated water is discharged into the water bodies. Please refer Specific Condition No. xii for further details.

Third party analysis of the treated water, Flue Gas, Ambient Air and Noise is being carried out regularly by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi.

Summary of six-monthly monitoring of Flue gas emission is provided below.

Total Nos. of Stacks: 15 Nos.
<table>
<tr><th>Parameters</th><th>Unit</th><th>Min</th><th>Max</th><th>Average</th><th>Permissible Limit$</th></tr>
<tr><td>PM</td><td>mg/Nm^3</td><td>13.49</td><td>26.68</td><td>21.43</td><td>150</td></tr>
<tr><td>SO_2</td><td>ppm</td><td>6.58</td><td>13.63</td><td>8.64</td><td>100</td></tr>
<tr><td>NOx</td><td>ppm</td><td>15.24</td><td>28.58</td><td>21.82</td><td>50</td></tr>
</table>
$ as per CC&A granted by GPCB

Six monthly reports of flue gas emissions for duration from Oct'22 to Mar'23 is attached as Annexure – 2.

Summary of Ambient Air and Noise for duration from Oct'22 to Mar'23 is provided in general condition No. v above.

<u>Waste Management</u> – APSEZ has adopted 5R concept for environmentally sound management of different types of solid & liquid wastes. Please refer below details about management of each type of waste.</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		Non-Hazardous Solid Waste: A well-established system for segregation of dry & wet waste is in place. All wet waste (Organic waste) is being segregated & utilized for compost manufacturing and/or biogas generation for cooking purpose. The compost is further used by in house horticulture team for greenbelt development. Whereas dry recyclable waste is being sorted in various categories. Presently manual sorting is being done for sorting of different types of solid waste. Segregated recyclable materials such as Paper, Plastic, Cardboard, PET Bottles, and Glasses, etc. are then sent to respective recycling units, whereas remaining non-recyclable waste is bailed and sent to cement plant (M/s. Ambuja Cement Ltd., Kodinar) for Co-processing as RDF (Refused Derived Fuel). APSEZ, Mundra is certified for Zero Waste to Landfill management system (ZWTL MS 2020) by TUVRheinland India Pvt. Ltd. (valid up to 31.05.2024 Details of the same were submitted as as part of compliance report submission for the duration of Apr'21 to Sep'21. **Hazardous & Other Waste**: • Bio medical waste generated from OHCs and Adani Hospital is being disposed at Common Bio Medical Waste Treatment Facility namely M/s. Distromed Kutch Services Pvt. Ltd., Bhuj. • E – Waste & Used Batteries are being sold to GPCB registered recyclers namely M/s. Galaxy Recycling, Rajkot and Sabnam Enterprise, Kutch respectively. • Solid Hazardous Waste is being disposed through co-processing / incineration through common facility i.e. M/s. Saurashtra Enviro Projects Pvt. Ltd., Bhachau and/or cement industries of Ambuja Cement Ltd., Kodinar. Used/Waste Oil is being sold to GPCB authorized recyclers / re-processors namely M/s. Western India Petro Chem Ind - Bhavnagar, Aviation Corporation - Kutch & Aroma Petrochem - Bhavnagar. It is also being reused within organization for lubrication purpose. • Discarded drums / barrels are being sold to authorized decontamination facility i.e. M/s. Jawrawala Petroleum, Ahmedabad. It is also being

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>
reused within organization for filling hazardous waste.
• Solid hazardous waste i.e. Tank bottom sludge is being sold to authorized recycler namely M/s. Mundra Oil Pvt. Ltd., Mundra for recycling.
• Expired paint materials is being disposed by incineration through common facility i.e. M/s. Saurashtra Enviro Projects Pvt. Ltd., Bhachau.
• Downgrade chemicals generated from cleaning of storage tanks / pipelines are being sold to authorized solvent recovery facilities namely M/s. Acquire Chemicals, Ankleshwar however during the compliance period, there was no disposal of downgrade chemicals.
• Slop Oil received from vessels is treated to separate water and oil particles in Oil Water Separator system. Separated oil from the same is being sold to authorized recycler / reprocessor namely M/s. Western India Petro Chem Ind - Bhavnagar, Aviation Corporation - Kutch & Aroma Petrochem - Bhavnagar and water is sent to ETP for further treatment. However, during the compliance period, there was no received or disposal of Slope Oil.
• Horticulture waste is collected from various green belt areas and it is using for making of manure and manure is being utilizing in horticulture purpose within plant premises.

Details of permissions / agreements of hazardous waste authorized vendors were submitted along with pervious half yearly EC Compliance Reports. And there is no further change.

The following table summarizes the waste management practice (from Oct'22 to Mar'23) for different types of wastes at APSEZ:
<table>
<tr><th>Type of Waste</th><th>Quantity in MT</th><th>Disposal method</th></tr>
<tr><td colspan="3">Hazardous Waste</td></tr>
<tr><td>Pig Waste</td><td>7.12</td><td rowspan="2">Co-processing at cement industries</td></tr>
<tr><td>Oily Cotton waste</td><td>64.56</td></tr>
<tr><td>Used / Spent Oil</td><td>57.09</td><td>Sell to registered recycler</td></tr>
<tr><td colspan="3">Other Waste</td></tr>
<tr><td>E-Waste</td><td>31.37</td><td>Sell to registered</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		<table><tr><td></td><td></td><td>recycler</td></tr><tr><td>Battery Waste</td><td>17.83</td><td>Sell to registered recycler</td></tr><tr><td>Bio Medical Waste</td><td>3.38</td><td>To approved CBWTF Site</td></tr><tr><td colspan="3">Non-Hazardous Waste</td></tr><tr><td>Recyclables Dry Waste / Scrap</td><td>1413.91</td><td>After recovery sent for recycling / Reuse within premises</td></tr><tr><td>Non-Recyclable Dry Waste (RDF)</td><td>230.01</td><td>Co-processing at Cement Industries</td></tr><tr><td>Wet Waste (Food waste + Organic waste)</td><td>465.86</td><td>Converted to Manure for Horticulture use / Biogas for cooking purpose</td></tr><tr><td>Horticulture Waste</td><td>385.7</td><td>Used for making of compost and utilize for horticulture purpose</td></tr></table>
viii	Appropriate facility should be created for the collection of solid and liquid wastes generated by the barges/vessels and their safe treatment and disposal should be ensured to avoid possible contamination of the water bodies.	Complied. • Ships berthing at Mundra Port comply with MARPOL / DG Shipping regulations. • The port is registered with DG Shipping PAN India portal "Swatch Sagar" for providing reception facility. All vessels wish to deliver waste at Mundra Port, raises request in Swatch Sagar Portal. The Port arranges waste collection from vessels and uploads Waste Delivery Receipt in Swatch Sagar Portal against vessel's request. The waste disposal is being done as per regulation. The PRF is also annually audited by DG Shipping. • The reception facility for all category of waste except Annex VI as per IMO and DG Shipping requirements is available in the port. • From all the waste, waste categorized in Annex – V category is being collected and disposed by port itself i.e. APSEZL Mundra. Port collects Solid waste (i.e. Garbage) categorized in Annex – V from vessels and collected waste is being sent to Material Recovery Facility for segregation & than segregated waste is being disposed in line with 5R principles. • Waste categorized in Annex – 1 (Sludge Oil) category is directly collected and disposed by GPCB authorized recyclers. • No discharge such as bilge wastes, sewage or any other liquid wastewater is allowed into marine environment inside port limits. • As a general practice APSEZ has been authorized

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		under Hazardous Waste Rules – 2016 to provide facility for receiving waste / slop oil from vessels through hose connection with oil tankers. These tankers divert waste / slop oil to Oil water separator system where water and oil particles are separated. Separated oil is being sold to authorized recycler /re-processor. However, no waste / slope oil was received during the compliance period.
ix	Necessary navigational aids such as channel markers should be provided to prevent accidents. Internationally recognized safety standards shall be applied in case of barge /vessel movements.	Complied. Navigational aids such as buoys and leading lights have been provided. The rules and regulation of the port contributes to the safe, efficient and environmentally responsible handling of shipping traffic. The international rules of IMO, such as SOLAS convention and its amendments and national regulations are in force at APSEZ, Mundra. **APPLICABLE REGULATION** ➢ Port Security Law (ISPS) ➢ Indian Port Act ➢ Gujrat Maritime Board Act 1981 ➢ Navigational Safety Port Committee (NSPC) ➢ All relevant international rules and regulations on MARPOL, Load lines etc.
x	During operation phase proper precautions should be taken to avoid any oil spills and no oily wastes shall be discharged into the water bodies.	Complied. Proper precautions are taken to avoid any oil spills during operation such as pressure checks of oil transfer lines and manual watch during oil cargo transfer. Available mechanisms to avoid oil spills are identified as below <u>At liquid terminal:</u> • Immediate shut off valve from vessel and shore. • Periodical testing of lines • Immediate suction of material by pump. • Emergency operation shut down. <u>At Marine Operations:</u> • Scupper plug, dip tray, absorbent pad, saw dust is provided to address confined spillage/leakage.

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td><u>At Container Terminals:</u>
• Leak cart is available for collect spilled chemical.
• Spill control materials in place.
• Oil drums are stored in covered shed where pellets are used. Tray provided to collection of spillage/leakage if occurred.

No oily waste is discharged to water bodies. Oily waste or oil contaminated waste is being disposed as mentioned in General Condition no. vii above.</td></tr>
<tr><td>xi</td><td>The project authorities should take appropriate community development and welfare measures for the villagers in the vicinity of the project site, including drinking water facilities. A separate fund should be allocated for this purpose.</td><td>Complied.

APSEZ is actively working with local community around the project area and provides required support for their livelihood and other concerns through the CSR arm – Adani Foundation. Adani Foundation is working in main four persuasions as below.

Education
Community Health
Rural Infrastructure
Sustainability Livelihood

Brief information about activities in the main four persuasions is mentioned below. Activities carried out for the same are summarized as below.

<table>
<tr><th>Area</th><th>Activity</th></tr>
<tr><td>Community Health</td><td>• Mobile Heath Care Units and Rural Clinics
• 09 Rural Clinics
• 06 villages of Mundra, 02 villages of Anjar & 01 village Mandvi block has benefited by rural clinic service.
• Total Patients Benefitted FY 22-23:-25088 (direct & indirect).
• 5 financially challenged patients has been supported with Dialysis treatment at 97 Times which added day in their Life.

Health camp:
• Specialty camps, Eye checkup camps, Blood donation camp, Anti-tobacco awareness camp, TB screening, and other are conducted in core villages as well as in labour colonies.
• Specialty health (Gynec , Pediatric eye specialty health camp) :- 1527 Patients Benefited.
• General health camp :- 3379 Patients benefited
•</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023	
			• Women's Health: Provided health services to over 1150 women through 102 + Menstrual Hygiene workshops. • Dialysis Support: During this year, 4 patients were supported for regular dialysis (twice a week) with partial support • Total 590800 CC quantity of Blood had been donated by 1710 Employees. • Medical Supports: 2460 beneficiary in 63 village. • TB screening & Awareness session: benefited 1795. • 25 villages and 07 fishermen settlements covered, with 90 types of general and lifesaving medicines through Mobile healthcare unit • 1491 –Economically Challenged patients have been supported for operation, OPD, IPD, Medicines and lab-test. • For Preventive health care General and multispecialty camps Pediatric camp, General Health camps in 9 villages and Super specialist camp which benefitted more than 4906 patients of Mundra Taluka. • Cattle Health Camp: Adani Foundation and Animal Husbandry department Veterinary Jointly organizing cattle health Awareness and vaccination programs in 24 Villages of our periphery villages. Total 17299 cattle of 19 Villages had benefitted with different kind of medicines and vaccines. • Lumpy Disease Vaccination Drive: Total 40 000 cattle were covered through therapeutic and ayurvedic treatment and Nutritive Cattle feed Support with association District Animal Husbandry department through vaccination and awareness drive.
		Sustainable Livelihood – Fisher folk, Agriculture & Women	• Government scheme Awareness session was held in association with Fisheries department Bhuj to facilitate pagadiya fishermen by providing fishing kits to seven Fishermen. The coordination was made by Adani Foundation to process application. • To promote Natural farming Adani Foundation has originated cow-based farming initiative with interconnected techniques which can increase farmer yield. • Adani foundation and Agri Department jointly organized district level workshop on Natural Farming Practice with Gram Seva. • Natural farming- 1392 farmers benefitted by 20 nos of training from which 60 farmers chemical usage is reduced to half extent in 500 Acres approximately . • 100 nos. of Facilitation of Home Bio Gas-under Gobardhan Yojna. • Benefited 837 people linkages with Govt. cow based Nurturing Scheme. • Supported 1500 farmers for barrel & wormi compost.. • 19 nos. of Market Linkage for supporting to Green

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		carnival at Samudra Township & Shantivan colony 17 472 Kg Vegetable with Rs. 4.36 Lacs. • 257 Farmers have started to preparing Jiva Mrut & Gaukrupa Amrutam Bio-fertilizer and using in agricrop. Series of Training is arranged by ATMA and Adani Foundation. • Adani Foundation has also provided 7.31 lacs kg Dry Fodder and 23.59 lacs kg Green fodder in 29 villages of Mundra and Anjar Block to support the resource dependent villagers, to avoid their dependency on mangroves. The expenditure for fodder supporting activities was approx. 200.89 Lacs during FY 2022-23. • Adani Foundation provides Good Quality dry and green fodder to 29 Villages. Project is covering total 14116 Cattels / 3008 farmers and hence enhancing cattle productivity. Dry Fodder 731230 Kg Green –2359204 Kg. • **Individual Fodder Cultivation:** Farmers were Aware, Convince and trained to cultivate super Napier Grass as on farm projects to reduce their Fodder Dependency and expense. With that effort 192 farmers have Adopted and Cultivated Super **NAPIER Grass** in 190-acre area and produce 3800 Fodder Tons Yield annually, lead to save Approx Rs 52 Lacs of farmers. • **Grass Land development:** AF converted 205 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara and siracha village to transform into Fodder Sustain village. • **Self Help Groups (SHGs):** Established 82 self-help groups in various rural and urban areas to provide financial and social support to women We provided training and capacity building workshops to members of these SHGs to help them develop income generating activities and improve their livelihoods Through this initiative, we have empowered over 850 women to become self-reliant with Savings of Rs 30 42 Lacs. • Mangrove plantation and Nursery development work has created a two facet impact by providing Livelihood to Fisherfolk during two months Fishing during Off season and developing 162 hector dense mangrove afforestation. • 5200 Men days work provide to 285 Fisherfolk of Luni, Sekhdiya and Bhadreshwar Villages in coordination with Horticulture Det. • Formed **Sagar Saheli SHG** of Navinal Fisherfolk Women and Linked with DRDA after completion of Stitching Training, received first order of Rs 80 000 to prepare Cotton Bags. Total 12 Women are engaged and planning to expand with more Women and Order. • During FY2022-23 Approx. INR 185.37 lakh were spent for Fisherfolk Amenitites work in different core areas. • Till FY 2022-23, Adani Foundation has done total

Sr. No.	Conditions	Compliance Status as on 31-03-2023	
			expenditure of INR 1338.19 lakh for Fisherfolk Amenitites work in different core areas. • To protect Cattles against Bovine Brucellosis zoonotic disease, Awareness and vaccination program is ongoing with Kutch fodder fruit & Forest development trust (KFFT) in our 11 Villages. In end of the year 100 percentage female calves will be benefitted by this initiative. • Current year KKPC served for Date Packaging box, Milk Supply to Colonies, NB 21 Off suits Supply, Vegetable Seed, Mineral Mixture and Cattle feed supply and plan to extend more service. The company has been set up with 237 Farmers shareholders. Current Year turnover is Rs 28 89 lacs by started Different Kind of Initiatives. • Skill Development and Income Generation –Adani Foundation is working with 15 Self-help group and supporting to develop entrepreneur skills to become self-reliant, sourcing more than 850 women to absorb in various job.
		Education	• Conduct baseline assessment of 7034 Students, 3364 Students were progressive learner, 1403 Students mainstreamed. • ISLM (International School Library Month) was celebrated by 69 Utthan schools. And school from Russia joined with us in zoom to engage under the virtual connection around the world. • 100 hours capacity building programs for Uthhan sahayak and school Teachers specially focusing on Foundational Literacy and Numeracy Utthan sahayak attend CBP (Capacity building program) once in every month. • Utthan sahayak create 150 Worksheets on Yoga In the run up to India's 75th Independence Day celebrated across India's Azadi Ka Amrit Mahotsav The tour covers 75 heritage, tourist and archaeological sites and landmark architectural sites across Gujarat. • Provided facility for preparing JNV,NMMS & PSE examination. 898 number of students participated for JNV,NMMS & PSE. • Mental and Physical Cognitive Education with Joy full learning activities to 2.5- to 6-year-old children. Provide Nutritional Food Facilities. Capacity Building program for Balwadi teachers. • Total 82 Active SHG Group – 850 women are engaged with Adani Foundation for Savings activity. Among 15 SHG groups are involved in income generation. We facilitate them capacity building training for quality, Marketing Finance and team work to made them self-sustain. • 507 underprivileged students of Fisherman & Maldhari communities underprivileged from 8 villages taking education at the Adani Vidya Mandir school. • Celebration of various days is villages school. • **Training Skill Development:** Conducted skill development programs for women in various

Sr. No.	Conditions	Compliance Status as on 31-03-2023	
			fields such as tailoring, handicrafts, and food processing These training programs helped women develop their skills and start their own businesses We have trained over 320 women in various skills, and many of them have started their own businesses. • motivating 150 Woman from different 82 SHG's. Current year theme was Digital ALL: Innovation & technology for gender equality
		Rural Infrastructure & Environmental Sustainability	Adani foundation designed and build various structure and provide service in the Health, Education, agriculture and sustainable livelihood area. **WORK COMPLETED** • 40 RRWHS structure have been completed • 208 Bore-well recharging activity is completed. • Percolation well Recharging work at Bhadiya & Mota Kandgra village. • Sluice gate Construction to Control Flood during Flooding at Khoydivadi Vistar Bhujpur. • Pond Beatification and Bund Strengthening at Bhujpur village. • Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year. • commissioning of Community Training Centre at Shekhadiya. • Two Pond Deepening at Zarpara under Amrut Sarovar Yojna. • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan. • Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area. • JCB & Hitachi Machine Support for Pre-Moonson activities. Repairing and Maintenance work of Approach at Luni, Bavdi and Navinal Fishermen Bandar. • 3 Re-strengthening of Approach Road. • Renovate Blood storage Lab CHC Mundra Renovation Blood storage Lab CHC Mundra. • Constructed 2 nos. of CC Road of 700 mtr. • Constructed Community Training center Shekadiya. • Constructed 2 nos. Disable Widow Toilet Block • Installed R.O. Plant at Mokha with capacity 1000ltr /HR. • Constructed 4 nos. Common gathering Open Shed • Constructed 03 nos. of Water Tank at Luni Bandar. • Developed of Cricket Ground at Hatdi Village **ENVIRONMENT SUSTAINABILITY PROJECTS** • **Miyawaki Forest Development, Nana Kapaya** - Plantation of 5880 saplings of different 42

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		species is completed which will result in dense forest within 2 years • **Smruti Van** – Plantation more than 47,000 sapling with more than 115 species through Miyawaki methodology. • **Ecosystem Restoration, Guneri** – Grassland ecosystem restoration and mangrove conservation in 40 Ha area over a period of 4 years. The site visit and soil samplings conducted by GES team. Regular bi monthly meeting conducted to assess the annual phase wise growth of ongoing activities. • **Multi-Species Mangrove Park** - Adani Foundation at Mundra's initiated multi-species plantation of mangroves in Kutch association with GUIDE. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE, • Mangroves Biodiversity Park within one year • **Home biogas** - Under Gram Utthan Project, Adani Foundation is supporting home biogas to farmers to Uthhan Villages phase wise. Total 325 farmers are supported with Biogas as sustainable environment protection. • As per SORI use of biogas each farmer can save Rs.23400/year. **Water Conservation Projects** – • Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams. • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers. • New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum. • Roof Top Rainwater Harvesting 145 Nos. (40 Nos. current FY 2022-23) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family. • Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil. • Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date. • Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which borewell depth

Sr. No.	Conditions	Compliance Status as on 31-03-2023	
			decreased by 50-100 Ft in Zarpara, Bhujpur and Navinal Vadi Vistar. • Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area. • Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.
		Skill Development	Over the previous few years, Adani Skill Development Center has assessed various aspects of the technical, leadership and soft skills gaps that organizations, in general, face and accordingly focuses on imparting required training in those areas in partnership with various colleges and institutes. **ASDC, Mundra** • **Youth Employment: -** Adani Foundation is committed for youth employment with imparting technical and Non-Technical Training for Fisherfolk Youth and started Electrical, Welder ad Masson work training under Adani Skill Development Centre. • 23 Youth have been Placed in Different company after Completion of Technical training. • Total 217 Fisherfolk are Employed and earning on Monthly Base. Average Monthly Income Rs.14500/ Individual. **ASDC and Thermax Foundation Done MoU** • ASDC and Thermax Foundation Jointly Organised , Skill Development training program for " Dhrab Village youth", In 1st phase completed Domestic Data Entry Operator training with 50 students (25 girls and 25 boys) • Chief Guest of this program was Mr. Anees Shaikh-Head, ER & Administration, Thermax, Ashlambhai Turk-Dhrab Village Sarpanch remained present • CSR head Thermax Ms. Sujata Deshpande has joined from Pune and given motivation and best wishes for training. • In this MOU ASDC has provided training of Digital Literacy to 1341 students and Basic Functional English to 2659 students in Kachchh District Schools. As per MOU Kachchh District Education Office has provided 4000 candidates to us for training (Adani Skill Development Centre). Funding from Thermax, CFS and DEO made it possible • **Skill Development and Income Generation –**Adani Foundation is working with 82 Self-help group and supporting to develop entrepreneur skills to become self-reliant, sourcing more than 850 women to absorb in various job –this will give them identity, confidence and right to speak in any decision for home, village and working area. • **Soft Launch of Data Entry Operator Batch:** Soft launched Data Entry Operator Batch with 50

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		candidates under Thermax Foundation Tie up. **ASDC, Bhuj** ✓ **Mud Work Training–Outreach Batch at Samundra township** Total 45 candidates are enrolled. ✓ **Soft Launch of Data Entry Operator Batch** Soft launched Data Entry Operator Batch with 50 candidates under Thermax Foundation Tie-up ✓ **Soft Launch of Solar Panel Manufacturing** Technician Training of Solar Panel Manufacturing Technician Training at Bhuj, ITI with 25 candidates. ✓ **Soft Launch of DL Training under DEO Project** Soft Launch of DL Training at AVMB School with 61 Students Tie Ups with (Thermax Foundation, Empazer, Navin Group and DEO Kutch @ Rs.24.25 lacs . • MOU with Kachchh District Education Office. In this MOU we will provide training of Digital Literacy and Basic Functional English in Kachchh District Schools. As per MOU Kachchh District Education Office will provide minimum 4000 candidates to us for training (Adani Skill Development Centre). • During FY 2022-23, Total 4706 people directly trained in various trainings to enhance socio economic development. Please refer **Annexure – 1** for full details of CSR activities carried out by Adani Foundation in the Mundra region. Budget for CSR Activity for the FY 2022-23 is to the tune of INR 1894.42 lakh. Out of which, Approx. INR 1527.49 lakh is spent during the FY 2022-23.
xii	The quarrying material required for the construction purpose shall be obtained only from the approved quarries / borrow areas. Adequate safeguard measures shall be taken to ensure that the overburden and rocks at the quarry site does not find their way	Not applicable at present. Construction activities are completed. No such activity is carried out during the compliance period of Oct'22 to Mar'23.

Sr. No.	Conditions	Compliance Status as on 31-03-2023
	into water bodies.	
xiii	The dredging operations, if any, to be undertaken with the prior approval of this Ministry, shall be executed with appropriate safeguard measures to prevent turbidity conditions in consultation with the expert agencies such as CWPRS / NIO.	Complied Capital dredging is completed and only maintenance dredging is being carried out, if required.
xiv	For employing unskilled, semi-skilled and skilled workers for the project, preference shall be given to local people.	Complied Adani Foundation – CSR Arm of Adani Group is doing following activities as a part of Skill Development in surrounding communities in Kutch area. • Adani Skill Development Center (ASDC), Mundra & Bhuj is providing skill development training to the locals for Soft Skill, Technical Training and Carrier Guidance & knowledge-based training. • Adani Skill Development Centre (ASDC) is playing a pivotal role in implementing sustainable development in the state. ASDC is envisioned to be playing a major role in elevating the socio-economic status of the people belonging to the lowest strata of the society by empowering them with various skill development training for employability and livelihood. • Over the previous few years, ASDC has assessed various aspects of the technical, leadership and soft skills gaps that organizations, in general, face and accordingly focuses on imparting required training in those areas in partnership with various colleges and institutes. • ASDC imparted various soft skilled and technical training to make Atma Nirbhar India. • During FY 2022-23, Total 4706 people trained in various trainings to enhance socio economic development. • Preference is given to local people for employment based on their qualification and experience. • All Mangrove plantations are done in consultation with GUIDE and Local forest dept. • 24 hectare of mangrove afforestation at Mundra was

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		done through active participation of local fishermen at the cost of INR 25.0 Lac. • 25 hectare of mangrove plantation with a cost of 10 Lakh is already completed near railway yard in consultation with Dr. Maity, Mangrove consultant of India. • 5200+ Man-days Fisherman person days employed in Mangroves Plantation. The Foundation has also supported Pagadiya fishermen as painting laborers by providing them with employment and job in various field. Details on skill development training imparted during compliance period i.e. Oct'22 to Mar'23 by Adani Foundation are available in CSR report enclosed as **Annexure – 1**.
xv	To meet any emergency situation, appropriate firefighting system and water pipelines should be installed. Appropriate arrangements for uninterrupted power supply to the environment protection equipment and continuous water supply for the firefighting system should be made.	Complied. Tug (Dolphin-11) has firefighting system of 1200 m^3/hr. along with 20 ton lifting "A" frame and diving support facility for support at offshore. With respect to onshore facilities valve station, pumping station and transportation pipeline, foam base fire tender, fire water network is available. Fire-fighting system has been installed and maintained to meet emergency situations. Additionally for emergency, DG Set is provided for fire water pumps to ensure continuous water supply for firefighting purpose. Detail information on firefighting facility available at APSEZ was submitted as a part of compliance report for the duration of Apr'17 to Sep'17.
xvi	Regular drills should be conducted to check the effectiveness of the on-site Disaster Management Plan.	Complied. **Location** / **Month** / **Scenario** AICTPL / Nov'22 / Assuming that QC Operator Mr. Narayan Bhai was unconscious in QC-05 while operation. AICTPL / Jan'23 / created as container loaded on ITV P-13 driver cabin by RTG-505 during yard operation at 4C13 Regular drills are being conducted for effectiveness of

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>the system. There were seven drills conducted for various scenarios during compliance period (Oct'22 to Mar'23) as mentioned below.

Mock drill report (latest report) conducted during the compliance period is enclosed as Annexure – 6</td></tr>
<tr><td>xvii</td><td>The recommendations made in the Environmental Plan and Disaster Management Plan, as contained in the EIA and Risk Analysis Reports of the project, shall be effectively implemented.</td><td>Complied
All the recommendations are being implemented.

Few Marine EIA recommendations:
<table>
<tr><td>Operational protocols and safety procedure should be printed and freely available to concerned staff. The employees must be adequately trained to inculcate a high level of competence not only in day to day operations but also during emergency situations. Periodic refresher courses must also be organized to maintain the level of their competence.</td><td>The company has written the operational protocols and safety procedures as a part of ISO 14001:2015, ISO 45001:2018 and ISO 9001:2015 certifications.
APSEZ has established training department to impart training to its employees.

IMO module course organized by Maritime Training Institute is conducted & 24 personnel have achieved IMO level 1 & 3 personnel have achieved IMO Level 2. Different training modules as Oil Spill, Oil Spill Equipment, Notification exercise, Incident are conducted at different frequency.</td></tr>
<tr><td>Periodic monitoring should be undertaken at the designated sites after the terminals become operational and the results of each monitoring should be carefully evaluated to identify changes if any and to take corrective measures, if warranted.</td><td>Monitoring of various environmental parameters for Ambient Air, Noise, Wastewater, ground water, marine water and sediments is being carried out by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi.
Monitoring reports for the period from Oct'22 to Mar'23 are enclosed as Annexure – 2.</td></tr>
<tr><td>Adequate vigilance is required to adherence of ships to MARPOL protocol and related regulations.</td><td>During the vessel declaration compliances with respect to Air Pollution and Oil are monitored by the Port Authority. The ships are certified with international certification bodies only after complying with the Marpol protocol.</td></tr>
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<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>Manual Listing Procedure for conducting ship movement operations in the port area must be available to the concerned staff.</td><td>Berthing Policy & Tariff Structure is made available for conducting ship movement to the concerned staff and made available on web link www.adaniports.com/pdfs/PIB_06122013.pdf
Port Information Booklet is also made available on web link www.adaniports.com/Port_Operations_Port_Tariffs.aspx</td></tr>
</table>
Few Risk Assessment Recommendations of EIA of Multipurpose Terminal carried out in 1995:
<table>
<tr><td>There should be a provision for activating a fire alarm at the fire control room from various strategic/hazard prone areas in the factory. In areas where there is high level of Noise, It may be necessary to install more than one audible alarm transmitter or flashing lights.</td><td>Provision of activating a fire alarm is available at Control Room. Employees are provided with communication system with which they can communicate about any emergency to Control Room. Emergency alarm systems are installed which is audible from any port location. Alarm testing is carried out at a frequency of once in a month.</td></tr>
<tr><td>Wind sleeves with adequate lightings around them should be provided at various places to guide personnel to escape in a direction perpendicular to the prevailing wind direction.</td><td>Wind sleeves with adequate various lighting system around them are available at various places of Port locations to guide personnel to escape in a direction perpendicular to the prevailing wind direction.</td></tr>
<tr><td>Succession or second line Coordinators should be named for assuming responsibilities in case disaster occurs in the absence of principal coordinators.</td><td>Disaster Management Plan for APSEZ is in place and that includes second line coordinators to assume responsibilities in absence of principal coordinators.</td></tr>
</table>
</td></tr>
<tr><td>xviii</td><td>A separate Environment Management Cell with suitably qualified staff to carry out various environment related functions should be set up under the charge of a Senior Executive who will report directly to the Chief Executive of the company.</td><td>Complied.

APSEZL has a well-structured Environment Management Cell, staffed with qualified manpower for implementation of the Environment Management Plan at site. Site team report to Sr. Manager (Environment) at Corporate, who heads the Environment Management Cell who directly reports to the top management. Environment Management Cell Organogram were submitted as part of compliance report submission for the duration of Apr'21 to Sep'21. And there is no further</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		change.
xix	The project affected people, if any, should be properly compensated and rehabilitated.	Not applicable. The project was conceptualized in such a way that there are no impacts on the local settlements due to the project proposal. However, the project is already implemented and is in operation phase.
xx	The funds earmarked for environment protection measures should be maintained in a separate account and there should be no diversion of these funds for any other purpose. A year wise expenditure on environmental safeguards should be reported to this Ministry.	Complied Separate budget for the Environment protection measures is earmarked every year. All environment and horticulture activities are considered at corporate level and budget allocation is done accordingly. No separate bank account is maintained for the same however, all the expenses are recorded in advanced accounting system of the organization. Budget for environmental management measures (including horticulture) for the FY 2022-23 is to the tune of INR 1448.06lakh. Out of which, Approx. INR 1366.28 lakh are spent during the year FY 2022-23. Detailed breakup of the expenditures for the past 3 years is attached as **Annexure – 7**.
xxi	Full support should be extended to the officers of this Ministry's Regional office at Bhopal and the officers of the Central and State Pollution Control Boards by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.	Complied APSEZL is always extending full support to the regulatory authorities during their visit to the project site. Last visit of Regional Office, GPCB was done on 07.03.2022 for Main port and compliance of the same has been submitted vide our letter dated 11.03.2022. Details of the same were submitted as part of compliance report submission for the duration of Oct'21 to Mar'22. Inline to the compliance certification process of Environment Clearance condition of Waterfront Development Plan, RO, MoEF&CC Bhopal had visited the site on 27th & 28th January, 2020 for compliance verification. APSEZ provided all requisite information and documents required by the Regional Officer MoEF&CC. During the said compliance verification visit

Sr. No.	Conditions	Compliance Status as on 31-03-2023
		and as per the compliance certification received, there was no non-compliance observed. Inline to the compliance certification process of Consent to Operates of existing facilities developed under Waterfront Development Plan, RO, GPCB, Gandhidham had visited the site on 17th March, 2021 for compliance verification. APSEZ provided all requisite information and documents required by the Regional Officer GPCB). During the said compliance verification visit and as per the compliance certification received, there was no non-compliance observed. Inline to the compliance of MoEF&CC Order dated 18th September, 2015, Joint Review Committee (JRC) comprising officials from various competent authorities visited the APSEZ, Mundra from 1st to 3rd September, 2021 to monitor the progress of implementation of the conditions stipulated in the order. APSEZ provided all requisite information and documents required by the JRC. As per the report received by MoEF&CC vide dated 01.12.2021, there was no non-compliance observed.
xxii	In case of deviation or alteration in the project including the implementing agency, a fresh reference should be made to this Ministry for modification in the clearance conditions or imposition of new ones for ensuring environmental protection. The project proponents should be responsible for implementing the suggested safeguard measures.	Point Noted.
xxiii	This Ministry reserves the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this	Point Noted.

Sr. No.	Conditions	Compliance Status as on 31-03-2023
	Ministry.	
xxiv	This Ministry or any other competent authority may stipulate any other additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	Point Noted.
xxv	A copy of the clearance letter will be marked to concerned Panchayat / local NGO. If any, from whom any suggestion / representation has been received while processing the proposal.	Not applicable at present
xxvi	State Pollution Control Board should display a copy of the clearance letter at the Regional Office, District Industries centre and Collector's Office/Tehsildar's Office for 30 days	Applicable for State Pollution Control Board.
xxvii	The project proponent should advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen at Website of the Ministry of Environment	Already Complied.

Sr. No.	Conditions	Compliance Status as on 31-03-2023
	and Forests at http://www.envfor.nic.in/.	
xxviii	The Project Proponents should 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.	Already Complied.
xxix	The Project Proponent should make specific arrangements for rainwater harvesting in the project design and the rainwater so harvested should be optimally utilized.	Complied Groundwater recharge cannot be done at the project site since the entire project is in the intertidal / sub tidal areas. Rainwater within project area is managed through storm water drainage. Please refer specific condition no. v for further details upon ground water recharging and rainwater harvesting is being done by Adani Foundation as a part of CSR activity.

Annexure – A

Half yearly Compliance report of CRZ recommendation for "Port expansion project including dry/break bulk cargo container terminal, railway link and related ancillary and back-up facilities at Mundra Port, Dist. Kutch in Gujarat vide DoEF, GOG letter no. ENV-1098-6477-p1 dated 28th October 1999.

Sr. No.	Conditions	Status as on 31-03-2023
A. Specific Condition		
1	The company shall submit comprehensive Environmental Impact Assessment Report and Risk Assessment Report containing worst case scenario and detailed oil spill control management plan before carrying out the construction activities and shall implement all the mitigative measures/suggestions/recommendations given in the report of NIO and Tata AIG Risk Management Services.	Already Complied. Not applicable at present Environmental Clearance was granted based on the submission of said documents. Rapid EIA was submitted on Feb 29, 2000 & Risk Assessment Report containing worst case scenario and detailed oil spill control management plan was submitted on Dec 28, 1999. For more details, please refer to general condition no xvii of the compliance of EC and CRZ clearance.
2	The company in no case tap ground water.	Complied. Please refer to Specific Condition no. ix of the compliance of EC and CRZ clearance above for details.
3	The company shall not cut mangroves for the project activities except for stray mangrove seeding required for the railway line only after detailed assessment through NIO and 25 acre of land shall be planted with mangroves in consultation with NIO.	Already Complied. Not applicable at present The company has not cut any mangroves. APSEZ has carried out 24 hectare of mangrove plantation near Navinal creek. To enhance the marine biodiversity, till date APSEZ has carried out mangrove afforestation in 3890 ha. area across the coast of Gujarat. Total expenditure for the same till date is INR 1070.8 lakh.
4	The company shall carry out the mangroves plantation programme in	Green belt was developed 72.67 ha. Total 149959 trees were planted with the density of 2060 trees per hectare within the port area. So, far APSEZ has developed 457.99 ha. area as greenbelt with plantation of more than 9.06 Lacs saplings

Sr. No.	Conditions	Status as on 31-03-2023
	addition to 25-acre mangrove plantation to be done with the help of the NIO, in consultation with the forest department.	within the APSEZ area. Details on Mangroves afforestation & Green belt development carried out by APSEZ till date is annexed as **Annexure – 3**. Other than this Adani Foundation – CSR Arm of Adani Group at Mundra-Kutch has initiated multi-species plantation of mangroves in Luni village in association with GUIDE, Gujarat. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE, Gujarat. Please refer attached **Annexure – 1** for CSR activity report carried out by Adani Foundation. EIA report was prepared by NIO in which all impacts on mangroves and coastal ecology of the region for the proposed design were studied in detail. Please refer to Specific Condition no. viii of the compliance of EC and CRZ clearance above for details. **Conservation of mangroves:** • In and around APSEZ, approx. 1800 ha. Mangrove area was identified by NIO in an EIA report prepared in the year 1998. • Out of this 1800 ha area, 1254 ha area was further demarcated as potential mangrove conservation by NIO in the year 2008 (as part of the EIA report of WFDP). • It may be noted that the entire area of 1254 ha is not covered with mangroves. • Entire area is being conserved and there is no disturbance to the mangroves in this area. Measures such as restricted entry and regular surveillance have resulted in overall growth of mangroves within this area. As per MoEF&CC directive, APSEZ entrusted NCSCM to demarcate mangroves in and around APSEZ area. As per their study, mangrove cover in and around APSEZ was over 2340

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>ha. The analysis of the comparison between 2011 and 2016-17 has shown an overall growth of 246 ha. Recently study was carried out in the year 2019 and based on that there is an increase of mangrove cover between March 2017 (Total 2340) and September 2019 with an extent of 256 Ha (Total 2596 Ha Area) which is about 10.94% rise in growth rate, also It reveals that the mangrove and the tidal system in the creeks remained undisturbed over this period. Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019.

NCSCM final report on comprehensive and integrated plan for preservation and conservation of mangroves and associated creeks in and around was submitted along with half yearly EC Compliance report for the period Apr'19 to Sep'19. The same was further submitted to GCZMA and MoEF&CC for their examination and recommendation vide (with a copy to MoEF&CC vide letter dated 04.06.2018 & reminder letter vide dated 4th Jan, 2019). Presentation on the findings of the report was made to GCZMA committee on 4th October 2019 and the recommendation for the same has been received vide email dtd 22nd Sept, 2020 with conditions. Details of the same were submitted as a part of previous half yearly EC compliance report for the period Oct'20 to Mar'21.

As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.

<table>
<tr><th>Sr. No.</th><th>Recommendations</th><th>Compliance</th></tr>
<tr><td>1.</td><td>Mangrove mapping and monitoring in and around APSEZ</td><td>• APSEZ entrusted NCSCM, Chennai to carry out Monitoring of mangrove distribution in creeks in and around APSEZ and shoreline changes in Bocha island.
• As a part of this study, overall growth of mangroves in the creeks in and around APSEZ was assessed comparing Google earth images of 2017 & 2019 and it is observed that there was increase in mangrove cover between March 2017 and September 2019 to the extent of 256 Ha, which is about 10.7%.
• This suggests that the mangroves and</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Conditions	Status as on 31-03-2023		
				the tidal system in the creeks remain undisturbed over this period. Analysis of data between categories indicated that there was an increase in dense mangroves and also conversion of scattered to sparse which also shows that the growth of mangroves in a progressive direction. • Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019. • The cost of the said study was INR 23.56 Lacs incurred by APSEZ.
		2.	Tidal observation in creeks in and around APSEZ	• APSEZ carried out the tidal observations at locations similar to 2017 in Kotdi, Baradimata, Navinal, Bocha and Khari creeks under the guidance of NCSCM. • The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves. • The cost of the said activity was INR 1.0 Lacs.
		3.	Removal of Algal and Prosopis growth from mangrove areas	• Algal and Prosopis growth monitoring was done in and around mangrove area and algal encrustation was found in some of the mangrove areas, which has been removed manually. • The cost of the said activity was INR 2.35 Lacs. The details of algal & prosopis removal is attached as **Annexure – 4.**
		4.	Awareness of mangroves importance in surrounding communities	• Adani Foundation – CSR Arm of Adani group has done awareness camps/activities created in the community regarding importance of mangroves. • Adani Foundation provides good Quality dry and green fodder to 29 Villages. Project is covering total 14116 Cattels / 3008 farmers and hence enhancing cattle productivity during FY 2022-23. • Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 200.89 Lacs during FY 2022-23, which was incurred by APSEZ. • **Individual Fodder Cultivation:** Farmers

Sr. No.	Conditions	Status as on 31-03-2023
		were Aware, Convince and trained to cultivate super Napier Grass as on farm projects to reduce their Fodder Dependency and expense. With that effort 192 farmers have Adopted and Cultivated Super NAPIER Grass in 190-acre area and produce 3800 Fodder Tons Yield annually, lead to save Approx Rs 52 Lacs of farmers. • **Grass Land development:** AF converted 205 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara and siracha village to transform into Fodder Sustain village with Community participation and responsibility for maintain and Monitoring. • Among that 18 Acre of Guchar land is fenced and sowed with Multispecies Green Fodder with Having Good nutritive value More than 2250 Cattle will sustain with Improving quality and Quantity Of Milk.. • Other than this dedicated security guard with gate system deployed by APSEZ across the coastal area and no any unauthorized persons allowed within coastal as well as mangrove areas. • APSEZ has celebrated the International Day for the Conservation of the Mangrove Ecosystem on July 26th to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The photographs of celebration were submitted in previous compliance period Apr'22 to Sep'22. • Refer CSR report attached as **Annexure – 1**. Details of activities done as a part of GCZMA recommendations and NCSCM mangrove conservation action plan were submitted as a part of previous half yearly EC compliance report for the period Oct'20 to Mar'21. To comply with the GCZMA recommendations regarding mangrove monitoring at every 2 years, APSEZ earlier awarded work order to NCSCM, Chennai vide order no. 4802018994, dated 29/07/2022 with cost 23.77 Lacs for mangrove mapping in and around APSEZ, but due to some financial disputes and no proper response from NCSCM side regarding resolution, the work order has been revoked.

Sr. No.	Conditions	Status as on 31-03-2023
		After that as suggested by Joint Review Committee in its report that mangrove related studies may be undertaken by different agencies on a rotation basis for a better review of the mangroves, APSEZ issued work order to the Gujarat Institute of Desert Ecology (GUIDE), Bhuj vide order no. 4802027981, dated 10/04/2023 for mangrove mapping in and around APSEZ, Mundra. The cost of said work is 23.60 Lacs (Including Taxes), which will be paid by APSEZ.
5	The company shall ensure that the construction labors do not cut mangroves for fuel, etc.	Already Complied. Not applicable at present Construction activity is already completed. Most of the construction labours were residing in the nearby villages where all basic facilities are easily available. However, for those residing near the construction site, infrastructure facilities such as water supply, fuel, sanitation, first aid, ambulance etc. were provided by APSEZ.
6	The company shall ensure that no creek are blocked due to the project activities,	Complied. Please refer to Specific Condition no. xi of the compliance of EC and CRZ clearance above for details.
7	The company shall ensure that there will be no disposal of sullage and sewage generated from construction camps, surface run-off from construction sites, and oil and grease spillage from construction equipment in the creeks.	Already complied. Not applicable at present. Please refer condition no. xii of EC Compliance report. Project is in operation phase. Sewage and effluent generated from port is being treated in designated ETP and treated water is used for horticulture purposes. Third party analysis of the treated water is being carried out twice in a month by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. The results of the same are attached as **Annexure – 2.**
8	The company shall stick to the time bound programme submitted to this department for the proposed activities including installation of desalination plant for meeting the entire water requirement.	Already complied. Not applicable at present. Construction work was completed on time and project is in operation phase. Desalination plant with the capacity of 47 MLD is installed to meet the water requirement for overall APSEZ, Mundra. For detail on present source of water and quantity of water consumption, Please refer to Specific Condition no. ix of the

Sr. No.	Conditions	Status as on 31-03-2023
		compliance of EC and CRZ clearance above.
9	The company shall ensure that the commercial fisheries are not hampered due to the presence of barges, vessels and other activities in the region. Necessary plan in this regards shall be prepared in consultation with the NIO.	Complied. Communication mechanisms have been developed for the smooth movement of fishing boats vis-à-vis shipping activities. Please refer to Specific Condition no. xiv of the compliance of EC and CRZ clearance above for details.
10	The company shall bear the cost of the external agency that may appointed by this department for carrying out the supervision and/or the monitoring of the construction activities.	Complied. Construction activities are completed and project is in operation phase. If at all any study is suggested by Govt. of Gujarat, we will give full co-operation. Please refer to Specific Condition no. xv of the compliance of EC and CRZ clearance above for details.
11	The company shall carry out the post project monitoring of various environmental parameters in consultation with this department and Gujarat Pollution Control Board.	Being complied. Post project monitoring of various environmental parameters is being carried out regularly. Please refer to Specific Condition no. xvi of the compliance of EC and CRZ clearance above for details.
12	The company shall prepare the detailed traffic control management plan for the port and shall participate in the VTMS to be developed for the Gulf of Kachchh.	Complied. APSEZ has participated in VTMS. Please refer to Specific Condition no. xvii of the compliance of EC and CRZ clearance above for details.
13	In order the eliminate adverse impact on the mangroves of Bocha Island and coastal ecology of the region, the company shall carry	Already complied. Not applicable at present. Construction activity is already completed. EIA report was prepared by NIO in which all impacts on mangroves and coastal ecology of the region for the

Sr. No.	Conditions	Status as on 31-03-2023
	out construction activities only after the construction design and methodology is approved by NIO.	proposed design were studied in detail.
14	Any other conditions may be stipulated by this department from time to time.	Point noted.

Annexure – 1

adani
Foundation

Annual Report 2022-23

CSR Kutch

Adani Foundation
Adani House, Port Road, Mundra – Kutch 370 421
[info@adanifoundation.com] [www.adanifoundation.com]

Our Journey by Mr. Rakshit Shah Executive Director APSEZ

The year 2022-23 has passed off with motivation through recognition by ASSOCHEM for health care awards which shows courage to work for the commitment given to the community. It is necessary that sustained growth is achieved at rural level along with the industrial development. This can be made possible by involving more and more people in the rural development programme.

Since beginning, The Adani Foundation Mundra is committed to the cause of the deprived and underprivileged. It has been working relentlessly across 6 Talukas, covering 92 villages, to uplift the lives of more than 60,000 families with a multi-faceted approach.

This year conceded with more streamline and scalable project of Education i.e. Utthan – to enhance primary education of 70 schools of Mundra including 8 High Schools, milestone achievement in Fisherman amenities project by Providing skill and livelihood to 34 fisherfolk youth, 225 Homebiogas with partnership approach with objective to reduce chemical fertilizer usage in seven villages of Mundra , considerable impact created by Mangroves Biodiversity projects and new era defined in agriculture projects i.e. Super Napier, dates offshoots and Dragon Fruit Cultivation

Gram Bharti has proved a benchmark platform for Self help groups at PAN India which is true support with promoting skill & sustainability. Massavie Tree plantation drive "Vriksh Se Vikas" initiated with aim of plantation 1 Lac Trees in Mundra Taluka in upcoming year.

Jyoti ben Tank – one of the best women farmer of Mundra awarded by "Amazing Indian Award by Vice President of India". District Animal Welfare Department recognized Adani Foundation for best contribution during Lumpy outbreak.

The people of Kutch have generously supported the activities carried out by the Adani Group or else this wouldn't have been possible. Their determination, understanding and commitment have strengthened the development even more.

Our Achievement would not be possible without the ultimate support by Mr. Gowda (COO, AF), Mr. V S Gadhvi, Executive Director – AF, Ms. Shilin R Adani (Managing Trustee**) and generous faith and passionate support by Dr. (Mrs.) Priti G Adani, Chairperson– Adani Foundation**

index

CSR

KUTCH

Demographic Details

Block	Villages	No. of HHs	Population
Mundra	61 Village and 9 Fishermen Vasahat	35192	153179
Anjar	3 Villages	4350	18500
Nakhtrana	8 Villages	4093	16373
Bite – Abdasa	12 Villages	2415	9660

1. Adani Ports and SEZ Limited
2. Adani Power Mundra Limited
3. Adani Wilmar Limited
4. Adani Wilmar – Caster Limited
5. Kutchh Copper Limited
6. Mundra Solar Panel Making Unit
7. Green to PVC Mundra Limited
8. Adani Kandla Bulk Terminal Port Pvt Limited
9. Adani Solar Limited – Bitta, Abdasa
10. Adani Green Energy Limited – Nakhatrana
11. Adani Cementation Limited – Lakhpat
12. Adani Transmission Limited – Mandvi

ENVIRONMENT SUSTAINABILITY PROJECTS

ENVIRONMENT SUSTAINABILITY

Environmental sustainability is the responsibility to conserve natural resources and protect global ecosystems to support health and wellbeing for present and future. These components are closely interrelated and mutually re-enforcing Under Corporate Environmental responsibility.

To make connections between human actions Environment & biological diversity found within a habitat and/or ecosystem, Adani Foundation executing various Project i.e. massive tree plantation drive, Mangroves, biogas provision, forest development and drip irrigation

Biodiversity conservation: to preserve biodiversity and Natural Resources.

Regenerative capacity: Protect the depletion of natural resources and keep the harvest rate of renewable resources within the capacity of regeneration.

Environment Sustainability Projects : Ensuring ecological balance, protection of flora and fauna, terrestrial and coastal spices conservation, welfare, agro forestry, conservation of natural resources and maintaining quality of soil, air and water

REDUCING CARBON FOOTPRINT

1. Miyawaki – Nana Kapaya

Miyawaki- Dense Plantation is developed n year 2021-22 at Nana Kapaya Village in 2.0 acre land. Miyawaki plot is very close to sewage water tank so watering to plantation by the same. From current year GP has taken ownership for monitoring and watering.

Plantation of 5880 saplings of different 42 spices is completed which will resulted in dense forest due to good rain this year.

2. Smritivan Memorial park– Bhuj

The memorial will occupy around 406 acres of space of the Bhujia Dungar near Bhuj, Kutch that will show people's oppressive response to a natural disaster.

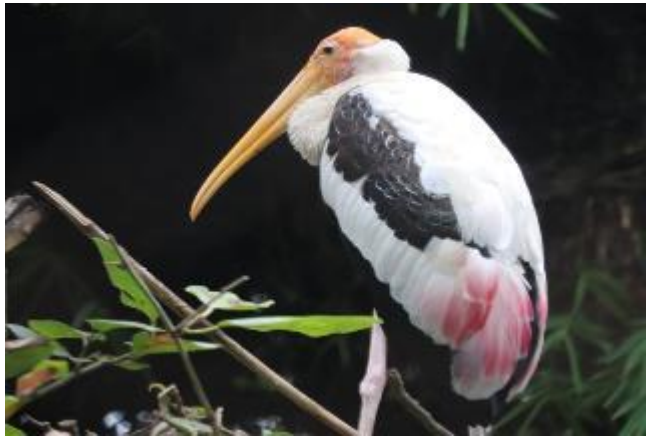
Adani Foundation has supported for 47000 saplings in Smriti van @ 100 Las INR.

REDUCING CARBON FOOTPRINT

With a vision to Enhance the diversity of mangrove and its associated species in suitable coastal region of Kachchh, which in turn would enhance the faunal diversity and fishery resources of the area by providing suitable habitats and breeding ground. The ultimate aim of the project is to improve overall coastal biodiversity of the region which in turn assist in improving the livelihood of the coastal populace

Total five mangrove species, such as Ceriops, Aegiceras and Rhizophora were selected which in turn enhanced the dependent faunal diversity of the area. Thereby, there will be an increase considerable biodiversity of the area. **The initial pilot trails were undertaken in an area of approximately 16 hector during the period between 2019 and 2023 with the active participation of local communities.** Current year 4 Hector plantation is in progress which will be resulted in 20 Hector Mangroves Biodiversity Park within one year

S. NO	Mangrove Associate	Life form
1	Suaeda Spp.	Herb
2	Porteresia coarctata	Herb
3	Opuntia elatior	Shrub
4	Sesuvium portulacastrum	Herb
5	Ipomoea biloba	Climber
6	Salvadora persica L.	Shrub
7	Urochondra setulosa	Herb



REDUCING CARBON FOOTPRINT

Home biogas is the Israel based company was founded in 2012 manufactures dynamic biogas unit not only for farm waste but for kitchen waste too. Under Gram Utthan Project, Adani Foundation is supporting home biogas to farmers periphery Villages.

Promotion of Natural Farming–Home biogas And Improving the health and living conditions for the millions of families that are still cooking on charcoal and wood. Adani Foundation is not only supporting but creating awareness to save environment and health of the community who regularly cooking on Chula. **It is proven that one hour cooking on Chula is as dangerous as smoking 40 cigrates**.

Till date 225 farmers are utilizing it with satisfaction and considerable outcome by saving Average Rs. 23,400 for gas and fertilizer as well – with Economic benefit of Rs. 52.65 Lacs.

100 Farmers are linked up with Gobardhan Yojana in which DRDA is providing Biogas with Rs. 5000 Contribution. Adani Foundation has worked as a facilitator between DRDA and Beneficiaries farmers in filling and submission of forms. Total 325 farmers are supported with Biogas as sustainable environment protection

4,176 TONS OF ANIMAL MANURE TREATED

359,687 HOURS OF CLEAN COOKING;
9.3 TONS OF BIOGAS CREATED
325 TONS OF FIREWOOD REPLACED;

47,375 HOURS SAVED ON REDUCTION OF FIREWOOD &COLLECTION
1225 TONS CO2 EMISSION REDUCTION

Reducing organic waste + Transitioning to renewable energy + Motivation for reduction in use for fertilizer

REDUCING CARBON FOOTPRINT

5. Water Conservation Project - CSR

Since 10 years considerable Water Conservation Work carried out in Mundra Taluka. Due to satisfactory rain in current year 1.11 mtr ground water table increased in coastal belt of Mundra as per Government Figures. Our water conservation work is as Below.

- Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams
- Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers
- New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village. Approx Deepening Capacity is 12000 Cum.
- Roof Top Rain Water Harvesting 145 Nos. **(40 Nos current year)** which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family.
- Recharge Bore well 208 Nos which is best ever option to direct recharge the soil
- Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date
- Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which bore well depth decreased by 50-100 Ft in Zarpara, Bhujpur and Navinal Vadi Vistar.
- **Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.**
- **Pond Pipe line work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.**

REDUCING CARBON FOOTPRINT

- **Impact**

- 218500 men, women, children, and elderly impacted by this initiative.
- Total Dissolved Solids (TDS) in the ground water down by 16.7%.
- Ground water table up by 4.2 ft. over the last 5 years.
- In four villages water levels have increased by 15-20 ft. through bore-well recharging facility
- Storage capacities of check dams and ponds increased by 106.44 MCFT. Total area benefited 2857 hectors.
- Annually 10000 Liters of water saved and up to INR 10000 saved per family.
- 80% reduction in money spent on labour.
- Up to 20% less money spent on electricity bills.
- 50% less water used as compared to conventional methods.
- Potable water available at doorstep. Earlier on an average women used to walk 1.3 kms to fetch water.
- On an average there has been up to 25% decrease in expenses on healthcare.
- Water availability has also ensured safety, security and overall well-being of women and children in the area.
- Initiatives and efforts made under water projects by Adani Foundation continues to provides sustainable solutions for community for their improved farming and ease of living.

Water conservation and Management

Process Flow for Rooftop Rain Water Harvesting System

Social Survey & TDS mapping

Community Contribution

RRWHS

Impact

- Portable water at door step
- Cost saving for portable water
- Improved water quality with
- Creates water conservation awareness in rural community
- Improves standard of living of rural community

Total RRWHS :- 145

RRWHS Constructed in 2022-23 :- 40

Population Impacted :- 500+

Savings per household :- 10000+

TDS difference between Ground water and RRWHS water

REDUCING CARBON FOOTPRINT

6. Tree Plantation

Till the date 70,540 Tree have been planted at various Public places , Schools, GP and crematorium with their responsibility to nurture and maintain regularly.

For this passionate work our team Member Mr. Karshan Gadhvi was Felicited with Van Mitra Award by Forest department and GOG.

Adani Foundation has planted 1100+ fruit bearing trees at Bhujpur and 2100+ neem, pipal and native spices at Dhrub in coordination with District Forest Department and community with partnership approach

EDUCATION

PROJECT UTTHAN

उत्थान

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

8 DECENT WORK AND ECONOMIC GROWTH

PROJECT UTTHAN

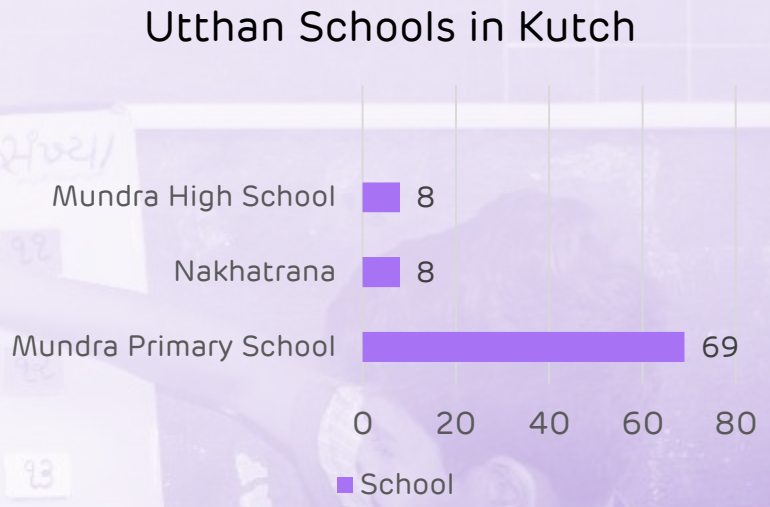
The Adani Foundation set out an innovative intervention in year 2018–19 through project Utthan to improve students' learning capabilities, provide facilities to schools to improve environment and achieve better learning outcomes at the grassroots level with the help of Utthan sahayak. This extensive intervention involves adopting government primary schools, tutoring Priya Vidyarthi's (progressive learners), introducing English as a Third Language, with various academic activities as well co-curriculum activities to end the dropout rates, and working together for staff capacity building. In order to improve children' basic literacy and numeracy skills, it has also engaged the help of educators and parents, especially mothers.

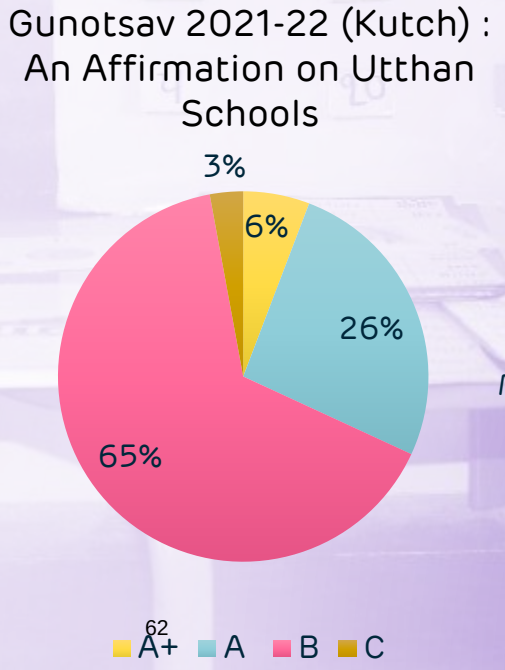
Key Aspect of Project Utthan

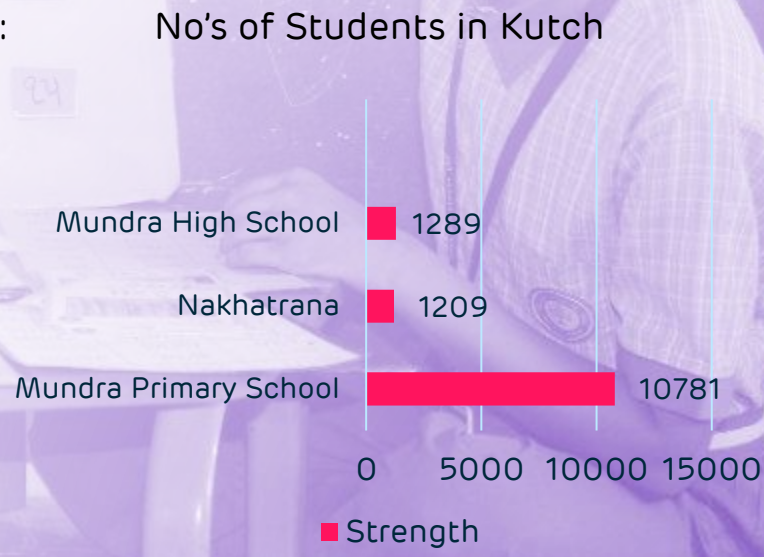
- ✓ Adopting government primary schools.
- ✓ Main streaming Progressive learners
- ✓ Enhancing Learning Outcomes
- ✓ Arresting dropout rates
- ✓ Introducing English as a Third Language
- ✓ Enabling Joyful Learning Spaces
- ✓ Collaborating for teachers' capacity building

Gunotsav is a quality enhancement initiative of the Government of Gujarat for bringing about improvement in learning levels of students at Elementary level
Assessment is based on four core areas :

- ✓ Teaching learning outcomes
- ✓ School management
- ✓ Co-Scholastic activities
- ✓ Usage of resources.







PROJECT UTTHAN

Conduct baseline assessment of 7034 Students, 3364 Students were progressive learner, 1403 Students mainstreamed.

Location	Total Strength	Baseline Assessment	Progressive learner	Mainstream Students
Mundra	**10799**	**6047**	**3029**	**1247**
Nakhatrana	**1267**	**987**	**335**	**156**

Facilitating English from Classes 1-4 : 7500 + are taking the advantage of this intervention.

Cultivating Reading Culture

Introduced DEAR (Drop Everything and Read) period on every first and third Saturdays for an hour; Library activities on every Second & fourth Saturdays.

Year 2020-21	22890 books
Year 2021-22	60780 books
Year 2022-23	110205 books

PROJECT UTTHAN

IT on Wheels : 2 Dedicative Van, 55 Laptops Empowering 2620 Students of 5-8 Std. In Gujarat

IT on wheel program is run to teach them basic emphasizes elementary school digital literacy. In early schooling is the first step to addressing access disparities in this evolving digital environment which is not feasible for rural students. Customize basic syllabus impede their development.

Day Celebration every Month : Summer Camp & Diwali Mela in Vacation

Every month Utthan sahayak celebrates day in which encourage students to participate in co-curriculum Activity which create opportunity to learn and experience new things. Also planned 15 days Summer camp & 10 days Diwali mela during vacation. 2800+ students participated with more than 4000 handmade traditional products, 3500+ footfalls during exhibition cum sale. Diwali mela attracted 7363 students. That included 12 Activities, 28529 Total Expenses &, 37529 earn students. Sarpanch, SMC members, Mothers, and Parents all take part enthusiastically.

Competitive exam Preparation

Location	JNV	NMMS	PSE
Mundra	227	324	347
Nakhatrana	23	48	48

500+ Mothers meet with 11000+ Mothers

Every month, on the Fourth Saturday, Utthan Sahayaks conduct Mothers meets. A child grows a most during the first few years of school, when both the mother and the teacher are crucial in developing their character and personality. Many of the kids are first-generation learners with uneducated parents; in these circumstances, Mother's Meet encourages mothers and teachers in working together to support the education of the child. Also, mothers get a sense of empowerment and value and regularly updates on school activities. Recreational activities during the meeting add an element of surprise and rejuvenation among the Mothers.

PROJECT UTTHAN

International School Library Month (ISLM)

ISLM (International School Library Month) was celebrated by 69 Utthan schools. And school from Russia joined with us in zoom to engage under the virtual connection around the world.
Students from Samaghogha School No.1 performed Garba, while students from Vandh school gave information about library activities. Bookmarks' & Digital bookmarks were distributed with partner schools. This is continuing, 3rd time Utthan schools participated in ISLM.

Signed MoU with 18 more Government Primary Schools at Mundra

Signed MoU with 8 Government High Schools : 8 Village 8 High Schools, 2 Adani Education Evening Center

To overcome challenges of High schools and improve the quality of education, Utthan appointed 2 Utthan sahayak at High schools. 1 for Science/Math's & 1 for English as most of the students facing problems in this subjects. Utthan organized a Parents Teachers Meeting at 8 schools in 8 villages, there were over 450 parents gathered.

After school, children get the opportunity to study at three levels at the Adani Education Evening Center. (AEEC) Remedialcoaching.

Project Title	Participation of Utthan School	Partner Schools	Partner Countries
Bookmark	51	63	08
Digital Bookmark	37	78	10
Virtual Connection Around the World	10	10	09
Total	98	151	27

PROJECT UTTHAN

Utthan's outreach strategies to Increase children's learning

- ✓ Project Utthan has been studied and selected as 'University Practice Connect' by Azim Premji University, Bengaluru.
- ✓ Project is in alignment with NIPUN Bharat (National Initiative for Proficiency in Reading with Understanding and Numeracy Bharat Program) & FLN (Foundational Literacy & Numeracy)
- ✓ Navneet e-Sense software updated in all schools.
- ✓ 100 hours capacity building programs for Utthan sahayak and school Teachers. specially focusing on Foundational Literacy and Numeracy. Utthan sahayak attend CBP (Capacity building program) once in every month.
- ✓ 100% participation in 100 days reading campaign.
- ✓ Google Map : All Utthan schools added in Google map. Utthan sahayak upload photos continuously. that's uploaded Photos got 200k+ views.
- ✓ Utthan sahayak create content for Reading, Writing & Numeracy.
- ✓ Utthan sahayak create 150 Worksheets on Yoga In the run-up to India's 75th Independence day celebrated across India's Azadi Ka Amrit Mahotsav. The tour covers 75 heritage, tourist and archaeological sites and landmark architectural sites across Gujarat.
- ✓ Utthan Sahayak, Hetalba Vaghela encouraged students from Mokha Primary School to write the story. Saptahik Phulwadi, Ahemdabad published the story written by student.
- ✓ TLM, Sports, Music & Science kit distributed to create joyful environment.
- ✓ Inter school competition organized to encourage physical activity & develop talent.
- ✓ Utthan sahayak encouraged & trained students in various competition organized by GoG.

EDUCATION PROJECT

Adani Vidya Mandir, Bhadreshwar

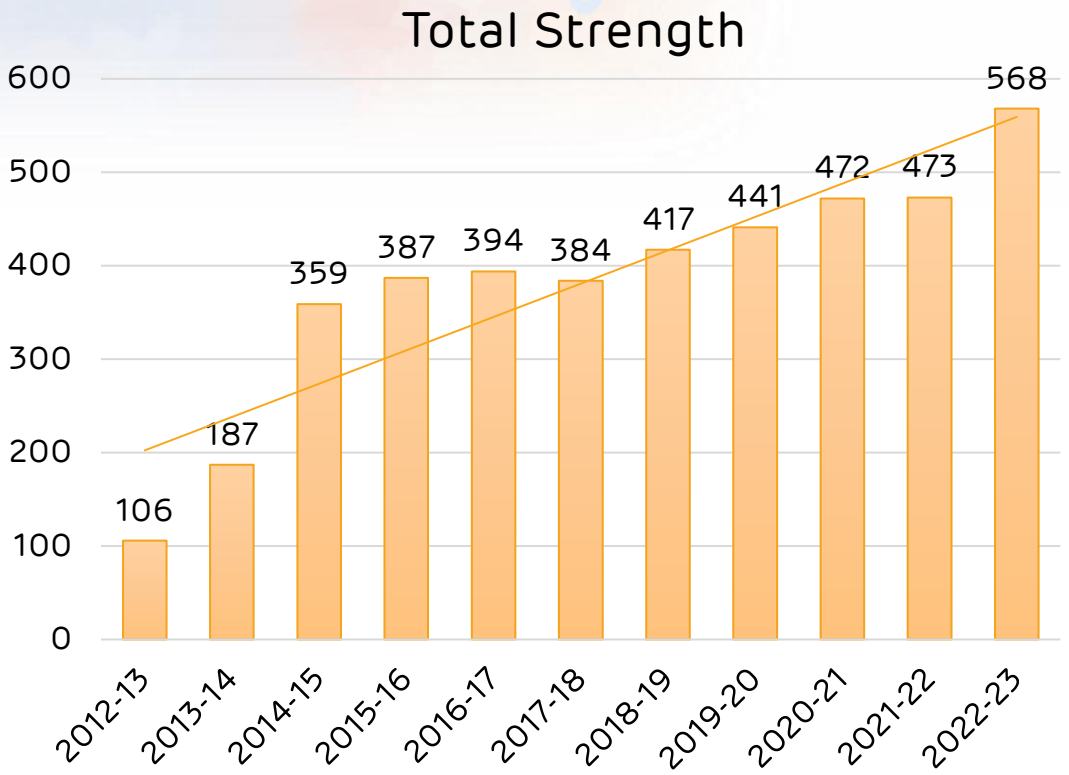
EDUCATION: FREE AND COMPULSORY - vision of Adani Foundation to provide cost-free education, food, uniform, books to the children of economically challenged families of Mundra Bock. Adani Vidya Mandir, Bhadreshwar was established in June 2012, with aim of uplifting the communities through education. The school is equipped with excellent infrastructure and resources required for all-round development of the student. The child is given admission in class 1 and is molded to be an educated and a good human being by experienced and compassionate teachers. The school follows a curriculum designed by GSEB. **507 underprivileged students of Fisherman & Maldhari communities from 8 villages benefitted costfree education at the school**

Teachers Day Celebration with facilitation of all teachers and awarded 5 best teachers in academics. District Education Officer Mr. Prajapati graced the occasion and motivated the staff.

ADANI VIDYA MANDIR, BHADRESHWAR

milestone achievement of Adani Vidya Mandir Bhadreshwar Gujrat Board Standard 10th Examination Result is 100%.

- The grand celebration of the year 2022-23 at AVMB was Shri Gautam Adani sir's Birthday.
- Promoting the harmony across all communities, Special Assemblies are conducted on a regular basis where all the Festivals irrespective of the religion & following are fondly celebrated.
- Periodical assessments and evaluations are conducted for the students and their progress are informed to the parents frequently.



Adani Vidya Mandir Bhadreshwar 2021-22 (10th Board)		
NO	GRADE	STUDENTS
1	Above 80 %	3
2	60-80%	18
3	40-60%	10
	TOTAL	31
	Result	100%

PROJECT UDAAN

Vision : To create a pool of inspired young mind

Mission : To motivate young students to dream big

6204
Total No. of Visit

400577
Total No. of participants

10,000+
Positive Feedbacks

100+
Mementos received

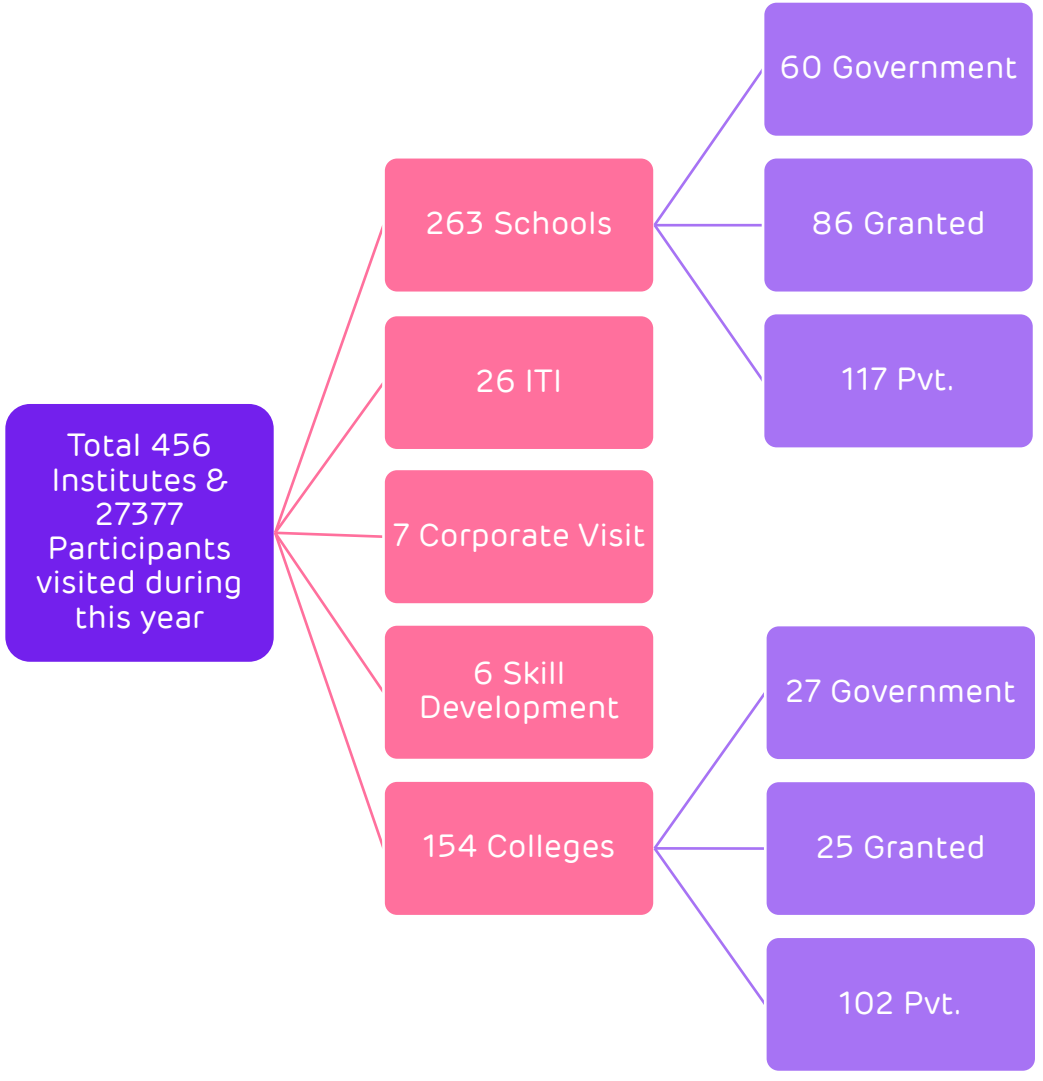
55+
Certificates received

Udaan is a special project inspired by the life changing story of Mr. Gautam Adani. As a child, he had visited the Kandla port in Gujarat, and after looking at the expanse of the port, he dreamt of having his own port one day. The rest is history. Under this project exposure tours are organized where school students are given a chance to visit the Adani Group facilities such as Adani Port, Adani Power and Adani Wilmar refinery at Mundra to get an insight into the large-scale business operations and thus get inspired to dream big in life. The exercise stimulates the young minds to dream big and help them become entrepreneurs, innovators and achievers of tomorrow, and thus play an active role in the process of nation building

Adani Foundation, Udaan Project invited the members of self-finance School Association, Gujarat for an exposure visit. 90 participants were facilitated with extraordinary experience of Port, Power, Wilmar and Solar plants visit.
Under Project Udaan total revenue generation is Rs.218.77 lacs.

PROJECT UDAAN

Dashboard Sustainable project revenue generated



Impact

INSPIRE TO ASPIRE	• Igniting thoughts for the bright future.
UNFORGETABLE EXPERIENCE	• Visitors get to observe and experience the operations on sites.
ENCOURAGE TOWARDS GOAL	• APSEZ existence proves that dreams come true if we convert them in GOALS
INDUCING KNOWLEDGE	• Widening of knowledge horizon.
THOUGHT PROVOKING	• Stimulating young minds to think out of the box.
INFUSE CREATIVITY	• Students gets exposure which enable them to provoke ideas in them during visits.

SUSTAINABLE LIVELIHOOD DEVELOPMENT

SUSTAINABLE LIVELIHOOD DEVELOPMENT

The Pashudhan & Preventive Health care management

Program is a revolutionary initiative by Adani Foundation to provide support and aid to farmers in managing their cattle's health and nutrition needs. The program aims to bring about a positive change in the lives of farmers of Mundra ,who heavily rely on their livestock for income and sustenance.

One of the key components of the Pashudhan Program is providing fodder support to farmers, especially during periods of drought or crop failure. Adani Foundation provides good Quality of dry and green fodder which covered 14116 Cattle of 24 Villages / 3008 farmers. This Program help them to feed their cattle with good quality of fodder that meets all nutritional requirements which increase the productivity of livestock and improve their overall health. In turn, this has resulted in increased income for farmers and improved food security for families.

In addition to this, we also focuses on farmers training for effective cattle health management techniques and Vaccination Drive as prevention measures.

SUSTAINABLE LIVELIHOOD DEVELOPMENT

Grass Land development

AF converted 205 acres of denuded village common pastureland (gauchar) into fertile and productive grassland in Zarpara and siracha village to transform into Fodder Sustain village with Community participation and responsibility for maintain and Monitoring.

Among that 18 Acre of Guchar land is fenced and sowed with Multispecies Green Fodder with Having Good nutritive value. More than 2250 Cattle will sustain with Improving quality and Quantity Of Milk.

Average 2450 cattle get benefitted by green fodder for 72 days –which increase 0.5 litre milk quantity of 50% cattle.

(1225 cattle x 0.5-liter milk quantity Increase x 40 INR per liter=Rs.1592000).

Apart that Open grazing Benefit save farmer cost to purchase Fodder .(2450 cattle x 7kg /Day X 72 Days = Rs. 37,04,400 (Rs. 3 per kg)

This Intervention could save Rs.52,96,400.00

It would be highlighted as best Demonstration and replicate in the other villages as sustainable fodder development project.

Individual Fodder Cultivation

Farmers were Aware ,Convince and trained to cultivate super Napier Grass- as on farm projects to reduce their Fodder Dependency and expense. its update Varity of grass and Can be harvested three time in year with Good growth and Nutritive Value. With that effort 192 farmers have Adopted and Cultivated Super NAPIER Grass in **190-acre area and produce 3800 Fodder Tonnes Yield annually, lead to save Approx. Rs.52 Lacs of farmers.**

SUSTAINABLE LIVELIHOOD DEVELOPMENT

Cattle health camp

Adani Foundation and Animal Husbandry department Veterinary Jointly organizing cattle health Awareness and vaccination programs in 24 Villages of our periphery villages. A cattle health camp typically involves a team of Government veterinary Doctor who provide check-ups and treatments for common ailments and remaining Medicines and Vaccine was provided by AF

Program is very effective to maintaining the optimal health of livestock and help to protect the cattle from deadly diseases such as Foot-and-Mouth Disease (FMD) and Clostridial infections. The vaccines used in these programs are specifically designed to provide long-lasting immunity against specific diseases, ensuring that the animals remain healthy even in harsh environmental conditions.

Total 17299 cattle of 19 Villages had benefitted With different kind of medicines and vaccines.

Apart that 973 camels kharai camels were vaccinated with fitodas and Antisaras in the Phulai-Chhari Dhandh area of Nakhtrana taluka.

Lumpy Disease Vaccination Drive.

An effective and Immediate step was taken to Mitigate lumpy Skin disease outbreak in the Kutch In co-ordination of District Animal Husbandry department through Vaccination and awareness drive at grass Root level. Total 40,000+ cattle were covered through therapeutic and ayurvedic treatment and Nutritive Cattle feed Support.

SUSTAINABLE LIVELIHOOD DEVELOPMENT

Bovine brucellosis is a chronic infectious disease of cattle that causes abortion, the birth of weak or dead calves, infertility and, as a consequence, reduced milk production. Cattle and buffaloes of all ages are susceptible, and infection can persist for many years.

This disease is also zoonotic (a disease that can be transmitted from animals to people
Hence to protect Cattles against Bovine Brucellosis AF Started Awareness and vaccination program with Kutch fodder fruit & Forest development trust (KFFT) in our 11 Villages.

Under this project following activities were carried out,

Meeting with Gram Panchayat, Farmers and Livestock Owners

Development and Distribution of the Awareness Materials among the stakeholders

Mass Level awareness by pasting the poster and meetings with Village Gram Panchayat's

Primary Survey and Sample Collections i.e. , Milk Ring Test, Blood Collection and testing

Brucella Vaccination and Ear Tagging etc. Brucellosis Control Project 2020 Cumulative Progress of various important

No	Name of Activity	2020-21	2021-22	2022-23	Total
1	Awareness Meetings	19	23	18	**60**
2	Milk Ring Test	48	11	34	**93**
3	Blood Sample Collection	29	23	18	**70**
4	Vaccination	2132	2951	2970	**8053**
5	Family Covered (Direct)	287	379	484	**1150**
6	Total Benefited (in Direct) Families	1435	1895	2420	**5750**

Promotion of Natural Farming

Natural farming is a method of agriculture that prioritizes soil health and sustainability Instead of relying on synthetic fertilizers and pesticides. one key aspect of natural farming is the use of cow-based preparation like Jivamrut , Gau Krupa Amrutam and wormy Compost Fertilizers.

Adani Foundation Promote Farmers to adopt Cow based farming with end to End Program from Awareness to Market Linkage. 1392 farmers benefitted by training from which 60% farmers chemical usage is reduced to half extent in 500 Acres approximately.

Impact

I. Production Cost- 20% Reduced
II. Chemical & pesticide exposure- 30 to 40% Reduced
III. Premium product price-5% increase
IV. Crop Yield & Taste - Better taste and quality-

SUSTAINABLE LIVELIHOOD DEVELOPMENT

Implementation Process of Projects

Awareness Session Farmers 1392

20 **Workshop & Training**

Farmers Exposures. 03

837 Linkages with Govt. Cowbased Nurturing Scheme. Rs.900/Month. **Rs.95 Lacs Gov Support**

Facilitation of Home Bio Gas- Gobardhan Yojna. Rs.42 Lacs Gov Support. 100

1500 **Barrel Support & Wormi compost Support**

Market Linkage Green carnival at Samudra Township & Shantivan colonyl 17 472 Kg Vegetable – Rs. 4.36 Lacs 19

SUSTAINABLE LIVELIHOOD DEVELOPMENT

Prakrutik Sahkari Mandli

Formation of Shree Raj Shakti Prakrutik Kheti sahkari Mandali Limited Mangara and register Under Gujarat Co-operative Society act-1961 with 60 Members which is the First Organic Company of Registered across Kutch.

AF Started an Initiatives **"Green carnival"** an initiatives to Provide Marketing Platform to farmers to sell Natural Farming Vegetable & Agri Produce at Shantivan and Samdudra town Ship ,Mundra on Weekly base.

We provides resources, and technical assistance to help farmers to market their products successfully.

Farmer's Producer Organization

Kutch Kutch Kalpaturu Producer Entity (KKPC) was established in the year 2020 to address the interests of farmers, particularly to provide an entrance for outputs and inputs. The company was founded with 237 farmers

KKPC served for Date Packaging box, Milk Supply to Colonies, NB 21 Off suits Supply, Vegetable Seed ,Mineral Mixtureand Cattle feed supply and plan to extend more service.

KKPC Current Year turnover is. Rs.28.89 lacs by started Different Kind of Initiatives

SUSTAINABLE LIVELIHOOD – FISHERFOLK COMMUNITY

Access of Pre-primary education.to 3 Vashat – 125 Students

Transportation Facilities to Govt. & AVMB School- 33 Students

Free AVMB –School Education - 147 Students

Book Support -43 High School Students

Scholarship Support -43 Students of SMJ School Luni

Coaching for 10th Exam OF 8th .9th Failed Students -28 Students

Fisherfolk education has had a significant impact on communities to shaping individuals' lives By providing Access of quality education for Pre- primary to Higher Education. More than 500+ Fisherfolk children are getting Education

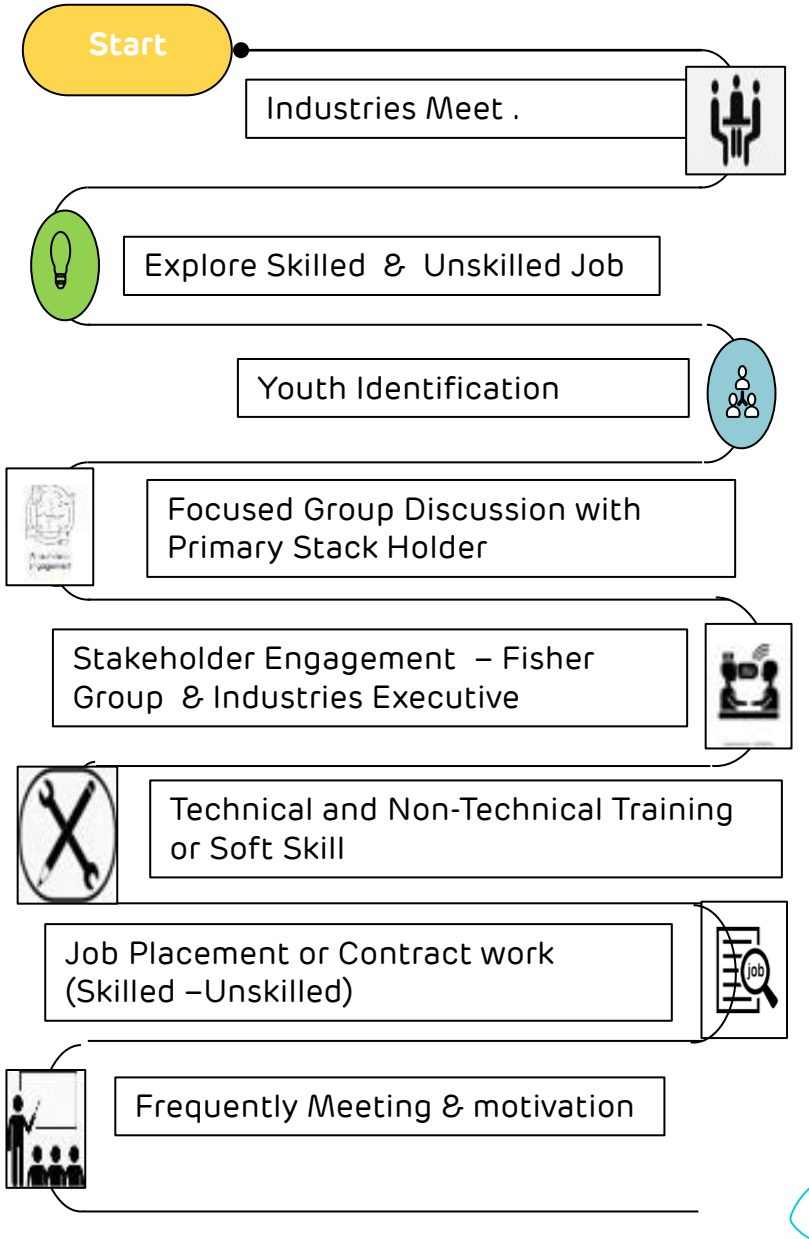
Impact

1. **Access Of Quality Education**
2. **Promoting Girl Child Education.**
3. **Increase Economic Productivity**
4. **Creating Employment Opportunity**
5. **Social Development & Networking**

SUSTAINABLE LIVELIHOOD DEVELOPMENT

- 194 fishermen and women are engaged through Contract adani Group Company on regular base.
- 23 Youth have been Placed in Different company after Completion of Technical training.

Total 217 Fisherfolk are Employed and earning on Monthly Base.
Average Monthly Income Rs.14500/ Individual



SUSTAINABLE LIVELIHOOD DEVELOPMENT

Fisherfolk Livelihood

Mangrove plantation and Nursery development work has created a two facet impact by providing Livelihood to Fisherfolk during two months Fishing during Off season and developing 162 hector dense mangrove afforestation. **5200 Men days** work provide to **285 Fisherfolk** of Luni ,Sekhdiya and Bhadreshwar Villages in coordination with Horticulture Det.

Formed **Sagar Saheli SHG of** Navinal Fisherfolk Women and Linked With DRDA after completion of Stitching Training ,received first order of Rs.80,000 to prepare Cotton Bags. Total 12 Women are engaged and planning to expand with more Women and Order.

Liaising with Fisheries department to Facilitate Fishermen welfare Scheme and Form Filling Process. Pagdiya Fisherfolk Kit, Boat Licence renewal, Boat Token Process.

WOMEN EMPOWERMENT PROJECT

Women are essential to the entire development process, whether in a single household, a village, a state, or a nation. Adani Foundation provides a platform for Community women to overcome the social barriers by becoming change - makers in their communities and societies while maintaining their traditions. Mundra has witnessed a significant shift in the development of women beneficiaries in various fields of occupation including such agriculture, self-employment, horticulture, and so on. The Adani Foundation has a strong emphasis on strengthening rural women and betterment through sustainable livelihood support, resulting to socioeconomic shits in the rural population.

WOMEN EMPOWERMENT PROJECT

- Strategy & Process of Empowering Women by SHG Group
- Identification of target Group
- Mobilization and formation
- Capacity building & Training
- Saving & Credit Activity
- Income generating Activities
- Connect with Government & other organization
- Monitoring & Evaluation

Adani Foundation has been working towards empowering women through various programs and initiatives. Here is a brief overview of our work in women empowerment :

- ✓ **Self Help Groups (SHGs) :** We have established 82 self-help groups in various rural and urban areas to provide financial and social support to women. We provided training and capacity building workshops to members of these SHGs to help them develop income-generating activities and improve their livelihoods. Through this initiative, we have empowered over 850 women to become self-reliant with Savings of Rs. 30.42 Lacs

- ✓ **Training & Skill Development :** We conducted skill development programs for women in various fields such as tailoring, handicrafts, and food processing. These training programs helped women develop their skills and start their own businesses. We have trained over 320 women in various skills, and many of them have started their own businesses.

- ✓ **Women's Health :** We organized several health camps and awareness programs for women, with a special focus on menstrual Hygine. These programs aimed to educate women about their health and empower them to make informed decisions. We provided health services to over 1150 women through these camps.

- ✓ **Assistance in Job & Government scheme :** We empower 256 women by help them to seek Job, they all earn average 9288/- Monthly. Also Gave awareness about government scheme which directly benefit to woman & helped them in the process to apply.

- ✓ **Advocacy and Awareness :** We conduct awareness campaigns and advocacy programs to promote gender equality and women's rights. We aim to challenge the social norms and cultural practices that prevent women from achieving their full potential.

WOMEN EMPOWERMENT PROJECT

1. 56+ women by Gram Bharati Platform

2. 102 + Menstrual Hygiene workshops

3. 12+ Advocacy and Domestic violence sessions

4. 82 SHG - Saving & Credit Activity

5. 220 + Job Placement

WOMEN EMPOWERMENT PROJECT

SHG Name	Our Intervention	No. of Woman	Get Order from	Order of	Total Order (lac)	Grambharati (lac)	Till today Turnover
Jyot Saheli Swa Sahay Juth	Collaboration with RSETI & trained woman by Rural Self Employment Training institute	10	Mundra Navratri Celebration	Moti work, Bead work neckless as well as Panjo	0.42	0.75	1.17
Saheli Swa Sahay Juth	Help them for tender process	10	Jilla Mahila ane Bal Adhikari Kutch,Bhuj	Sanitary Pad	1.20	0.00	2.50
Tejashvi Saheli Swa Sahay juth	Help them to increase variety in stitching related work, Wall Hangings, folder bag, Uniform	15	AVMB – Bhadreshwar	Uniform, Folder bag,Jatt bag	9.12	1.10	20.25
Food Sister Saheli group	Help them to start the Canteen at Rangoli Gate	10	APSEZ + Rangoli Driver Shed	Food	3.00	0.00	3.50
Shradhha Saheli	Tender from ATMA + Various ordered of Food + Snacks provided to various Balvadi	10	ATMA, Adani Public school & Balavadi	Lunch + snacks	8.63	0.20	15.00
Meghadhanush Saheli	organized an exhibition of Eco-friendly Ganpati	11	Utthan Project	Mud frames	1.39	0.60	12.00
Radhe Saheli Swa Sahay Juth	Exhibition cum sale & Inspire them to participate in Grambharti	16	Gram bharati order	various type of Dhadaki	0.40	0.20	2.00
Sonal Saheli Groups	Training them for Making Phynial & Washing Powder	10	Port & Wilmar	Sale washing powder	3.60	0.00	12.00
Karimbhai Mansuri	Namda Craft				1.80	0.00	9.80
Over All Corporate	Marketing & Gift packing Training	35	corporate order	Various order from all SHG	9.76		9.76
Total	-	127	-	-	39.32	2.85	87.98

WOMEN EMPOWERMENT PROJECT

Training, Awareness programs, Exhibition and Certificate courses can play a critical role in the development of women by providing them with the skills, knowledge, and resources they need to succeed in their personal and professional lives. Adani foundation is providing that opportunity to rural women by exposure. This initiative more than 500 woman trained in subject like how to run business, Personal hygiene, Woman rights, social media marketing etc.
30 Women got the Artisan card though the RSETI (Rural self Employment Training Institutes)
Adani foundation celebrated International women's by motivating 150 Woman from different 82 SHG's. Current year theme was **Digital ALL : Innovation & technology for gender equality**.

Community Health

Access to quality healthcare is a fundamental right of every individual

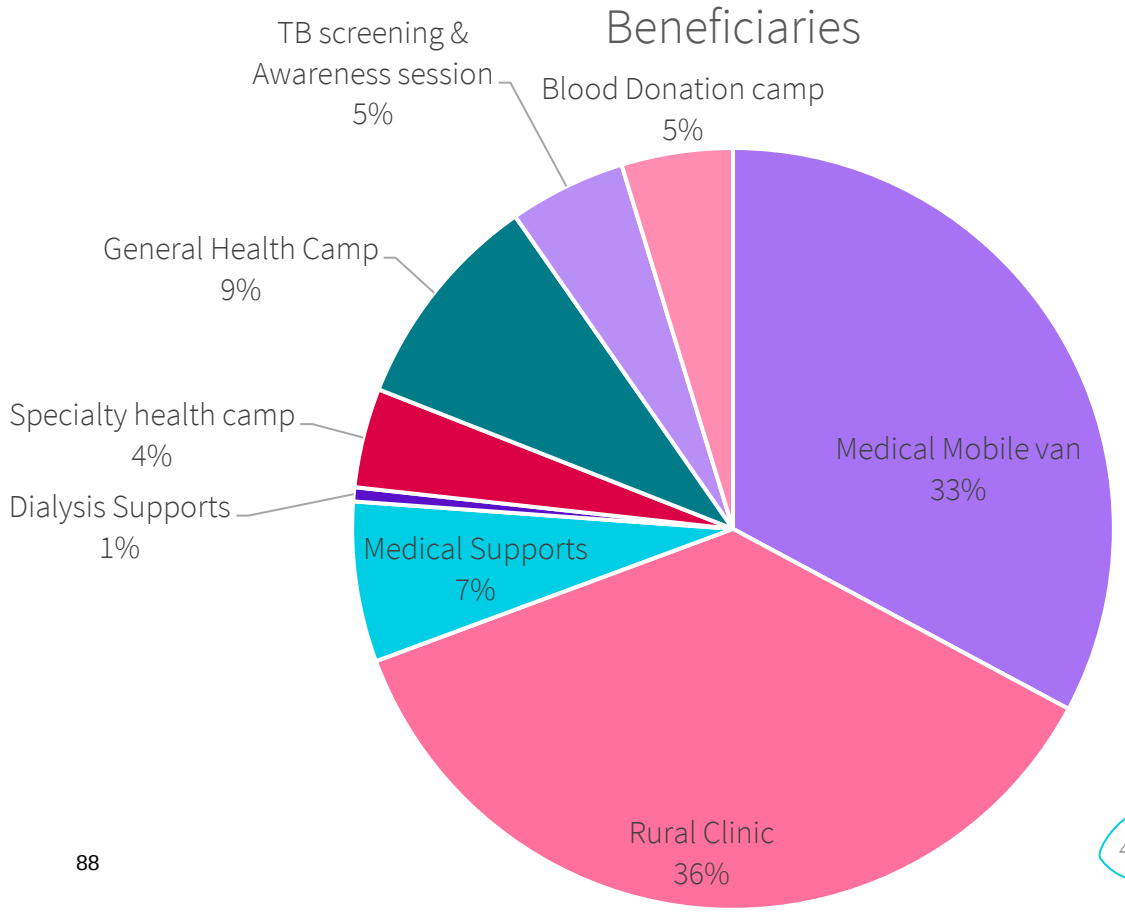
Health plays a crucial role in transforming people's lives.We all realized importance of health after facing challenging situation during Pendamic. Access to quality health care gives a fair chance to lead healthy, productive lives. Healthy people can utilize opportunities available to them.

Community Health

Sr. No.	Project	Beneficiaries	
1	Medical Mobile van	11879	32 village
2	Rural Clinic	13209	9 village
3	Medical Supports	2460	63 village
4	Dialysis Supports	216	63 village
5	Specialty health camp	1527	
6	General Health Camp	3379	
7	TB screening & Awareness session	1795	
8	Blood Donation camp	1710	
	Total	36175	

"Healthy mind remain in healthy body which create health community to make healthy Nation."

Adani Foundation is relentlessly working to Provide access of quality health facilities at Doorstep level to create health Society for healthy nation development through various kind of health Projects



Community Health

Rural Clinic & Mobile Health Care unit

Adani Foundation focuses on ensuring good health for batter contribution to growth and progress. During this panic situation health is the basic need for development of community. Their objective is to live healthier lives by promoting healthcare seeking behavior.

Mobile Health Care Units and Rural Clinic Services are deployed with the objective of providing basic healthcare facilities to remote rural areas as well as poor peoples. The service is being executed by Adani foundation is to reduce travel time, hardships and expenses.

The mobile health care unit cover 25 villages and 07 fishermen settlements. Around 90 types of general life saving medicines are available in these units. This service become boon for women, elderly and children as the service is availed at their doorstep.

Rural Dispensaries are established where there is a gap in the healthcare services. The Adani Foundation operates Rural Dispensaries in 6 villages of Mundra block, 02 villages of Anjar block and 1 clinics in Mandvi Block. Mobile dispensary and rural clinics provide health services with token charge of 20/- rupees per patient daily by a doctor and a volunteer.

During this year total 11879 beneficiaries were benefitted by Mobile van and total 13209 beneficiaries were benefitted benefits by Rural clinics where female ratio is 65%.

Community Health

Medical Support Detail

Adani Foundation provides primary health care and financial assistance to needy poor people for ailments such as kidney related problems, paralysis, cancerous and tumor surgeries, neurological and heart problems, blood pressure, diabetes etc.

Partial Medical Support had been given to 2000+ beneficiaries of Mundra, Mandvi and Anjar Block at Adani hospital, Mundra. where as in the Critical cases after stable them we refer them to GKGH, BHUJ for further treatment.

Dialysis Support

The drinking water of Mundra contains high TDS (Total Dissolved Solids). Hence, the proportion of patients with urinary stones and kidney failure is more. Patients suffering from kidney-related diseases require regular dialysis which is costly and adds to the financial burden of the family.

Hence, the Foundation has undertaken a programme to providing dialysis treatment to help the extremely needy patients to live a healthy life. During this year, 4 patients were supported for regular dialysis (twice a week) with partial support.

NCD Awareness and Prevention

MHCU and Rural Clinic Doctors are working parallelly for creating awareness and prevention measures for Non Communicable diseases, Awareness sessions scheduled in 8 High Schools and 2 community places. More than 110+ patients were supported and counselled for Hypertension and Diabetes. Due to early intervention their life span increased and quality of life became better

Machhimar Shudhh Jal Yojana

To reduce water born disease and women drudgery to get water, Potable water is provided to the fishermen communities at different vasahat through water tanker since 9 years. Coordination done with Gujrat Water Infrastructure Limited For Juna Bandar, Kutadi Bandar, Veera Bandar and Ghavar Bandar. Adani foundation is supporting to 3 fisherfolk settlements.

COMMUNITY INFRASTRUCTURE DEVELOPMENT

The Adani Foundation's Community Infrastructure Development (CID) program is the keystone initiative focus on improving infrastructure facilities of rural and urban area with proper designing and implementation to built robust infrastructure, This project impacted Thousand of life toward health care, education, agriculture, water and sanitation and other basic facilities for sustainable rural development

COMMUNITY INFRASTRUCTURE DEVELOPMENT

- 40 Construction Of RRWHS
- 19 Bore Recharge
- 2 Pond Deepening under SSJY
- Pond Beatification - Bund Strengthening at Bhujpur
- 2 Percolation Bore Recharge
- 3 Re-strengthning of Approach Road
- Cricket Ground at Hatdi
- Construction of house for needy fisherman
- 3 Construction of Water Tank at Luni Bandar
- Construction Common gathering open shed
- Renovation Approach Road
- 4 Common gathering Open Shed

Construction & Development, Repairing & Maintenance and Support Work covered during the year

Community Training center Shekadiya

Vegetable Market at Mundra

Development of Gate Valve at Checkdam

School Compound wall at Rampar

Fisherman approach Road restoration

Bund Strengt-hening at Bhujpur

2 Pond Deepening - Azadi ka Amrut Mahotsav

Renovation Training center Mundra

Renovation Blood storage Lab CHC Mundra

2 Disable Widow Toilet Block

2 CC Road of 700 mtr.

R.O. Plant Mokha 1000ltr /HR

JCB & Hitachi Support for Pre-Monsoon Activity

Check dam Re – strengthening Bharudiya

Pond Pipeline work 800 Mtr

Flood Water Control Sluice Gate at Zarpara

Construction & Development, Repairing & Maintenance and Support Work covered during the year

CRC MUNDRA

Community Resource Center

Community resource Center is the bridge between Government Schemes and real Beneficiaries. It is situated at Adani Field Office, Baroi with the motive to be **Single window point solution (Online Application & Documentation) to Facilitate Government Schemes leveraged to needy and Eligible people.**

Key Achievements of Community Resource Center

Monthly Base

Government Scheme Facilitation				
Sr. No	**Gove Scheme**	**Gov. Support Rs/Month.**	**Total Beneficieries**	**Total Amount/ year**
1	Widow Pension	1250	641	18496350
2	Bal seva Ayog	2000	49	2254000
3	Divyang pension	1000	19	323000
4	Divang Bus pass	300	439	
5	Niradhar Pension	750	126	2808750
6	Palak Mata Pita	3000	5	516000
	Total		**840**	**2,43,98,100**

CRC MUNDRA

Widow Pension Yojna

Objective of this Yojana is to provide Financial support Rs.1250/Month to widow to made Them Financial independent. Parallelly, we are conducting Motivation Session with them to raise their Value and Positivity to create healthy family Environment.
Till The date Total 641 Widow have been Linked with Government Widow pension Scheme.

Monthly Pension and other allied Scheme

Under This Program disabled Person are supported with Monthly Pension @ Rs.1000 As well allied facilities like Bus pass, Railway pass to made them Self sustain and Confident.

Till the date total 458 Divayang are linked with Different Government Scheme.

Bal Sakha Yojna

Aim Of the Yojna is to Provide Financial support Rs.2000/Month for Education Purpose to below 18 year Students who lost their Parents due to Life threatening Disease Including Covid.
Total 49 Students are getting benefit of the scheme.

Palak Mata Pita Yojna:-

Motive of this scheme is to promote parents who is taking care and Nurture the child who is Below 18 year and lost their parents.@ Rs.3000/Month.
Total 5 children are being supported under the scheme.

Niradhar Pension Scheme

Under this Scheme Financial Assistance 750/Month is provide to Senior citizen who don't have Surviving Children (Son) or Below 21 year son.
Till The date 126 senior Citizen availing schematic benefit.

CRC MUNDRA

Key Achievements of Community Resource Center

One time

Sr. No	Gove Scheme one Time	Gov. Support	Total Beneficiaries	Total Amount/Year
1	Covid Support One Time	50000	12	6,00,000
2	Vahali Dikri @ 18 Year	110000	113	1,24,30,000
3	Divayang Sadhan Sahay one time	5000	176	8,80,000
4	Manrega (NB21)	22000	32	7,04,000
5	Pagadiya Sadhan Sahay Yojana	9000	9	81,000
6	Gau Dattak Yojana	10800	857	92,55,600
7	Gobardhan Yojana	42000	100	42,00,000
8	Fishermen Shram Yogi Yojna		163	
			1487	**2,81,50,600**

Some Glimpse of Cow Nutrition Support scheme Biogas Under Gobardhan scheme

ADANI SKILL DEVELOPMENT CENTRE

Total Centre Admissions FY 22 - 23

Mundra

Courses	Female	Male	Total	Revenue Generated
Pedicurist and Manicurist	68	0	68	68000
Beauty Therapist	18	0	18	36000
Self Employed Tailor	31	0	31	38850
Assistant Electrician	0	50	50	188800
Bar Bender and Steel Fixer	0	29	29	0
Meson General	0	29	29	0
Domestic Data Entry Operator	47	11	58	239000
Junior Crane Operator	0	23	23	642000
Interview Skills	14	18	32	0
Mudwork	71	0	71	61600
Solar PV Manufacturing Technician	0	25	25	109500
Basic Functional English	562	670	1232	707300
Digital Literacy	391	461	852	454290
Total	**1202**	**1316**	**2518**	**2545340**

Bhuj

Courses	Female	Male	Total	Revenue Generated
Interview Skills	21	9	30	0
General Duty Assistant	45	8	53	3,09,734
Disaster Management	0	2	2	4000
Basic Functional English	1077	352	1429	8,57,400
Beauty Therapist	2	0	2	4000
Assistant Beauty Therapist	1	0	1	1500
Self Employed Tailor	8	0	8	8000
Digital Literacy	231	270	501	3,00,400
Domestic Data Entry Operator	0	1	1	4,720
Non Domain Employability Skills	21	11	32	0
Diet & Nutrition	02	00	02	9440
GST with Tally	16	01	17	98000
Understanding Operating System	21	7	28	0
Entrepreneurship	23	7	30	20,800
Financial Literacy	51	1	52	3600
Total	**1519**	**669**	**2188**	**16,21,594**

ADANI SKILL DEVELOPMENT CENTRE BHUJ

Soft Launching of Self-Employed Tailor – Outreach Batch at Meghpar
Soft Launched Self-Employed Tailor Batch at Meghpar (Out-reach). Total 25 candidates are enrolled.

Soft Launch of Entrepreneurship Development Program
Soft Launch of Entrepreneurship Development Program Training at Centre under CED with 30 candidates.

Soft Launch of General Duty Assistant Batch
Soft launched General Duty Assistant Batch with 30 candidates under DDU-GKY scheme as per instruction by GLPC.

Soft Launch of FL Training under Special Project
Launching Special Project Jointly with KMVS NGO for FSW (Female Sex Worker) Financial Literacy training Inaugurated on 22-07-2022
Total 46 women participant

ADANI SKILL DEVELOPMENT CENTRE MUNDRA

Mud Work Training– Outreach Batch at Samundra township
Total 45 candidates are enrolled.

Soft Launch of Data Entry Operator Batch
Soft launched Data Entry Operator Batch with 50 candidates under Thermax Foundation Tie-up

Soft Launch of Solar Panel Manufacturing Technician Training
of Solar Panel Manufacturing Technician Training at Bhuj, ITI with 25 candidates.

Soft Launch of DL Training under DEO Project
Soft Launch of DL Training at AVMB School with 61 Students

Tie Ups with (Thermax Foundation, Empazer, Navin Group and DEO Kutch @ Rs.24.25 lacs.

ADANI SKILL DEVELOPMENT CENTRE MUNDRA

DEO Project

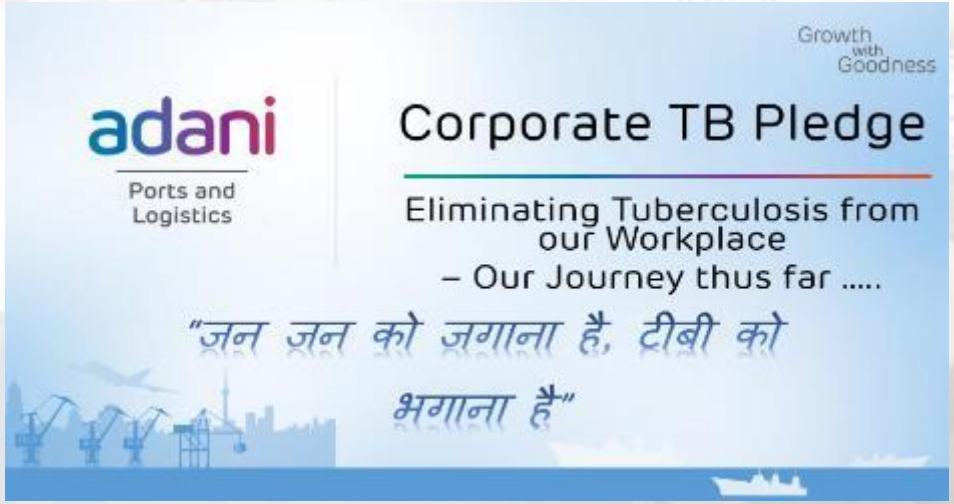
MOU with Kachchh District Education Office. In this MOU ASDC has provided training of Digital Literacy and Basic Functional English in Kachchh District Schools. As per MOU Kachchh District Education Office has provided 4000 candidates to us for training (Adani Skill Development Centre). Funding from Thermax, CFS and DEO made it possible

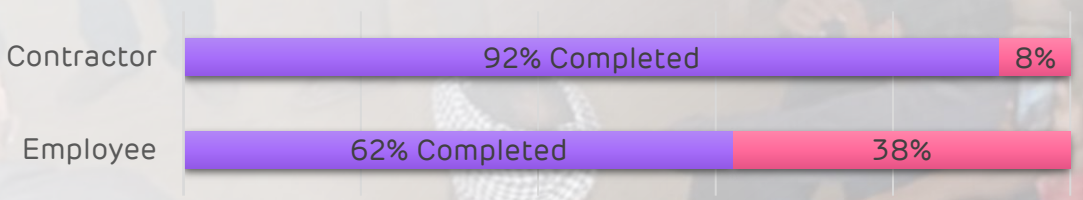
Courses	Total Students Trained
Basic Functional English	2659
Digital Literacy	1341
Total	**4000**

Dignity of Work Force Programe - EVP

India's National TB Elimination Programme (NTEP) aims to meet the ambitious goal, announced by the Honorable Prime Minister Shri. Narendra Modi, of ending the TB epidemic by 2025, five years ahead of the UN Sustainable Development Goals (SDG) of 2030. In response to this call, the Government of India and USAID jointly launched the Corporate TB pledge (CTP), in April 2019 to galvanized corporate support to end TB.

To continue the momentum and efforts, the USAID-supported iDEFEAT TB project, which is working towards institutional strengthening to accelerate actions for Tuberculosis (TB) and drug resistant TB (DR-TB) in India; was launched as USAID/India's flagship TB project. The project works in collaboration with the Central TB Division (CTD), Ministry of Health and Family Welfare (Mo HFW) of the Government of India across a network of diagnostic, treatment, and program management institutions.





No of sessions
200+

No of Trainers:
89

No of days
144

Total no covered:
8000

Dignity of Work Force Programe - EVP

The CTP secretariat, hosted at The Union under the iDEFEAT TB project, provides technical assistance to government and corporates to adapt, implement TB interventions, and guide corporate resources for TB and DR-TB care.

Early diagnostics and treatment initiation are key to saving lives and minimizing disease transmission. In 2019, India reached a milestone of 24 lakh notified cases in India, an increase of 12% compared with 2018. Even then, an estimated 5.4 lakh were 'missing' across India, a serious drawback to our TB elimination efforts as what is not measured is unlikely to be improved. Diagnostic delays are also prevalent in India, with studies indicating that these can be attributed to patients as well as health systems.

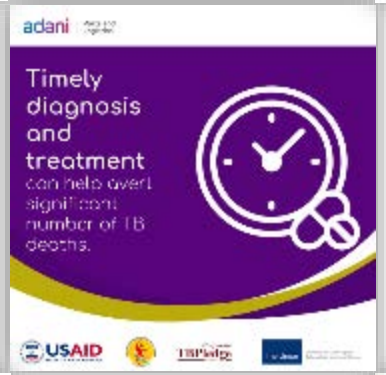
Adani foundation with APSEZ, APML, AWL and MSPVL HR department in coordination of FOKIA has launched cluster based screening program to eliminate TB in labors under Dignity of workforce program. Adani Ports and SEZ Limited has completed screening with 8000+ work force.

USAID/India team including Director – Health Office has visited Adani Foundation CSR Activities related to community health. He visited Adani Hospital, GKGH Hospital and related activities.

Dignity of Work Force Programe - EVP

Central TB Division | #TBMuk...
@TbDivision

TB-Free Workplace models were showcased in Multisectoral Corporate Engagement towards TB elimination in India conference. @Adaniports through @AdaniFoundation covered a population of over 8000 people comprising employees, family members & contractual workers at Mundra port.



Health Camp for workforce and Green Carinal Celebration

18 Green carnivals

17472 Kg Fruits and Vegetable

436000 INR

It is true that we cannot achieve our goal of development unless and until we support to bring up the lives of this community. Basic needs of this work force need to be considered. In labour Vasahats they were not getting even the facility of pure drinking water, proper living condition, sanitation which Adani Foundation has addressed one by one within last years five years span.

With the objective to build up trust and transparency in labour community, union Labours and Smooth business operations, Adani Foundation had organized 45+ labour camps for 2000+ workforce beneficiaries in coordination with Adani Wilmar Limited

Started the great initiative from world Soil Day - Biggest Employee volunteering program of Adani Ports and SEZ Limited with more than 56 employees as supporter of event organizer and 225 employees with family as a supporter of Farmers n SHGs.
Children used to enjoyed Games and Dance ! Lucky Draw surprise gift was organic ghee..
HR department, IT department and Admin department has supported a lot and will support every fortnight for this sale every sunday

ADANI KANDLA BULK TERMINAL PVT LTD - TUNA

Water at Fisherfolk settlement

Potable water (18 KL per Day) Distribution to Vira and Dhavlvaro Bandar through Water tanker Regularly which improve Hygiene and Health standard and reduce Women drudgery ,Cost and Time to get water by **Linkages through AKBTPL and GWIL daily bases.**

Fodder Support

Support of Dry & Green Fodder to Tuna and Rampar Village Gaushala Cattles during Scarcity which impacted on Cattle health and Milk Productivity ultimately Farmers Income as well. Total 643825 Kg green Fodder Supported for 900 Cattles of Tuna & Rampar.

Tree –Plantation

Total 200 Tree was planted and ensure responsibility for watering and caring. This initiative involved Community and School students and sensitized to plant more trees and nurture. After our plantation, Gram Panchayat also planted 55 Neem trees in same premises.

ADANI KANDLA BULK TERMINAL PVT LTD - TUNA

School Renovation work Rampar
More than 800 students are studying in Rampar near Tuna port. School did great coordination to approve 3 new rooms from Sarv Shiksha Abhiyan. Other part was required renovation which was taken care by Adani Foundation. Due to this Total 6 Rooms are now in full utilization.

CC Road Wandi
Wandi is 1 km away from Adani Kandla Bulk Terminal Port Limited and 100 % Population of Fisherfolk. 1 Km Drainage line is done by WASMO – CC road request received in year 2021. Adani Foundation guided for CC road work after drainage work.

Common Gathering Flooring work, Tuna
Tuna Village is 2 Kms away from AKBTPL. In Tuna Village, community gathering shed was constructed from MLA Grant. Flooring work was not included in the same, which was taken up by Adani Foundation. Shed is well utilized in SHG meetings, Farmer meetings and Gram Sabha

ADANI GREEN ENERGY LTD - ABDASA

Adani Solar Plant Bitta is under Adani Green Energy Limited. Adani Foundation is doing regular support of JCB during monsoon or any accident cases as and when required.
Apart from it Celebrated Chairperson's Birthday by distribution of school bags to the children taking admission in class 1 along with necessary books and Education Material. Which includes Bitta School, Nani Dhufi School and Moti Dhufi School.
Deputy Collector of Abdasa taluka place, called for a meeting to all major industries of taluka area. Agenda of the meeting is to develop 7no's "Amrut Sarovar" in Abdasa taluka area under government proposal at every district level.
As per the proposed identified locations by Deputy collector, one of the location he has asked to develop by Adani Power Limited. He has proposed, "Amrut Sarovar" is developed nearby our plant area with amount Rs 20 lacs as per pond size All such proposed "Amrut Sarovar" are new only, not to develop available old pond in nearby area.

Impact Story

Ratanbhai Keshavbhai Gadhavi is a farmer of Moti Khakhar. On 17th May 2022, he purchased NB Super Grass Stalk to cultivate it in 1 acre of his land. After maintaining, nurturing and hard work the grass thrived lush green with a tremendous height that's when he performed his first mowing of it.

Ratanbhai had to feed fodder to his 35 cattle regularly. While interacting, we came to know that he used to require 16kg of dry grass during summer and winter at an estimated cost of ₹1,60,000 but after planting NB Super Grass, he has saved 80-90,000rs which is approximately 50-55%. Apart from this, Ratan bhai also mentioned that during this period, he usually had a demand for 2 to 3 farm trucks of fodder which he used to order from the market but after cultivation of NB Super, not a single farm truck loaded with fodder is demanded from him.

Moreover, due to the cultivation of NB Super Grass fuel and fare expenses on farm trucks have nearly come to end. Also, Ratan bhai has already mowed the grass twice and 3rd mowing is going on having the height of grass 12-14 ft.

Lastly, Ratan bhai stated that his cattle relishes and is habituated with NB Super Grass more than any distinct fodder.

Impact Story

Amrutaben desired to ask God for one thing, a new pushcart! -

Jiluben is an elderly woman with physical limitations and a terrible economic state. She's been widowed for thirty years. Jiluben's son is 50 years old, unmarried, and almost face continuously ill. while her daughter Amrutaben is divorced (she got married 20 years ago). Jiluben, who is 70 years old only has her daughter Amrutaben is working. Amrutaben used to use her old pushcart, but it was heavy and too old for her to carry around everywhere, plus she didn't have enough money to buy a new one. Amrutaben only desired to ask God for one thing, a new pushcart! because everything else she could take care of on her own despite such bad situation.

An employee of the Adani foundation has spoken with Sarpanch Hawaben about the work being done by the Foundation on support of people with disabilities. As soon as she informed & requested that to make visit at Jiluben house. Their pushcart needs were discussed by representative from the visited, verified all the necessary paperwork, and spoke with Jiluben and her family about government programs for widows and people with disabilities. And a week later the entire process was completed, and the new pushcart was provided to them. She is now able to work promptly and help their family in overcoming this difficulty.

Impact Story

Hiruben Karsan Tharu lives with her parents in Nani Bhujpur village. She fell very ill when she was three years old. After treatment, she recovered, but her both legs were affected by the paralysis in both legs. At such a young age, she started coping up with her disability

Adani Foundation provided platform to women of Nani Bhujpur village by providing them with Sewing Machine and enrolling her in sewing machine training. Moreover, she was provided with Wheelchair and Calipers to help Hiruben move comfortably and attend class regularly.

Presently, she earns Rs. 5,000 to Rs. 6,000 a month from stitching work which is much appreciated and admired by her neighbors and relative.

Impact Story

Empowered Women, empowered nation!

India is a land of culture and traditions. These traditions are kept alive in rural locations. One such tradition is gifting daughter during her marriage for her happy married life. Sonalben too received a cow from her maternal family during her wedding. This was given with a purpose of livelihood generation at the time of crises. For sonalben, this gift was priceless, she decided to utilize income received from one cow to buy more cows. She continued to sell milk, buttermilk, Ghee, and other cow-based products and retain income to buy more cows. Gradually she increased her livestock to 66 cows which provides 165 liters of milk per month. Within 7 years of her marriage her livestock increased from 1 cow to 66 cows.

Looking at her zeal and passion towards animal husbandry, Adani Foundation provided her with Biogas kit so that she can save cooking fuel cost and fertilizer cost as waste slurry from biogas acts as a natural fertilizer.

Recently, On Kisan Divas she was felicitated by Adani Foundation for doing exceptional work in Animal Husbandry. She has now become a guide for all those women who wish to make living out of limited means.

Impact Story

"Agriculture is our wisest pursuit, because it will in the end contribute most to read wealth, good morals, and happiness." – Thomas Jefferson

It is said that one can do everything if he or she has direction and clarity towards the goal. Geetaben, a loving wife, responsible mother of 3 daughters and a son and an amazing farmer has always supported her husband in his farming occupation. Her life took a transformational turn when her husband passed away in 2018 due to severe heart attack leaving all responsibilities on her shoulder. Of course, she was working on farm keeping shoulder to shoulder with her husband before he passed away but managing farming single handedly was a tough business for her. Moreover, raising 4 daughters and a son for a widow is a somber task too. It took couple of months for her to hold herself up for the sake of her children and to make her husband's dream true. Her husband Late. Bharat Bhai Jethva hold recognition to be a first farmer in Mundra district who has initiated to cultivate Kamalam (Dragon fruit) in his farm. He had a dream to cultivate best of organic Kamalam and sell his organic fruit to a larger market. He was on cloud nine when his first harvested kamalam blossomed beautifully. But unfortunately, his heart attack pushed him to changed realm. It was her determination to continue his husband's dream and take kamalam cultivation to the next level.

As Geetaben started inclining towards chemical-free farming, she started getting higher value for her crops resulting more income. With foundation's support and guidance, she understood which crops/vegetable to sow for high returns.

Impact Story

Jethva family holds 4 acres of land and Geetaben took charge of cultivating seasonal fruits and vegetables in that farm. Being a female farmer, the use of chemical-based farming impacted her health a bit but still she used to cope up with daily chores until she had an encounter with Adani Foundation in her village Mangra. Team members Mavji Baraiya, SLD Head and Kalyan Gadhavi, Community Mobiliser from Adani Foundation organized Natural Farming training at Mangra village of Mundra district. All farmers of Mangra village participated in that training. she also attended the training in which she got insights of all techniques of natural farming and proposed support from Adani Foundation. She approached foundation team and expressed her willingness to learn more on natural farming techniques for crops, vegetables, and fruits. Before that Jethva family used to cultivate only Kamalam organically but after the intervention and continuous trainings by foundation, she decided to turn her complete farming through natural techniques by gradually taking baby steps toward this new endeavor.

Looking at her zeal and dedication for 0 chemical farming, Foundation provided her with Biogas Kit, Drip Irrigation system, Development of Vermicompost and Jivaamrut. Presently she has 6 to 7 livestock. With the installation of biogas, the slurry produced by biogas digesters makes excellent fertilizer when applied to farms. Moreover, Geetaben learnt how to make Jivaamrut from Adani Foundation's natural farming trainings, which she then applied to her farm where she noticed significant improvements, including a reduction in nutrient deficiencies, an increase in crop size without the use of chemical fertilizers and the presence of lush green, healthy crops. In addition, the Adani foundation brought knowledge of vermicompost to her farm, which she says has already made a big difference in the soil's fertility. Also, setup of drip irrigation system was done in order to save water, nutrients loss, and to provide the water direct to the soil root zone of the plant.

Prosperity knocked her door, and she provided best education to her children. Her daughters completed Engineering and Son is presently studying in Anand Agriculture University. On asking him about his future, Hariom (Son of Geetaben) shares "*My father is recognized as first farmer of Kamalam in Kutch and my mother is epitome of strength and a proud farmer. My mother has achieved lot dignity and respect in our society since she received foundation's guidance for practicing natural farming and I will follow her footsteps in same direction by establishing natural farming agriculture business to provide best quality crops to the society.*" Geetaben continues to strive excellence in learning farming training regularly and become a promoter of same to encourage other farmers to adopt Natural Farming for better cultivation and higher returns.

Impact Story

At Ratadia Ganesh wala village in Mundra taluka, Rabari Megha Vanka lives with 60 percent of his legs divyang.

Meghabhai was working in a garment shop in Mundra two years ago. Bhabhi Ben used to help in running the house by making several pedas. Meghabhai lost his job during Corona time. Then Meghabhai started selling pedas in nearby villages. With the help of Adani Foundation, he was given small help for home based industry and also helped him in the process for obtaining medical certificate and bus pass. Now, Meghabhai with the help of his wife Pabi Ben started home industry 'Pena Home Udyog' and made it as the main means of livelihood. They sell 300 kilos of pedas every month. On an average they earns 18000/- per month.

When the bus pass will come he can save more money by traveling by bus for orders from Gandhidham, Bhuj, Mandvi and nearby areas.

Impact Story

Only a teacher can turn the disability into a talent ! - Mundra

Challenges are what make life interesting. Overcoming them is what makes life meaningful". Halepotra sadiya studying in class 4 of Dhrub primary school is the SEN - special education needed .she is not able to see clearly through her eyes that is having the problem of vision by birth , she underwent 4 operations but have a great IQ level which never stopped her from learning new things. sadiya's parents never stopped her coming to school. she had a problem in basic maths ,gujarati reading and writing but within an year she worked continuously during her free time and now is able to read write and perform basic calculation. Her favourite hobby is learning new things , colouring and listening new rhymes from YouTube. she can now stand up in morning assembly and give her introduction in English . "only a teacher can turn the disability into a talent through hard work and self confidence". Her dream is to become a teacher.

Impact Story

Health care service is to save the lives !

Mohammad Sadik Turk, 16, of Dhrub arrived in critical condition because of pain in the area of his kidneys. The condition was treated as an intestinal problem by doctors. The specialists tried their best to treat him & offering variety of medications. Support him for his routine dialysis for six to eight months while paying attention to his condition. He no longer needs dialysis after complete therapy, but he still needs to regularly administer injections three times every month.

Many young children pass away each year from insufficient medical care and inability to pay for necessary treatments. As long as there is only one source of income for the family and everyone depends on him, it is hard to provide costs for those who are living below the poverty line. Although India has more than 50,000 patients who receive long term dialysis, it has only a thousand kidney specialists in the entire country. Furthermore, treatment can be expensive. In situation like this Foundation pays for the child's injections in light of his financial situation and wishes him a quick recovery and a long and healthy life. The main goal of the Adani Foundation's community health care service is to save the lives of children like Sadik.

EVENTS

World water day was celebrated on 22nd March in coordination by Adanl Foundation at Bhuj.

Program was designed on District level awareness on participatory ground water management on the theme of accelerating the change to solve the water and sanitation crises with exhibition of water saving tool, equipment and IEC material.

On this Occasion Mr Dilip Rana (collector Kutch) was the chief guest and guiding force. He emphasized on RRWHS with assurance to provide 50% Support from government to developed single village as model drinking water sustain village with having 100% RRWHS facilities.

Shri Dobariya Sir administrative officer of Atal Bhujal Yojana and Mr.Nimish Padke Director - Fokia also shared about sustainable management of fresh water sources for future generation. Mr.Mahendra Gadhvi (Pramukh, Jilla panchayat) also shared his views. More than 200 farmers + Women and Sarpanch of Mundra.

Project Pragati :- Success of completion of Project Pragati 1st batch was celebrated on 29th April at Adani House, Mundra in esteemed presence of Mr Vikram Tandon, Chief Human Resource Officer, Adani Group, Shri Vasant Gadhavi ,Executive Director, Adani Foundation and Mr Rakshit Shah, Executive Director, APSEZ. Other dignitaries who graced the occasion were Mr AnilKumar Kalaga, , Mr. Charles Douglas, CEO, Mundra and Tuna Ports, Jatin Trivedi, COO, Adani Skill Development Centre and all HR and Department heads of APSEZ, Power, Solar and Wilmar.

The event celebrated by distributing skill training certificate to 52 fisherfolk students, who were trained under Mason and Assistant Electrician job roles under Adani Saksham. All training along with their community leaders shared heartwarming testimonials and expressed emotion of gratitude towards Adani Foundation for providing them skill training opportunities.

EVENTS

Adani Foundation ,Mundra celebrated **World Earth Day on 22nd April** 2022 by distributing 'HomeBio-Gas Kits' to 100 farmers Program intense is to gather 'धरती पुत्रो' who share similar mindset and have determined to use Home Bio-Gas to witness social, economical and environmental impact.

Program was graced by Rakshit Shah, Executive Director, APSEZ along with below mentioned esteemed Guests.

1.Manojbhai Solanki, Trustee, Shree Ram krushna Trust,
KUKMA
2. Prof. Mrugesh Trivedi , Scientist, Kutch University
3. Kalpesh Maheshwari, Project Officer, Atma, Bhuj
4. Dr. U.N Tank, KVK, Mundra
5.Ms. Riddhi Patel, Officer, kutch
6. Shaileshbhai Vyas, Satvik Sanstha, Kutch
7.Shantilal Patel, Officer, Mundra

Adani Foundation Mundra has celebrated the **International Disability day on 3rd Dec** since 2011 with lots of enthusiasm and Zeal in coordination with District Social Welfare office by planning various support to divyang people.

Current year in line of the international Disable day Theme "Transformative solutions for inclusive development: the role of innovation in fueling an accessible and equitable world." Adani Foundation has organized "Divyang Job Fair" in coordination with 11 SEZ Industries at Mundra on 2nd December 2022. More than 50 Divyang had applied for interview out of them 06 were selected For Job.

Apart that Divayand Aid and equipment (Limb,Chair was Supported In the Esteem Presence of Respected Rakshit sir-EDM, APSEZ, Mundra.

EVENTS

World Environment Day was celebrated on 5th June in association with Ayi Shree Vishrimata Seva Trust and Gram Panchayat, Moti Bhujpur at Vishri mata Templae and pledged to plant 51000 for which Gram Panchayat will take responsibility to nurture trees throughout this year.

program was organized at Vishrimata mandir with tree planation activity on this occasion Shree P T Prajapati - Sub Divisional Magistrate remain present and address Public to Nurture environment for Future.

Adani foundation Mundra has celebrated **International women day** on 8tH march at different location of Mundra and Bhuj in coordination with District Animal health department and Sarhad Dairy the day was celebrated at Mundra with Appreciation of best 10 cattle owner women of Mundra who did remarkable work with Sarhad dairy. On this Occasion Dr Thakkar (DAHO) and Dr Lalani (cheif Sarhad dairy) appreciated efforts of Adani foundation in animal vaccination and Animal health care in Mundra. More than 210 cattle owner women remained present.
District Level celebration was done at Bhuj GKGH with Lunching OF Punya sloka book (Stories of 37 empowered women), A Book Written By Adani foundation employee Mrs. Purvi Goswami on The successful women of Kutch. More than 300 Women had participated.

EVENTS

National Farmer day on 22 dec with Honoring Women Farmers.

Animal Husbandry Awareness Program

International wet land ay Celebration Through Poster presentation Competition

Teacher Day & Youth Day Celebration

No Tobacco day celebrated by creating awareness to take preventive measures for workforce

International Yoga Day celebration in coordination with sub divisional Magistrate Mundra.

EVENTS

International coastal Day celebration at Mandavi with Cleanliness Drive

Adani foundation and Agri Department jointly organized district level workshop on Natural Farming Practice with Gram Seval

The International Mangrove Day for the Conservation of the Mangrove Ecosystem is celebrated

AWARDS

ASSOCHAM AWARD FOR HEALTH CARE

Adani Foundation's Community Health project received runner-up position in 'Best CSR excellence award in Healthcare' Associated Chamber of Commerce and Industry of India (ASSOCHAM) in Award ceremony organized at Delhi on 12th October 2022. Community Health project has participated in the grand event to accept the Award on behalf of Adani Foundation, Mundra site.

The award was presented by Chief Guest - Ms Roli Singh, Additional Secretary & Mission Director (NHM), Ministry of Health and Family Welfare, Govt. of India and Dr. Upasana Arora, Co-Chairperson, ASSOCHAM Healthcare Council and Chairperson, Yashoda Super Specialty Hospital.

Awards and Recognition

Adani Foundation participated in QCFI awards on 4th Feb 2023.
Presented Women Empowerment initiatives and received Diamond award for exemplary work done by Adani Foundation for empowering rural women.

our services were appreciated by representative of Ministry of Health Government India, WHO, Union and more than 52 corporate companies present in the National conference on Multisectoral corporate engagement towards TB elimination.

Awards and Recognition

નાયબ પશુપાલન નિયામકશ્રીની કચેરી,

આભાર સહ અભિનંદન પત્ર

Received appreciation letter from District Animal Welfare Departent for commendable work for Cattles affected by Lumpy Virus

Jyoti ben tank received Awaard from Vice Precident in Amazing Indians Awards who is member of Prakrutik Sahkari Mandali supported by Adani Foundation.

Support to children lost their parents in Morbi bridge collapsed incidence

Adani Foundation supported 25 Lacs each for 20 children who lost their single/both the parents. Adani foundation was honored by IAS G T Pandya Collector and District magistrate of Morbi district for helping children who lost their parents in Morbi bridge accident.

One step forward towards growth with goodness...

Children residing at Morbi, Kutch, Ahmedabad, Rajkot and Dwarka who lost their single or both parents in Morbi Julta Bridge collapse incidence received support of 25 lacs each from Adani Foundation.

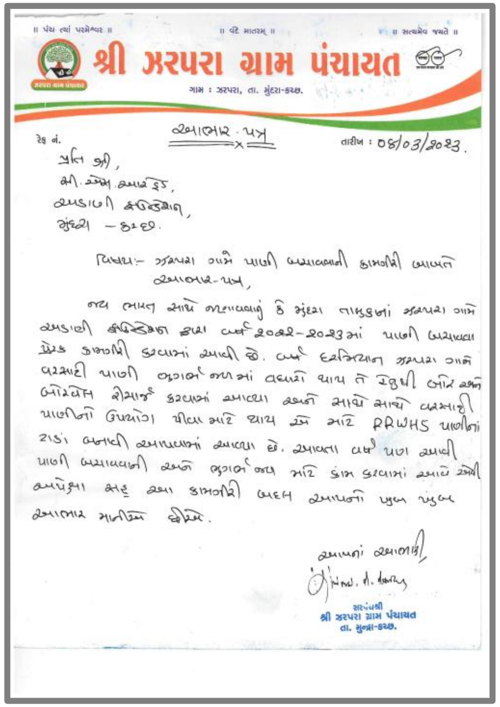
Representatives from Adani Foundation, Karsanbhai and Jagrutiben visited above districts to check on the affected children and also met with SBI bank officials, collectors regarding disbursal of amount. 10 Children received amount in their respective bank accounts. For others, work is under process.

Capacity Building Training

Adani foundation team visited Lakhond and Chandrani plant of sarhad Dairy.
These three plant out of which two plant milk processing and packing and another plant cattle feed plant were
Mr.Nilesh Jalankar, General Manager provided information about how cooperatives work in the field and about their supply chain management.

Adani Foundation team attended Capacity Building Training Program on 3rd and 4th of October on Adani Competency building and mapping.
The training session was conducted by expert trainer Mr Kamal Dabbawala.
Two days sessions were filled with theory sessions, Activity based learning and discussion-based learning.

Awards and Recognition


શ્રી ઝરપરા ગ્રામ પંચાયત

આભાર પત્ર

તારીખ : 08/03/2023

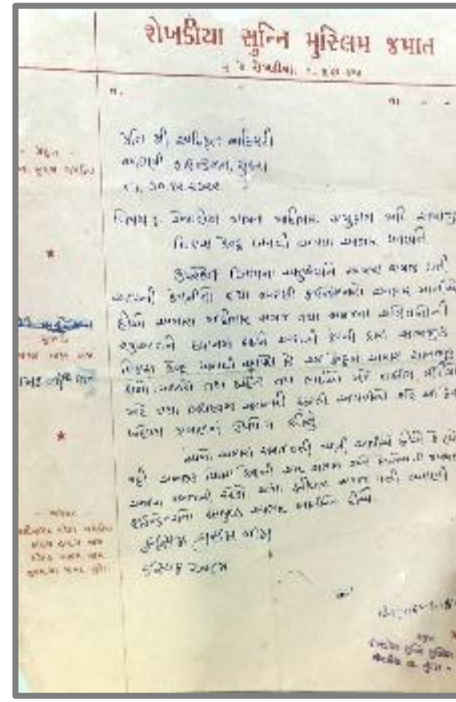

શ્રી નાના કપાયા પ્રાથમિક શાળા,નાના કપાયા,

મુન્દ્રા-કચ્છ

તા.- 26/07/2022


SHREE RAMPAR GRAM PANCHAYAT OFFICE

શ્રી રામપર ગ્રામ પંચાયત કચેરી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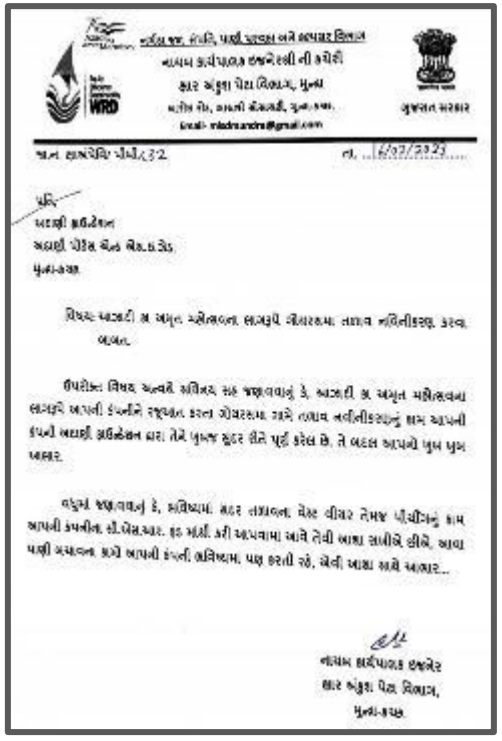
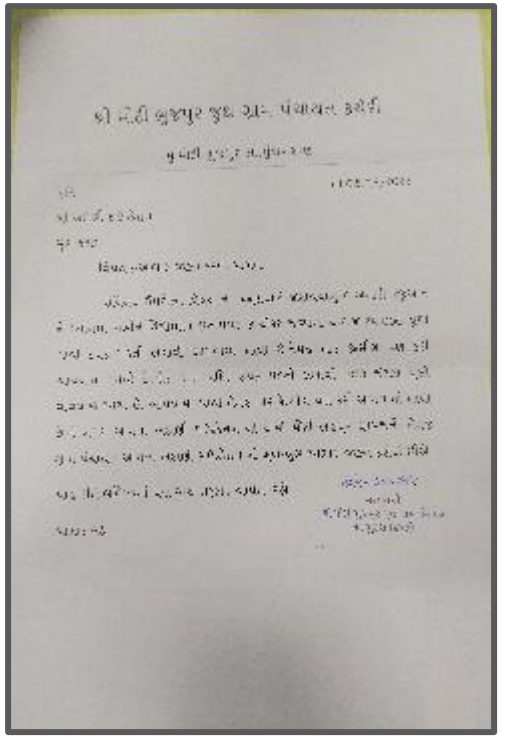



District Primary Education Office,
Bhuj-Kutch



Beneficiaries List

Sr. No	Program	Direct	Indirect	Remarks
1	Education	3505	14020	UT than Mundra
2	AVMB-Vidhya mandir	568	2840	AVMB -Students
3	Community Health-Mundra	35832	141130	Rural clinic, MHCU,Health camp, AHMUPL
5	AHMUPL	42455	127365	OPD & IPD Patients
6	SLD-Women	1359	6795	SHG Group & Individual Income Generation
7	SLD-Agri & Animal Husbandry	7718	30768	Fooder,Home biogas, Farmers training, Cow based farming -20,Cattle camp Etc.
8	SLD -Fisherfolk	5957	4476	Education, Mangrove, Potable -Water and Livelihood
9	CRC-Gov Schemes	1106	5530	Government Schemes
10	CID	11767	47054	Fishermen Amenities & Other Rural Infra Work
11	Nakhtrana	1209	4836	UT than
12	AKBTPL,Tuna	10071	16373	Rural clinic, MHCU,Health camp, Drinking Water,Fooder Support, Infra Work
13	Bite	2500		Pond deepening Dhrubhi and Bita
15	ASDC,Bhuj	2188	10940	soft skill and DL .GDA & Online Training
16	ASDC,Mundra	2518	32590	Technical & Non-Tech DL .GDA Training
17	Uddan	27377		Students
	Total	**156130**	**444417**	

Financial overview – Adani Foundation Mundrta
Executive Summary – Budget Utiliaztion FY 2022-23

Sr No	Particulars	Approved Budget F.Y. 2022-23			Utilization 2022-23	% of utilization
		CAPEX	OPEX	Total		
A	General Management and Administration	1.80	92.35	94.15	98.45	104.56%
B	Education	0.40	141.93	142.33	124.36	87.37%
C	Community Health	-	294.97	294.97	242.16	82.10%
D	Sustainable Livelihood Development	-	466.40	466.40	359.85	77.15%
E	Community Infrastructure Development	-	219.51	219.51	133.88	60.99%
F	EDM Recommended Projects	-	100.00	100.00	98.83	98.83%
	Total AF CSR Budget :	**2.20**	**1,315.16**	**1,317.36**	**1,057.53**	**80.28%**
[I]	Adani Vidya Mandir-Bhadreshwar	6.88	255.44	262.32	221.76	84.54%
[II]	Project Udaan-Mundra	-	314.74	314.74	248.20	78.86%
	TOTAL Budget with AVMB & UDAAN F.Y. 2022-23 :	**9.08**	**1,885.34**	**1,894.42**	**1,527.49**	**80.63%**

સર્વે સંતુ નિરામયા, સર્વે ભદ્રાણી પચયન્તુ

અદાણી ફાઉ. દ્વારા સ્ત્રીરોગ નિદાન કેમ્પમાં ૩૦૦ જેટલી બહેનોને નિઃશુલ્ક નિદાન અને સારવાર

મચ્છરના પોરા અને પોરા ભક્ષક માછલીનું નિદર્શન

વિશ્વ મેલેરિયા દિનની ઉજવણીએ સંપૂર્ણ સારવાર પર ભાર મૂકાયો

મુન્દ્રા સેઝમાં રોજગારીની તક આપીને દિવ્યાંગોને પગભર કરવાનો પ્રયાસ

અદાણી ફાઉન્ડેશને વિશ્વ દિવ્યાંગ દિવસની કરી અનોખી ઉજવણી

ભાસ્કર ન્યૂઝ | ભુજ

માછીમાર સમુદાયના છાત્રોને શિષ્યવૃત્તિ

(કચ્છ આવૃત્તિ) ગુજરાત સમાચાર 3

કચ્છની ગ્રામીણ મહિલાઓમાં 'પેડ વુમન' માસિક અંગે જાગૃતિ ફેલાવી રહી છે

મુન્દ્રાની પેડ વૂમન : સેનેટરી નેપકીન બનાવવાના સ્ટાર્ટ-અપ થકી આઠ મહિલાઓ પગભર બની

સરકાર દ્વારા માર્કેટિંગ માટે હસ્તકલા મેળામાં સ્થાન અપાતા વેચાણને ટેકો મળ્યો : સરકારી હોસ્ટેલો દ્વારા ખરીદી કરાતાં મહિલાઓનું મનોબળ વધ્યું

અદાણી ફાઉન્ડેશન, આત્મા અને ખેતીવાડી વિભાગ દ્વારા પ્રાકૃતિક ખેતી માટે તાલીમ

આંતરરાષ્ટ્રીય મિલેટ વર્ષ-૨૦૨૩ને સુસંગત કાર્યક્રમનું સફળ આયોજન

અદાણી કોર્પોરેટ હાઉસમાં ગામડાની કળાને ઉજાગર કરતું 'ગ્રામ ભારતી' ૨૨નું પ્રદર્શન

મહિલા શક્તિની આત્મનિર્ભરતાને સલામ! : ગ્રામીણ ભારતની કળાને ગ્લોબલ બનાવવાનો પ્રયાસ

વિશેષ પ્રતિભા પરાવતા

નખત્રાણાના ફુલાય-છારીઢંઢ વિસ્તા ૯૭૩ જેટલા ઊંટોનું રસીકરણ કર

અદાણી ફાઉન્ડેશન દ્વારા "લમ્પી સ્કીન ડીસીઝ" થી બચાવવા સારવાર ચાલુ કરાઈ

ગાય વર્ગના પશુઓમાં આવેલી મહામારી માટે ફરતું મેડિકલ વાહનથી અપાતી સારવાર

કચ્છમિત્ર ભુજ - શુક્રવાર, તા. ૦૬-

મુંદરા તાલુકા કક્ષાના વિજ્ઞાનમેળામાં ૫૧ શાળાના છાત્રે કરાવ્યાં પ્રતિભાનાં દર્શન

અદાણી ફાઉન્ડેશનના સહયોગ થકી કરાયું આયોજન : ૧૦૨ વિદ્યાર્થીએ કૃતિ રજૂ કરી

રશિયાના વિદ્યાર્થીઓ કચ્છ અને અહીંની સંસ્કૃતિથી વાકેફ થયા

ઉત્થાન, અદાણી ફાઉન્ડેશન પ્રોજેક્ટ અંતર્ગત મુંદરા-માંડવી તા.ની ૬૯ શાળાના છાત્રોનો વર્ચ્યુઅલ સંવાદ યોજાયો

મુંદરા અને માંડવી તા.ની શાળાના છાત્રોએ રશિયાના વિદ્યાર્થીઓ સાથે વર્ચ્યુઅલ સંવાદ કર્યો હતો.

અદાણી ફાઉન્ડેશન દ્વારા ઉમરપાડાના આદિવાસી ખેડૂતો માટે જાગૃતિ શિબિર

ખેડૂતોને જૈવિક ખેતી- ટપક સિંચાઈ ખેતી અંગે જાણકારી અપાઈ

अदानी फाउंडेशन ने उमरपाड़ा तालुका के चोखवाड़ा गांव में मुफ्त स्वास्थ्य शिविर का आयोजन किया

નેત્રંગના કોટવાળિયાએ બનાવેલી વાંસની બનાવટો અદાણી ગ્રુપના ગ્રામ ભારતીમાં પ્રદર્શિત થઈ

કચ્છની ૫૯ શાળાઓમાં 'ઇકો ફ્રેન્ડલી' રક્ષાબંધનની ઉજવણી

અદાણી ફાઉન્ડેશન પ્રકલ્પ ઉત્થાન પ્રોજેક્ટઅંતર્ગત વિવિધ દિવસોની કરવામાં આવતી અનોખી રીતે ઉજવણી

लोकतेज
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अदाणी फाउंडेशन दहेज द्वारा वागरा तहसील के 14 स्कूलों में परियोजना उत्थान के तहत दीपावली मेले का आयोजन

દહેજ, અદાણી ફાઉન્ડેશન દ્વારા

વાગરા તાલુકાની ૧૪ શાળામાં પ્રોજેક્ટ ઉત્થાન અંતર્ગત દિવાળી મેળો યોજાયો

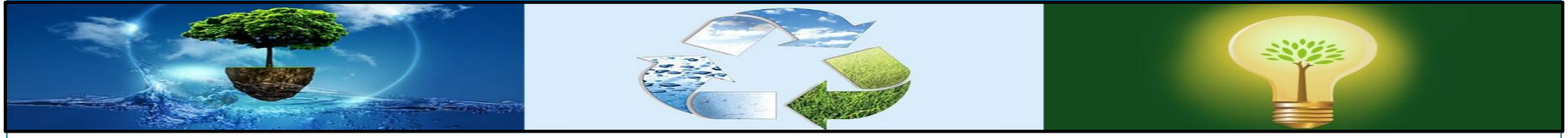
હેલ્થકેર સમિટમાં અદાણી ફાઉન્ડેશનને પ્રતિષ્ઠિત એવોર્ડ એનાયત કરવામાં આવ્યો

અદાણી ફાઉન્ડેશન પ્રદત્ત આરોગ્ય સેવાઓનું સન્માન, ASSOCHAM એવોર્ડસમાં મળ્યું મોખરાનું સ્થાન આરોગ્ય ક્ષેત્રે કરેલી ઉત્કૃષ્ટ કામગીરીને હેલ્થકેર સમિટમાં બિરદાવાઈ

મોરબી દુર્ઘટનામાં છત્રછાયા ગુમાવનારા ૨૦ બાળકને પાંચ કરોડની સહાય

THANK YOU

Annexure – 2



"Half Yearly Environmental Monitoring Reports "

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Monitoring Period: October – 2022 to March - 2023

Submitted By

UniStar
Environment and Research Labs Pvt. Ltd.

UniStar Environment & Research Labs Pvt. Ltd.

White House, Near GIDC Office, Char Rasta, Vapi, Gujarat, India – 396195

MARINE WATER MONITORING SUMMARY REPORT

RESULTS OF MARINE WATER [M1 LEFT SIDE OF BOCHA CREEK - N 22°45'183" E 069°43'241"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.12	8.02	8.14	8.06	8.17	8.02	8.14	7.98	8.16	8.02	8.28	7.94	IS 3025 (Part11)1983
2.	Temperature	°C	30.3	30.2	30	29.9	29.8	29.7	29.7	29.6	29.8	29.7	30	29.9	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	146	126	138	122	126	114	146	118	104	94	144	112	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL	2.8	BDL	2.9	BDL	2.8	BDL	2.9	BDL	3.1	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.22	6.02	6.1	5.9	6.2	6	6.2	5.99	6.09	5.88	6.13	5.83	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.36	35.88	35.32	36.12	36.02	36.44	35.86	36.12	35.46	36.11	36.12	36.84	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39) 1991, Amd. 2
8.	Nitrate as NO_3	µmol/L	2.33	2.24	2.93	2.76	3.45	3.02	2.93	2.76	2.67	2.76	3.45	2.8	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.379	0.362	0.3	0.235	0.302	0.276	0.3	0.235	0.198	0.379	0.345	0.276	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.4	3.36	2.54	2.45	3.19	2.84	2.54	2.45	2.24	2.32	3.28	3.1	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	0.47	BDL	0.65	0.47	0.78	0.6	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.109	5.962	5.77	5.445	6.942	6.136	5.77	5.445	5.108	5.459	7.075	6.176	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	35912	36114	35864	36108	36086	36474	35864	36410	35108	35686	36640	37400	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	36.07	28.06	16.62	12.47	32.13	24.1	32.16	24.12	24.19	24.12	28.2	12.08	APHA 23rd Ed.,2017, 5220-B

Continue...

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RESULTS OF MARINE WATER [M1 LEFT SIDE OF BOCHA CREEK - N 22°45'183" E 069°43'241"]

SR. NO.	TEST PARAMETERS	UNIT	Oct-22		Nov-22		Dec-22		Jan-23		Feb-23		Mar-23		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A	Phytoplankton														
1.	Chlorophyll	mg/m³	2.4	2.36	2.51	3.25	3.21	2.56	3.15	2.51	2.8	3.14	2.45	3.24	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	1.02	1.23	0.98	2.1	1.3	1.65	1.11	1.6	1.23	2.11	0.96	1.36	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10^3/L	90	78	140	87	152	120	162	118	128	129	142	142	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Odentella*	*Diploneis*	*Nitzschia*	*Navicula*	*Pinnularia*	*Grammatophora*	*Pinnularia*	*Grammatophora*	*Diploneis*	*Rhizosolenia*	*Navicula*	*Nitzschia*	APHA (23rd Ed. 2017)10200 F
			Cyclotella	*Rhizosolenia*	*Pinnularia*	*Cyclotella*	*Surirella*	*Rhizosolenia*	*Surirella*	*Rhizosolenia*	*Rhizosolenia*	*Pinnularia*	*Cyclotella*	*Pinnularia*	
			Pinnularia	*Nitzschia*	*Odontella*	*Pinnularia*	*Odentella*	*Nitzschia*	*Odentella*	*Nitzschia*	*Nitzschia*	*Thalassiothrix*	*Pinnularia*	*Odontella*	
			Biddulphia	*Thalassiothrix*	*Dinophysis*	*Skeletonema*	*Grammatophora*	*Thallassiosira*	*Grammatophora*	*Thallassiosira*	*Cyclotella*	*Grammatophora*	*Skeletonema*	*Dinophysis*	
			Thallassiosira	*Pleurosigma*	*Surirella*	*Thallassiosira*	*Melosira*	*Pleurosigma*	*Melosira*	*Pleurosigma*	*Pleurosigma*	*Ceratium*	*Thallassiosira*	*Surirella*	

B	Zooplankton								
1	Abudance(Population)	noX103/ 100 m3	52	69	87	92	69	53	APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Copepods nauplii*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Copepods nauplii*	
			Crustacean Larvae	*Copepods nauplii*	*Copepods nauplii*	*Copepods nauplii*	*Copepods nauplii*	*Crustacean Larvae*	
			Oikoplura	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Oikoplura*	
			Bivalve Larvae	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	*Bivalve Larvae*	
			Oikoplura	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Oikoplura*	
3	Total Biomass	ml/100 m³	15.36	14.35	15.74	15.74	16.32	16.33	

Continue…

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RESULTS OF MARINE WATER [M1 LEFT SIDE OF BOCHA CREEK - N 22°45'183" E 069°43'241"]

SR. NO.	TEST PARAMETERS	UNIT	Oct-22		Nov-22		Dec-22		Jan-23		Feb-23		Mar-23		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C	Microbiological														
1	Total Bacterial Count	CFU/ml	210		140		152		150		168		148		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	32		58		44		42		40		41		APHA 23rd Ed.2017,9222-B
3	Ecoli	/100ml	14		32		23		22		20		35		IS :15185:2016
4	Enterococcus	/100ml	12		20		12		14		11		20		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

Mr. Nilesh Patel
Sr. Chemist

GUJARAT VAPI.

Mr. Nitin Tandel
Technical Manager

RESULTS OF SEDIMENT ANALYSIS [M1 LEFT SIDE OF BOCHA CREEK - N 22°45'183" E 069°43'241"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.59	0.62	0.52	0.48	0.52	0.56	IS: 2720 (Part 22):1972 RA.2015, Amds.1
2.	Phosphorus as P	µg/g	534.2	542.4	590.2	520.4	562.2	548.6	IS: 10158 :1982, RA.2009 Method B
3.	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Lab SOP No. UERL/CHM/LTM/108
4.	Petroleum Hydrocarbon	µg/g	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	3.52	3.64	3.82	3.88	3.97	3.86	IS3025(Part 55)2003
5.2	Total Chromium as Cr+3	µg/g	102.4	111.2	118.4	126.7	142.2	124.2	EPA 3050B/7190 (Extraction &Analytical Method): 1986
5.3	Manganese as Mn	µg/g	592.5	582.4	610.2	580.4	590.2	602.2	EPA 3050B/7460 (Extraction &Analytical Method): 1986
5.4	Iron as Fe	%	4.21	4.26	4.31	4.21	3.88	3.94	EPA 3050B/7380 (Extraction &Analytical Method): 1986
5.5	Nickel as Ni	µg/g	54.23	55.34	49.82	44.46	52.24	52.22	EPA 3050B/7520 (Extraction &Analytical Method): 1986
5.6	Copper as Cu	µg/g	42.59	44.64	38.25	42.42	40.15	44.36	EPA 3050B /7210 (Extraction &Analytical Method):1986
5.7	Zinc as Zn	µg/g	88.54	84.26	94.21	90.2	82.9	104.2	EPA 3050B/7950 (Extraction &Analytical Method): 1986
5.8	Lead as Pb	µg/g	2.84	2.82	2.54	2.62	2.86	2.36	EPA 3050B /7420 (Extraction &Analytical Method):1986
5.9	Mercury as Hg	µg/g	BDL	BDL	BDL	BDL	BDL	BDL	EPA 7471B (Extraction &Analytical Method) :2007

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RESULTS OF SEDIMENT ANALYSIS [M1 LEFT SIDE OF BOCHA CREEK - N 22°45'183" E 069°43'241"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D	Benthic Organisms								
1	Macrobenthos	--	*Isopods*	*Isopods*	*Amphipods*	*Amphipods*	*Amphipods*	*Isopods*	APHA (23rd Ed. 2017)10500 C
			Polychates	*Polychates*	*Sipunculids*	*Sipunculids*	*Sipunculids*	*Polychates*	
			Sipunculids	*Sipunculids*	*Isopods*	*Isopods*	*Isopods*	*Sipunculids*	
			Amphipods	*Amphipods*	*Gastropods*	*Gastropods*	*Gastropods*	*Amphipods*	
2	MeioBenthos	--	*Polychates*	*Polychates*	Decapods Larvae	Decapods Larvae	*Polychates*	*Polychates*	
			Foraminiferan	*Foraminiferan*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Foraminiferan*	
3	Population	no/m²	312	300	245	242	263	236	

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RESULTS OF MARINE WATER [M2 MOUTH OF BOCHA & NAVINAL CREEK - N 22°44'239" E 069°43'757"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.18	8.11	8.16	8.04	8.21	8.09	8.18	8.11	8.22	8.14	8.06	7.72	IS 3025 (Part11)1983
2.	Temperature	°C	30.2	30	30.1	30	29.7	29.6	29.7	29.6	29.8	29.7	30	29.8	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	132	108	128	112	134	114	154	124	148	118	160	134	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	3	BDL	3.1	BDL	3	BDL	3.1	BDL	3	BDL	2.8	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.12	5.92	6	5.8	5.9	5.8	6.1	5.89	6.19	5.99	5.93	5.73	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.34	35.92	36.14	36.58	35.98	36.51	35.46	36.24	35.52	36.14	36.18	36.9	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39) 1991, Amd. 2
8.	Nitrate as NO_3	µmol/L	2.54	2.5	3.45	2.76	3.23	2.59	3.45	2.76	2.93	2.67	2.16	2.59	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.431	0.414	0.431	0.345	0.413	0.379	0.431	0.345	0.241	0.198	0.189	0.241	APHA 23rd Ed.,2017,4500NO_2 B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.53	3.4	2.84	2.49	3.66	2.93	2.84	2.49	2.41	2.24	3.84	3.36	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.6	BDL	BDL	BDL	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.501	6.314	6.721	5.595	7.303	5.899	6.721	5.595	5.581	5.108	6.189	6.191	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	35844	36452	35746	36312	35988	36370	35280	35860	35188	35722	35940	36500	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	32.06	24.05	24.94	20.78	28.11	20.08	36.18	28.14	24.19	12.1	32.22	16.11	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M2 MOUTH OF BOCHA & NAVINAL CREEK - N 22°44'239" E 069°43'757"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A	Phytoplankton														
1.	Chlorophyll	mg/m³	2.95	2.05	3.12	3.62	2.63	2.87	3.01	3.01	3.21	2.45	2.96	2.78	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	0.9	0.87	0.87	0.65	0.96	1.47	0.86	1.5	1.65	1.29	1.36	2.01	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	100	102	105	98	125	114	132	116	147	98	123	112	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Diplonei s*	*Pinnulari a*	*Odentell a*	*Surirella*	*Nitzschi a*	*Coscinod iscus*	*Nitzschi a*	*Coscinod iscus*	*Ceratiu m*	*Diplonei s*	*Surirella*	*Odentell a*	APHA (23rd Ed. 2017)10200 F
			Rhizosol enia	*Surirella*	*Rhizosol enia*	*Rhizosol enia*	*Pinnulari a*	*Diplonei s*	*Pinnulari a*	*Diplonei s*	*Coscinod iscus*	*Rhizosol enia*	*Rhizosol enia*	*Rhizosol enia*	
			Nitzschi a	*Navicula*	*Coscinod iscus*	*Nitzschi a*	*Odontell a*	*Rhizosol enia*	*Odontell a*	*Rhizosol enia*	*Odentell a*	*Nitzschi a*	*Nitzschi a*	*Coscinod iscus*	
			Cyclotell a	*Thallassi osira*	*Gramma tophora*	*Thalassi onema*	*Dinophy sis*	*Dinophy sis*	*Dinophy sis*	*Dinophy sis*	*Gramma tophora*	*Thalassi othrix*	*Thalassi onema*	*Gramma tophora*	
			Pleurosi gma	*Skeleton ema*	*Thallassi osira*	*Pleurosi gma*	*Surirella*	*Thalassi onema*	*Surirella*	*Thalassi onema*	*Melosira*	*Pleurosi gma*	*Pleurosi gma*	*Thallassi osira*	

B	Zooplankton								
1	Abudance(Population)	noX103 / 100 m3	47	58	69	72	88	90	APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Copepods*	*Decapoda*	*Decapoda*	*Decapoda*	*Decapoda*	*Copepods*	
			Oikoplura	*Copepods*	*Copepods*	*Copepods*	*Copepods*	*Oikoplura*	
			Crustacean Larvae	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	
			Crustacean	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	
			Bivalve Larvae	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Bivalve Larvae*	
3	Total Biomass	ml/100 m³	14.89	15.98	17.69	17.69	18.52	17.44	

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RESULTS OF MARINE WATER [M2 MOUTH OF BOCHA & NAVINAL CREEK - N 22°44'239" E 069°43'757"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C	Microbiological														
1	Total Bacterial Count	CFU/ml	200		200		220		218		236		230		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	44		44		68		65		37		44		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	22		22		41		42		29		31		IS :15185:2016
4	Enterococcus	/100ml	14		14		21		22		21		20		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

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RESULTS OF SEDIMENT ANALYSIS [M2 MOUTH OF BOCHA & NAVINAL CREEK - N 22°44'239" E 069°43'757"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.53	0.58	0.51	0.46	0.51	0.62	IS: 2720 (Part 22):1972 RA.2015, Amds.1
2.	Phosphorus as P	µg/g	512.5	516.8	528.9	544.1	560.4	546.5	IS: 10158 :1982, RA.2009 Method B
3.	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Lab SOP No. UERL/CHM/LTM/108
4.	Petroleum Hydrocarbon	µg/g	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	3.64	3.72	3.81	3.89	3.94	4.02	IS3025(Part 55)2003
5.2	Total Chromium as Cr+3	µg/g	102.6	111.8	124.2	134.2	138.6	144.2	EPA 3050B/7190 (Extraction &Analytical Method): 1986
5.3	Manganese as Mn	µg/g	582.4	574.6	602.1	624.5	629.3	594.4	EPA 3050B/7460 (Extraction &Analytical Method): 1986
5.4	Iron as Fe	%	3.74	3.82	3.91	3.94	3.96	4.08	EPA 3050B/7380 (Extraction &Analytical Method): 1986
5.5	Nickel as Ni	µg/g	48.9	52.2	48.62	44.52	46.44	42.35	EPA 3050B/7520 (Extraction &Analytical Method): 1986
5.6	Copper as Cu	µg/g	44.58	46.58	41.28	42.22	42.9	44.05	EPA 3050B /7210 (Extraction &Analytical Method):1986
5.7	Zinc as Zn	µg/g	84.25	84.11	90.8	88.46	86.5	88.29	EPA 3050B/7950 (Extraction &Analytical Method): 1986
5.8	Lead as Pb	µg/g	2.26	2.34	2.29	2.24	2.31	2.38	EPA 3050B /7420 (Extraction &Analytical Method):1986
5.9	Mercury as Hg	µg/g	BDL	BDL	BDL	BDL	BDL	BDL	EPA 7471B (Extraction &Analytical Method) :2007

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RESULTS OF SEDIMENT ANALYSIS [M2 MOUTH OF BOCHA & NAVINAL CREEK - N 22°44'239" E 069°43'757"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D			Benthic Organisms						
1	Macrobenthos	--	*Amphipods*	*Foraminiferan*	*Polychates*	*Polychates*	*Polychates*	*Foraminiferan*	APHA (23rd Ed. 2017)10500 C
			Decapod Larvae	Decapods Larvae	*Gastropods*	*Gastropods*	*Gastropods*	Decapods Larvae	
			Isopods	*Amphipods*	*Isopods*	*Isopods*	*Isopods*	*Amphipods*	
			Gastropods	*Polychates*	*Sipunculids*	*Sipunculids*	*Sipunculids*	*Polychates*	
2	MeioBenthos	--	*Foraminiferan*	*Turbellarians*	*Herpectacoids*	*Herpectacoids*	*Foraminiferan*	*Turbellarians*	
			Herpectacoids	*Foraminiferan*	*Polychates*	*Polychates*	*Polychates*	*Foraminiferan*	
3	Population	no/m²	290	325	312	318	300	286	

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RESULTS OF MARINE WATER [M3 EAST OF BOCHAISLANOT DETECTED - N 22°46'530" E 069°41'690"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.22	8.06	8.19	8.11	8.14	7.98	8.19	8.06	8.16	8.02	7.96	7.68	IS 3025 (Part11)1983
2.	Temperature	°C	30.2	30.1	30	29.9	29.8	29.7	29.7	29.6	29.8	29.7	30	29.9	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	94	78	86	80	98	82	118	94	104	94	128	114	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.6	BDL	2.9	BDL	2.8	BDL	2.9	BDL	2.9	BDL	2.8	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.02	5.81	6	5.9	5.9	5.7	5.99	5.79	6.09	5.88	5.83	5.63	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.39	36.05	35.4	36.14	35.64	36.22	35.72	35.98	35.46	36.11	36.23	37.02	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39) 1991, Amd. 2
8.	Nitrate as NO_3	µmol/L	2.41	2.37	2.76	2.59	2.49	2.15	2.84	2.59	2.67	2.76	2.93	2.76	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.465	0.448	0.379	0.276	0.259	0.13	0.474	0.31	0.198	0.379	0.3	0.235	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.45	3.4	2.32	1.56	2.28	1.81	2.41	1.89	2.24	2.32	3.1	2.93	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.65	0.47	BDL	BDL	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.325	6.218	5.459	4.426	5.029	4.09	5.724	4.79	5.108	5.459	6.33	5.925	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	36110	36714	35890	36670	36112	36642	35240	35940	35108	35686	35860	36480	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	28.06	20.04	24.94	16.62	32.13	24.1	32.16	24.12	24.19	24.12	28.2	16.11	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M3 EAST OF BOCHAISLANOT DETECTED - N 22°46'530" E 069°41'690"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m³	2.49	3.11	3.1	3.25	2.87	3.21	3.11	3.2	2.95	2.58	3.11	3.65	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	1.2	2.1	1.41	1.87	1.45	1.84	1.34	1.9	1.56	1.36	2.31	2.03	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	102	120	112	109	135	152	140	160	138	143	178	148	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Ceratium*	*Coscinodiscus*	*Pinnularia*	*Coscinodiscus*	*Odontella*	*Rhizosolenia*	*Odontella*	*Rhizosolenia*	*Odontella*	*Surirella*	*Coscinodiscus*	*Pinnularia*	APHA (23rd Ed. 2017)10200 F
			Diploneis	*Thalassionema*	*Biddulphia*	*Thalassionema*	*Rhizosolenia*	*Pinnularia*	*Rhizosolenia*	*Pinnularia*	*Rhizosolenia*	*Rhizosolenia*	*Thalassionema*	*Biddulphia*	
			Odontella	*Rhizosolenia*	*Navicula*	*Rhizosolenia*	*Coscinodiscus*	*Thalassiothrix*	*Coscinodiscus*	*Thalassiothrix*	*Coscinodiscus*	*Nitzschia*	*Rhizosolenia*	*Navicula*	
			Grammatophora	*Dinophysis*	*Thallassiosira*	*Dinophysis*	*Grammatophora*	*Grammatophora*	*Grammatophora*	*Grammatophora*	*Grammatophora*	*Thalassionema*	*Dinophysis*	*Thallassiosira*	
			Melosira	*Skeletonema*	*Skeletonema*	*Skeletonema*	*Thallassiosira*	*Ceratium*	*Thallassiosira*	*Ceratium*	*Thallassiosira*	*Pleurosigma*	*Skeletonema*	*Skeletonema*	

B			Zooplankton						
1	Abudance(Population)	noX103 / 100 m3	46	50	48	51	59	60	APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Egg(Fish and Shrimps)*	*Egg(Fish and Shrimps)*	*Egg(Fish and Shrimps)*	*Egg(Fish and Shrimps)*	*Egg(Fish and Shrimps)*	*Oikoplura*	
			Oikoplura	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Copepods nauplii*	
			Copepods nauplii	*Copepods nauplii*	*Copepods nauplii*	*Copepods nauplii*	*Copepods nauplii*	*Crustacean Larvae*	
			Crustacean	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	
			Bivalve Larvae	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	
3	Total Biomass	ml/100 m³	17.54	16.74	15.89	15.89	14.23	15.63	

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RESULTS OF MARINE WATER [M3 EAST OF BOCHAISLANOT DETECTED - N 22°46'530" E 069°41'690"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM			
C			Microbiological												
1	Total Bacterial Count	CFU/ml	186		186		124		126		180		186		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	50		49		36		40		60		43		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	32		30		25		30		38		26		IS :15185:2016
4	Enterococcus	/100ml	20		25		15		18		23		17		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

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RESULTS OF SEDIMENT ANALYSIS [M3 EAST OF BOCHAISLANOT DETECTED - N 22°46'530" E 069°41'690"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.64	0.62	0.54	0.58	0.52	0.58	IS: 2720 (Part 22):1972 RA.2015, Amds.1
2.	Phosphorus as P	µg/g	562.4	542.2	569.8	542.2	562.2	574.4	IS: 10158 :1982, RA.2009 Method B
3.	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Lab SOP No. UERL/CHM/LTM/108
4.	Petroleum Hydrocarbon	µg/g	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	3.72	3.78	3.82	3.91	3.97	3.78	IS3025(Part 55)2003
5.2	Total Chromium as Cr+3	µg/g	124.6	132.2	124.6	134.2	142.2	154.6	EPA 3050B/7190 (Extraction &Analytical Method): 1986
5.3	Manganese as Mn	µg/g	542.2	564.2	576.2	586.2	590.2	602.8	EPA 3050B/7460 (Extraction &Analytical Method): 1986
5.4	Iron as Fe	%	3.66	3.74	3.79	3.84	3.88	4.11	EPA 3050B/7380 (Extraction &Analytical Method): 1986
5.5	Nickel as Ni	µg/g	48.25	51.32	48.64	49.24	52.24	55.35	EPA 3050B/7520 (Extraction &Analytical Method): 1986
5.6	Copper as Cu	µg/g	38.69	40.25	38.42	39.25	40.15	38.24	EPA 3050B /7210 (Extraction &Analytical Method):1986
5.7	Zinc as Zn	µg/g	74.28	72.24	79.81	80.4	82.9	80.38	EPA 3050B/7950 (Extraction &Analytical Method): 1986
5.8	Lead as Pb	µg/g	3.12	2.98	2.84	2.81	2.86	2.75	EPA 3050B /7420 (Extraction &Analytical Method):1986
5.9	Mercury as Hg	µg/g	BDL	BDL	BDL	BDL	BDL	BDL	EPA 7471B (Extraction &Analytical Method) :2007

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RESULTS OF SEDIMENT ANALYSIS [M3 EAST OF BOCHAISLANOT DETECTED - N 22°46'530" E 069°41'690"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D	Benthic Organisms								
1	Macrobenthos	--	Decapods Larvae	*Sipunculids*	*Sipunculids*	*Sipunculids*	*Isopods*	*Amphipods*	APHA (23rd Ed. 2017)10500 C
			Isopods	*Polychates*	*Polychates*	*Polychates*	*Sipunculids*	*Decapod Larvae*	
			Amphipods	*Gastropods*	*Gastropods*	*Gastropods*	*Gastropods*	*Isopods*	
			Sipunculids	*Isopods*	*Isopods*	*Isopods*	*Isopods*	*Gastropods*	
2	MeioBenthos	--	*Foraminiferan*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Foraminiferan*	
			Herpectacoids	*Foraminiferan*	*Foraminiferan*	*Foraminiferan*	*Foraminiferan*	*Herpectacoids*	
3	Population	no/m²	326	365	326	322	268	263	

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RESULTS OF MARINE WATER [M4 JUNA BANOT DETECTEDAR N 22°47'577" E 069°43'620"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.21	8.06	8.18	8.09	8.17	8.05	8.14	8.02	8.19	8.05	8.24	8.01	IS 3025 (Part11)1983
2.	Temperature	°C	30.2	30	29.9	29.8	29.7	29.6	29.6	29.5	29.8	29.7	30	29.8	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	134	114	118	102	126	112	160	114	142	108	118	110	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.5	BDL	2.8	BDL	3.1	BDL	3.3	BDL	3.1	BDL	3.2	BDL	IS 3025(Part 4)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.32	6.22	6.1	6	6	5.8	6.3	6.2	6.3	5.88	6.13	6.03	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.48	36.11	35.94	36.28	36.11	36.37	35.74	36.12	35.81	36.17	36.24	36.68	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39) 1991, Amd.2
8.	Nitrate as NO_3	µmol/L	2.72	2.67	3.66	3.44	2.72	2.67	2.16	2.59	2.59	2.32	3.23	2.8	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.5	0.483	0.413	0.379	0.5	0.483	0.189	0.241	0.56	0.431	0.379	0.344	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.36	3.32	3.96	3.62	3.36	3.32	2.62	3.84	2.49	2.24	3.96	3.36	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	0.82	BDL	1.38	1.25	0.47	BDL	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.58	6.473	8.033	7.439	6.58	6.473	4.969	6.671	5.64	4.991	7.569	6.504	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	36118	35624	35812	36214	35864	36354	35120	35862	35244	36124	36350	37110	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	24.05	32.06	20.78	12.47	20.08	8.03	28.14	20.1	20.16	16.13	32.22	20.14	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M4 JUNA BANOT DETECTEDAR N 22°47'577" E 069°43'620"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A							Phytoplankton								
1.	Chlorophyll	mg/m³	2.69	2.78	3.65	2.78	3.2	3.11	2.98	2.87	3.01	2.96	2.58	2.48	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	1.32	0.69	1.25	0.89	0.99	1.56	0.87	1.45	1.23	1.84	1.47	1.86	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	111	110	125	128	127	149	124	152	146	169	123	176	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Pinnularia*	*Pleurosigma*	*Coscinodiscus*	*Ceratium*	*Coscinodiscus*	*Diploneis*	*Coscinodiscus*	*Diploneis*	*Coscinodiscus*	*Coscinodiscus*	*Ceratium*	*Coscinodiscus*	APHA (23rd Ed. 2017)10200 F
			Thalassionema	*Cyclotella*	*Diploneis*	*Diploneis*	*Diploneis*	*Rhizosolenia*	*Diploneis*	*Rhizosolenia*	*Diploneis*	*Thalassionema*	*Diploneis*	*Thalassionema*	
			Navicula	*Biddulphia*	*Rhizosolenia*	*Odentella*	*Rhizosolenia*	*Nitzschia*	*Rhizosolenia*	*Nitzschia*	*Rhizosolenia*	*Rhizosolenia*	*Odentella*	*Rhizosolenia*	
			Thallassiosira	*Skeletonema*	*Dinophysis*	*Grammatophora*	*Dinophysis*	*Thalassiothrix*	*Dinophysis*	*Thalassiothrix*	*Dinophysis*	*Dinophysis*	*Grammatophora*	*Dinophysis*	
			Skeletonema	*Thallassiosira*	*Thalassionema*	*Melosira*	*Thalassionema*	*Pleurosigma*	*Thalassionema*	*Pleurosigma*	*Thalassionema*	*Skeletonema*	*Melosira*	*Skeletonema*	

B			Zooplankton						
1	Abudance(Population)	noX103 / 100 m3	39	60	74	75	66	74	APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Decapoda*	
			Egg(Fish and Shrimps)	*Egg(Fish and Shrimps)*	*Egg(Fish and Shrimps)*	*Egg(Fish and Shrimps)*	*Egg(Fish and Shrimps)*	*Copepods*	
			Copepods	*Copepods*	*Copepods*	*Copepods*	*Copepods*	*Crustacean Larvae*	
			Crustacean	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	
			Bivalve Larvae	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Oikoplura*	
3	Total Biomass	ml/100 m³	15.63	15.96	15.64	15.64	16.52	15.89	

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RESULTS OF MARINE WATER [M4 JUNA BANOT DETECTEDAR N 22°47'577" E 069°43'620"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM			
C			Microbiological												
1	Total Bacterial Count	CFU/ml	194		194		222		220		250		262		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	30		30		40		38		42		52		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	22		22		31		33		22		36		IS :15185:2016
4	Enterococcus	/100ml	19		19		22		30		10		26		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

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RESULTS OF SEDIMENT ANALYSIS [M4 JUNA BANOT DETECTEDAR N 22°47'577" E 069°43'620"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.86	0.74	0.62	0.59	0.54	0.57	IS: 2720 (Part 22):1972 RA.2015, Amds.1
2.	Phosphorus as P	µg/g	580.4	538.4	546.7	534	552.4	562.4	IS: 10158 :1982, RA.2009 Method B
3.	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Lab SOP No. UERL/CHM/LTM/108
4.	Petroleum Hydrocarbon	µg/g	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	3.52	3.62	3.69	3.62	3.74	3.92	IS3025(Part 55)2003
5.2	Total Chromium as Cr+3	µg/g	110.4	114.5	118.6	104	112	124.2	EPA 3050B/7190 (Extraction &Analytical Method): 1986
5.3	Manganese as Mn	µg/g	539.4	540.9	551.2	548.5	550.4	562.8	EPA 3050B/7460 (Extraction &Analytical Method): 1986
5.4	Iron as Fe	%	4.11	4.06	4.11	4.06	4.09	3.89	EPA 3050B/7380 (Extraction &Analytical Method): 1986
5.5	Nickel as Ni	µg/g	38.64	41.11	46.21	44.02	44.52	42.15	EPA 3050B/7520 (Extraction &Analytical Method): 1986
5.6	Copper as Cu	µg/g	42.61	44.25	46.33	48.26	51.24	48.65	EPA 3050B /7210 (Extraction &Analytical Method):1986
5.7	Zinc as Zn	µg/g	84.21	81.36	89.45	88.05	82.54	80.28	EPA 3050B/7950 (Extraction &Analytical Method): 1986
5.8	Lead as Pb	µg/g	2.56	2.46	2.42	2.51	2.42	2.28	EPA 3050B /7420 (Extraction &Analytical Method):1986
5.9	Mercury as Hg	µg/g	BDL	BDL	BDL	BDL	BDL	BDL	EPA 7471B (Extraction &Analytical Method) :2007

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RESULTS OF SEDIMENT ANALYSIS [M4 JUNA BANOT DETECTEDAR N 22°47'577" E 069°43'620"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D	Benthic Organisms								
1	Macrobenthos	--	*Polychates*	*Polychates*	*Foraminiferan*	*Foraminiferan*	*Foraminiferan*	Decapods Larvae	APHA (23rd Ed. 2017)10500 C
			Gastropods	*Gastropods*	*Gastropods*	*Gastropods*	*Gastropods*	*Isopods*	
			Isopods	*Isopods*	*Isopods*	*Isopods*	*Isopods*	*Amphipods*	
			Sipunculids	*Sipunculids*	*Sipunculids*	*Sipunculids*	*Sipunculids*	*Sipunculids*	
2	MeioBenthos	--	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	Decapods Larvae	*Foraminiferan*	
			Polychates	*Polychates*	*Polychates*	*Polychates*	*Polychates*	*Herpectacoids*	
3	Population	no/m²	300	328	286	301	295	325	

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RESULTS OF MARINE WATER [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.19	8.09	8.21	8.11	8.19	8.1	8.15	8.02	8.21	7.98	8.24	7.88	IS 3025 (Part11)1983
2.	Temperature	°C	30.3	30.2	30	29.9	29.8	29.7	29.7	29.6	29.8	29.7	30	29.8	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	144	126	134	122	128	112	146	116	132	118	102	92	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.8	BDL	2.7	BDL	2.9	BDL	3.4	BDL	2.8	BDL	2.6	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.32	6.12	6.2	6.1	6.1	6	6.3	6.1	6.3	6.19	6.13	5.93	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.49	35.98	35.64	36.24	35.82	36.34	35.44	35.89	35.64	36.08	36.11	36.72	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39)1991, Amd.2
8.	Nitrate as NO_3	µmol/L	2.8	2.67	2.93	2.37	2.8	2.59	2.59	3.66	2.76	2.59	2.84	2.76	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.414	0.379	0.241	0.198	0.362	0.345	0.259	0.328	0.379	0.276	0.474	0.431	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.28	3.23	3.32	3.1	2.8	2.5	3.84	3.79	2.32	1.56	2.93	2.76	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.6	BDL	0.78	0.69	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.494	6.279	6.491	5.668	5.962	5.435	6.689	7.778	5.459	4.426	6.244	5.951	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	35980	36588	35868	36452	36002	36444	35266	36020	35348	36244	35800	36520	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	20.04	8.02	20.78	8.31	16.06	12.05	24.12	12.06	20.16	16.13	24.17	20.14	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m³	3.14	2.87	2.69	2.87	3.11	2.87	2.87	2.65	2.58	3.23	3.11	2.68	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	0.85	0.85	1.11	0.36	2.22	1.33	1.89	1.32	1.59	2.56	1.36	2.56	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	101	96	130	86	175	123	167	119	143	178	132	146	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Pinnularia*	*Grammatophora*	*Pinnularia*	*Ceratium*	*Navicula*	*Nitzschia*	*Navicula*	*Nitzschia*	*Ceratium*	*Nitzschia*	*Ceratium*	*Pleurosigma*	APHA (23rd Ed. 2017)10200 F
			Biddulphia	*Rhizosolenia*	*Biddulphia*	*Pinnularia*	*Fragillaria*	*Grammatophora*	*Fragillaria*	*Grammatophora*	*Diploneis*	*Grammatophora*	*Diploneis*	*Cyclotella*	
			Navicula	*Nitzschia*	*Navicula*	*Odontella*	*Thalassiothrix*	*Diploneis*	*Thalassiothrix*	*Diploneis*	*Odentella*	*Diploneis*	*Odentella*	*Biddulphia*	
			Thallassiosira	*Thallassiosira*	*Thallassiosira*	*Thalassiothrix*	*Grammatophora*	*Thalassiothrix*	*Grammatophora*	*Thalassiothrix*	*Grammatophora*	*Thalassiothrix*	*Grammatophora*	*Skeletonema*	
			Skeletonema	*Pleurosigma*	*Skeletonema*	*Thallassiosira*	*Surirella*	*Pleurosigma*	*Surirella*	*Pleurosigma*	*Melosira*	*Pleurosigma*	*Melosira*	*Thallassiosira*	
B			Zooplankton												
1	Abudance(Population)	noX103 / 100 m3	63		48		50		54		48		55		APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Copepods nauplii*		*Egg(Fish and Shrimps)*		*Egg(Fish and Shrimps)*		*Egg(Fish and Shrimps)*		*Egg(Fish and Shrimps)*		*Egg(Fish and Shrimps)*		
			Oikoplura		*Oikoplura*		*Oikoplura*		*Oikoplura*		*Decapoda*		*Oikoplura*		
			Crustacean Larvae		*Copepods nauplii*		*Copepods nauplii*		*Copepods nauplii*		*Copepods nauplii*		*Copepods nauplii*		
			Crustacean		*Crustacean*		*Crustacean*		*Crustacean*		*Crustacean*		*Crustacean*		
			Bivalve Larvae		*Bivalve Larvae*		*Bivalve Larvae*		*Bivalve Larvae*		*Bivalve Larvae*		*Bivalve Larvae*		
3	Total Biomass	ml/100 m³	17.54		16.35		14.88		14.88		15.68		16.23		

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RESULTS OF MARINE WATER [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

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SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM			
C			Microbiological												
1	Total Bacterial Count	CFU/ml	190		216		256		254		178		196		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	36		30		65		70		56		63		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	27		17		41		45		49		42		IS :15185:2016
4	Enterococcus	/100ml	15		10		19		21		29		22		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

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RESULTS OF SEDIMENT ANALYSIS [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.56	0.52	0.48	0.41	0.46	0.54	IS: 2720 (Part 22):1972 RA.2015, Amds.1
2.	Phosphorus as P	µg/g	562.8	544.2	536.6	505.4	510.2	521.4	IS: 10158 :1982, RA.2009 Method B
3.	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Lab SOP No. UERL/CHM/LTM/108
4.	Petroleum Hydrocarbon	µg/g	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	3.68	3.71	3.78	3.81	3.89	3.96	IS3025(Part 55)2003
5.2	Total Chromium as Cr+3	µg/g	68.4	69.5	74.8	78.4	80.2	84.4	EPA 3050B/7190 (Extraction &Analytical Method): 1986
5.3	Manganese as Mn	µg/g	448.6	456.6	470.4	501.2	520.2	522.7	EPA 3050B/7460 (Extraction &Analytical Method): 1986
5.4	Iron as Fe	%	3.54	3.63	3.75	3.81	3.88	4.06	EPA 3050B/7380 (Extraction &Analytical Method): 1986
5.5	Nickel as Ni	µg/g	44.67	45.58	42.64	44.25	45.28	41.39	EPA 3050B/7520 (Extraction &Analytical Method): 1986
5.6	Copper as Cu	µg/g	34.59	35.12	38.42	40.14	42.16	46.36	EPA 3050B /7210 (Extraction &Analytical Method):1986
5.7	Zinc as Zn	µg/g	84.56	85.24	89.42	80.28	82.24	80.33	EPA 3050B/7950 (Extraction &Analytical Method): 1986
5.8	Lead as Pb	µg/g	2.54	2.62	2.56	2.64	2.53	2.46	EPA 3050B /7420 (Extraction &Analytical Method):1986
5.9	Mercury as Hg	µg/g	BDL	BDL	BDL	BDL	BDL	BDL	EPA 7471B (Extraction &Analytical Method) :2007

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RESULTS OF SEDIMENT ANALYSIS [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D			Benthic Organisms						
1	Macrobenthos	--	*Amphipods*	*Amphipods*	*Amphipods*	*Amphipods*	*Amphipods*	*Polychates*	APHA (23rd Ed. 2017)10500 C
			Sipunculids	*Sipunculids*	*Polychates*	*Polychates*	*Sipunculids*	*Gastropods*	
			Isopods	*Isopods*	*Isopods*	*Isopods*	*Isopods*	*Isopods*	
			Gastropods	*Gastropods*	*Gastropods*	*Gastropods*	*Gastropods*	*Sipunculids*	
2	MeioBenthos	--	Decapods Larvae	Decapods Larvae	Decapods Larvae	Decapods Larvae	Decapods Larvae	*Herpectacoids*	
			Herpectacoids	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Polychates*	
3	Population	no/m²	328	360	360	362	301	365	

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RESULTS OF MARINE WATER [M7 EAST PORT N 22°47'120" E 069°47'110"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.24	8.08	8.16	8.11	8.19	8.06	8.14	7.94	8.18	8.06	8.14	7.74	IS 3025 (Part11)1983
2.	Temperature	°C	30.2	30.1	29.9	29.8	29.7	29.6	29.6	29.5	29.7	29.6	30	29.8	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	148	128	134	106	130	112	124	108	144	118	162	148	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL	2.8	BDL	2.9	BDL	3.2	BDL	3.1	BDL	2.4	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.22	6.02	6	5.9	5.9	5.7	6.2	5.99	6.19	6.09	6.03	5.83	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.32	36.04	35.84	36.19	35.76	36.21	35.34	35.56	35.38	35.97	35.94	36.51	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39)1991, Amd. 2
8.	Nitrate as NO_3	µmol/L	2.72	2.67	3.45	3.02	2.76	2.59	3.23	2.37	3.44	2.59	2.76	2.32	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.379	0.362	0.302	0.276	0.379	0.276	0.345	0.302	0.344	0.293	0.379	0.431	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.45	3.36	3.19	2.84	2.32	1.56	3.62	3.28	3.83	2.75	3.19	3.02	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	0.52	BDL	0.86	0.78	1.29	1.12	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.549	6.392	6.942	6.136	5.459	4.426	7.195	5.952	7.614	5.633	6.329	5.771	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	36110	35614	35718	36214	35894	36338	36288	36582	36324	36842	37210	37840	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	16.03	12.02	37.4	29.09	24.1	20.08	20.1	16.08	32.26	20.16	36.25	24.17	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M7 EAST PORT N 22°47'120" E 069°47'110"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m³	2.87	2.89	2.87	3.69	3.25	3.25	3.24	2.8	3.11	3.68	2.78	2.58	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	0.78	1.95	0.74	2.48	1.56	1.75	1.45	1.8	2.13	2.21	1.58	2.36	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	90	125	121	142	147	168	140	155	176	93	125	100	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Coscinodiscus*	*Coscinodiscus*	*Coscinodiscus*	*Surirella*	*Ceratium*	*Grammatophora*	*Ceratium*	*Grammatophora*	*Thalassiothrix*	*Odentella*	*Grammatophora*	*Grammatophora*	APHA (23rd Ed. 2017)10200 F
			Diploneis	*Diploneis*	*Diploneis*	*Thalassiothrix*	*Diploneis*	*Melosira*	*Diploneis*	*Melosira*	*Surirella*	*Rhizosolenia*	*Rhizosolenia*	*Rhizosolenia*	
			Rhizosolenia	*Rhizosolenia*	*Rhizosolenia*	*Navicula*	*Odentella*	*Odentella*	*Odentella*	*Odentella*	*Navicula*	*Coscinodiscus*	*Nitzschia*	*Nitzschia*	
			Dinophysis	*Dinophysis*	*Dinophysis*	*Skeletonema*	*Grammatophora*	*Pinnularia*	*Grammatophora*	*Pinnularia*	*Thallassiosira*	*Grammatophora*	*Thallassiosira*	*Thallassiosira*	
			Thalassionema	*Thalassionema*	*Thalassionema*	*Thallassiosira*	*Melosira*	*Pleurosigma*	*Melosira*	*Pleurosigma*	*Skeletonema*	*Thallassiosira*	*Pleurosigma*	*Pleurosigma*	
B			Zooplankton												
1	Abudance(Population)	noX103 / 100 m3	50		38		44		52		57		59		APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Egg(Fish and Shrimps)*		*Crustacean Larvae*		*Crustacean Larvae*		*Crustacean Larvae*		*Copepods nauplii*		*Crustacean Larvae*		
			Oikoplura		*Egg(Fish and Shrimps)*		*Egg(Fish and Shrimps)*		*Egg(Fish and Shrimps)*		*Crustacean Larvae*		*Egg(Fish and Shrimps)*		
			Copepods nauplii		*Copepods*		*Copepods*		*Copepods*		*Oikoplura*		*Copepods*		
			Crustacean		*Crustacean*		*Crustacean*		*Crustacean*		*Bivalve Larvae*		*Crustacean*		
			Bivalve Larvae		*Bivalve Larvae*		*Bivalve Larvae*		*Bivalve Larvae*		*Oikoplura*		*Bivalve Larvae*		
3	Total Biomass	ml/100 m³	15.78		15.28		16.89		16.89		15.55		17.23		

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RESULTS OF MARINE WATER [M7 EAST PORT N 22°47'120" E 069°47'110"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	250		184		242		240		290		244		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	36		33		36		40		55		36		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	29		29		29		31		41		25		IS :15185:2016
4	Enterococcus	/100ml	18		19		21		22		32		16		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

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RESULTS OF MARINE WATER [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.18	7.98	8.22	8.12	8.18	8.07	8.21	8.12	8.19	8.11	8.28	8.04	IS 3025 (Part11)1983
2.	Temperature	°C	30.2	30.1	30	29.9	29.6	29.5	29.5	29.4	29.8	29.7	30	29.8	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	118	104	124	112	130	116	152	114	146	124	128	120	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	3.1	BDL	3	BDL	2.8	BDL	3.1	BDL	2.9	BDL	2.8	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.12	5.92	5.8	5.7	5.9	5.7	6.1	5.89	6.09	5.99	5.93	5.73	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.64	36.12	35.61	36.24	36.82	36.19	36.12	36.32	35.86	36.17	36.18	36.74	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39) 1991, Amd. 2
8.	Nitrate as NO_3	µmol/L	2.54	2.5	2.49	2.32	2.8	2.37	2.33	2.24	3.45	2.8	2.84	2.59	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.431	0.414	0.259	0.215	0.259	0.189	0.379	0.362	0.345	0.276	0.56	0.517	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.1	3.02	2.28	2.16	4.05	3.83	3.4	3.36	3.28	3.1	3.36	3.1	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.65	BDL	BDL	BDL	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.071	5.934	5.029	4.695	7.109	6.389	6.109	5.962	7.075	6.176	6.76	6.207	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	36218	36684	36188	36522	36124	36514	35620	36080	35760	36240	36300	37050	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	24.05	20.04	33.25	24.94	24.1	16.06	28.14	24.12	28.22	24.19	32.22	28.2	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m³	2.36	2.36	3.25	2.14	2.96	2.77	3.11	2.78	2.65	2.87	2.45	3.14	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	1.86	0.75	0.95	0.89	1.11	1.28	0.98	1.32	1.12	1.66	1.69	2.13	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	120	142	135	128	163	86	170	95	162	120	122	175	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Grammatophora*	*Rhizosolenia*	*Thalassiothrix*	*Rhizosolenia*	*Coscinodiscus*	*Skeletonema*	*Coscinodiscus*	*Skeletonema*	*Coscinodiscus*	*Dinophysis*	*Coscinodiscus*	*Coscinodiscus*	APHA (23rd Ed. 2017)10200 F
			Rhizosolenia	*Pinnularia*	*Surirella*	*Pinnularia*	*Diploneis*	*Grammatophora*	*Diploneis*	*Grammatophora*	*Diploneis*	*Pinnularia*	*Diploneis*	*Diploneis*	
			Nitzschia	*Thalassiothrix*	*Navicula*	*Thalassiothrix*	*Rhizosolenia*	*Nitzschia*	*Rhizosolenia*	*Nitzschia*	*Rhizosolenia*	*Thalassiothrix*	*Rhizosolenia*	*Rhizosolenia*	
			Thalassionema	*Grammatophora*	*Thallassiosira*	*Grammatophora*	*Dinophysis*	*Thalassiothrix*	*Dinophysis*	*Thalassiothrix*	*Dinophysis*	*Grammatophora*	*Dinophysis*	*Dinophysis*	
			Pleurosigma	*Ceratium*	*Skeletonema*	*Ceratium*	*Thalassionema*	*Pleurosigma*	*Thalassionema*	*Pleurosigma*	*Thalassionema*	*Ceratium*	*Thalassionema*	*Thalassionema*	
B			Zooplankton												
1	Abudance(Population)	noX103 / 100 m3	45		56		61		70		52		50		APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Crustacean*		*Copepods nauplii*		*Copepods nauplii*		*Copepods nauplii*		*Copepods*		*Copepods*		
			Oikoplura		*Copepods*		*Copepods*		*Copepods*		*Oikoplura*		*Oikoplura*		
			Crustacean Larvae		*Crustacean Larvae*		*Crustacean Larvae*		*Crustacean Larvae*		*Crustacean Larvae*		*Crustacean Larvae*		
			Oikoplura		*Bivalve Larvae*		*Bivalve Larvae*		*Bivalve Larvae*		*Crustacean*		*Crustacean*		
			Bivalve Larvae		*Crustacean*		*Crustacean*		*Crustacean*		*Bivalve Larvae*		*Bivalve Larvae*		
3	Total Biomass	ml/100 m³	17.21		16.98		15.48		15.6		16.24		17.42		

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RESULTS OF MARINE WATER [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM			
C			Microbiological												
1	Total Bacterial Count	CFU/ml	270		128		284		284		164		256		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	40		24		41		42		35		41		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	33		12		33		32		28		31		IS :15185:2016
4	Enterococcus	/100ml	20		8		16		18		11		23		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

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RESULTS OF SEDIMENT ANALYSIS [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.62	0.59	0.51	0.43	0.48	0.56	IS: 2720 (Part 22):1972 RA.2015, Amds.1
2.	Phosphorus as P	µg/g	541.2	525.2	532.4	506.4	514.2	523.6	IS: 10158 :1982, RA.2009 Method B
3.	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	Lab SOP No. UERL/CHM/LTM/108
4.	Petroleum Hydrocarbon	µg/g	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	3.49	3.55	3.64	3.71	3.46	3.62	IS3025(Part 55)2003
5.2	Total Chromium as Cr+3	µg/g	74.2	78.5	86.5	88.2	86.3	89.6	EPA 3050B/7190 (Extraction &Analytical Method): 1986
5.3	Manganese as Mn	µg/g	524.64	534.4	551.2	542.4	548.3	555.8	EPA 3050B/7460 (Extraction &Analytical Method): 1986
5.4	Iron as Fe	%	3.58	3.62	3.71	3.76	3.81	3.96	EPA 3050B/7380 (Extraction &Analytical Method): 1986
5.5	Nickel as Ni	µg/g	36.21	36.28	38.26	38.88	39.42	42.21	EPA 3050B/7520 (Extraction &Analytical Method): 1986
5.6	Copper as Cu	µg/g	28.64	29.22	34.21	35.06	36.28	37.21	EPA 3050B /7210 (Extraction &Analytical Method):1986
5.7	Zinc as Zn	µg/g	82.48	84.12	91.24	92.12	91.8	98.1	EPA 3050B/7950 (Extraction &Analytical Method): 1986
5.8	Lead as Pb	µg/g	3.11	2.86	2.81	2.74	2.46	2.52	EPA 3050B /7420 (Extraction &Analytical Method):1986
5.9	Mercury as Hg	µg/g	BDL	BDL	BDL	BDL	BDL	BDL	EPA 7471B (Extraction &Analytical Method) :2007

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RESULTS OF SEDIMENT ANALYSIS [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D			Benthic Organisms						
1	Macrobenthos	--	*Gastropods*	*Gastropods*	*Isopods*	*Isopods*	*Isopods*	*Sipunculids*	APHA (23rd Ed. 2017)10500 C
			Polychates	*Polychates*	*Polychates*	*Polychates*	*Polychates*	*Polychates*	
			Sipunculids	*Sipunculids*	*Sipunculids*	*Sipunculids*	*Sipunculids*	*Gastropods*	
			Amphipods	*Amphipods*	*Amphipods*	*Amphipods*	*Amphipods*	*Isopods*	
2	MeioBenthos	--	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	*Herpectacoids*	
			Foraminiferan	*Foraminiferan*	Decapods Larvae	Decapods Larvae	Decapods Larvae	*Foraminiferan*	
3	Population	no/m²	270	240	312	320	347	289	

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RESULTS OF MARINE WATER [M11 MPT T1 JETTY N 22°42'278" E 069°43'450"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.24	8.11	8.06	7.94	8.12	7.97	8.18	8.04	8.17	8.07	8.12	7.84	IS 3025 (Part11)1983
2.	Temperature	°C	30.3	30.2	29.9	29.8	29.7	29.6	29.6	29.5	29.8	29.7	29.9	28.8	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	134	116	128	106	134	118	124	108	111	102	118	94	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL	3.1	BDL	2.8	BDL	3.3	BDL	2.8	BDL	3	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.12	6.02	6	5.9	5.9	5.8	6.1	5.99	5.99	5.88	5.93	5.83	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.41	36.15	35.44	36.24	35.52	36.22	35.02	35.84	35.24	35.89	35.82	36.27	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39) 1991, Amd. 2
8.	Nitrate as NO_3	µmol/L	2.5	2.41	2.84	2.59	3.66	3.02	2.76	2.59	2.72	2.67	2.93	2.67	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.448	0.431	0.345	0.3	0.328	0.259	0.379	0.276	0.5	0.483	0.241	0.198	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.36	3.28	2.49	2.06	3.79	3.36	2.32	1.56	3.36	3.32	2.84	2.67	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.47	BDL	BDL	BDL	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.308	6.121	5.675	4.95	7.778	6.639	5.459	4.426	6.58	6.473	6.011	5.538	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	35984	36594	35864	36486	35800	36470	35422	35940	35420	36260	36890	37400	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	24.05	16.03	29.09	20.78	20.08	12.05	28.14	20.1	24.19	20.16	28.2	24.17	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M11 MPT T1 JETTY N 22°42'278" E 069°43'450"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m³	3.21	2.6	3.21	3.21	3.26	3.14	3.33	3.17	3.02	3.64	3.25	2.88	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	1.02	1.1	2.23	1.47	1.85	2	1.78	1.99	2.01	2.13	1.96	1.86	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	86	135	90	96	152	135	149	132	140	155	152	146	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Nitzschia*	*Melosira*	*Navicula*	*Pinnularia*	*Fragillaria*	*Ceratium*	*Fragillaria*	*Ceratium*	*Thallassiosira*	*Rhizosolenia*	*Rhizosolenia*	*Diploneis*	APHA (23rd Ed. 2017)10200 F
			Pinnularia	*Cyclotella*	*Skeletonema*	*Surirella*	*Thalassionema*	*Pinnularia*	*Thalassionema*	*Pinnularia*	*Melosira*	*Pinnularia*	*Pinnularia*	*Rhizosolenia*	
			Odontella	*Odontella*	*Rhizosolenia*	*Odentella*	*Navicula*	*Odontella*	*Navicula*	*Odontella*	*Nitzschia*	*Thalassiothrix*	*Thalassiothrix*	*Nitzschia*	
			Dinophysis	*Skeletonema*	*Dinophysis*	*Grammatophora*	*Thallassiosira*	*Thalassiothrix*	*Thallassiosira*	*Thalassiothrix*	*Rhizosolenia*	*Grammatophora*	*Grammatophora*	*Thalassiothrix*	
			Surirella	*Thallassiosira*	*Thalassionema*	*Melosira*	*Skeletonema*	*Thallassiosira*	*Skeletonema*	*Thallassiosira*	*Pleurosigma*	*Ceratium*	*Ceratium*	*Pleurosigma*	

B			Zooplankton						
1	Abudance(Population)	noX103 / 100 m3	52	49	54	59	64	44	APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Copepods nauplii*	*Copepods nauplii*	*Copepods nauplii*	*Copepods nauplii*	*Copepods nauplii*	*Decapoda*	
			Copepods	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Copepods*	
			Crustacean Larvae	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	
			Bivalve Larvae	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Crustacean*	
			Crustacean	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Oikoplura*	
3	Total Biomass	ml/100 m³	14.58	15.63	14.63	15.03	16.47	14.23	

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RESULTS OF MARINE WATER [M11 MPT T1 JETTY N 22°42'278" E 069°43'450"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM			
C			Microbiological												
1	Total Bacterial Count	CFU/ml	248		200		200		211		186		202		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	35		39		39		41		50		47		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	30		29		29		32		26		30		IS :15185:2016
4	Enterococcus	/100ml	28		22		22		24		14		21		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976

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RESULTS OF MARINE WATER [M12 SPM N 22°40'938" E 069°39'191"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.22	8.1	8.14	8.06	8.19	8.07	8.16	8.01	8.12	8.03	8.17	7.96	IS 3025 (Part11)1983
2.	Temperature	°C	30.3	30.1	29.9	29.8	29.7	29.6	29.6	29.5	29.8	29.7	29.9	29.8	IS 3025 (Part 9)1984
3.	Total Suspended Solids	mg/L	128	116	114	98	120	102	144	112	128	116	112	84	APHA 23rd Ed.,2017,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL	2.8	BDL	2.9	BDL	3.1	BDL	2.7	BDL	3.1	BDL	IS 3025(Part 44)1993Amd.01
5.	Dissolved Oxygen	mg/L	6.02	5.92	6.1	6	6	5.9	5.99	5.89	6.09	5.99	5.83	5.63	APHA 23rd Ed.,2017,4500-O, B
6.	Salinity	ppt	35.24	36.01	35.22	36.15	35.61	36.24	35.84	36.18	35.94	36.22	36.25	36.98	By Calculation
7.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39) 1991, Amd. 2
8.	Nitrate as NO_3	µmol/L	2.67	2.54	2.67	2.33	2.84	2.59	2.76	2.59	2.84	2.59	3.66	3.44	APHA 23rd Ed., 2017,4500 NO3-B
9.	Nitrite as NO_2	µmol/L	0.414	0.362	0.325	0.235	0.474	0.31	0.379	0.276	0.474	0.31	0.413	0.379	APHA 23rd Ed.,2017,4500NO_2B
10.	Ammonical Nitrogen as NH_3	µmol/L	3.4	3.32	2.67	2.58	2.41	1.89	2.32	1.56	2.41	1.89	3.96	3.62	APHA 23rd Ed., 2017,4500- NH3 B
11.	Phosphates as PO_4	µmol/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.65	BDL	0.56	BDL	APHA 23rd Ed.,2017,4500-P, D
12.	Total Nitrogen	µmol/L	6.484	6.222	5.665	5.145	5.724	4.79	5.459	4.426	5.724	4.79	8.033	7.439	APHA 23rd Ed., 2017,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 23rd ED,2017,5520 F
14.	Total Dissolved Solids	mg/L	36188	36806	36144	36582	36210	36690	35888	36310	35940	36480	36660	37340	APHA 23rd Ed.,2017, 2540- C
15.	COD	mg/L	20.04	12.02	24.94	33.25	20.08	12.05	24.12	16.08	20.16	16.13	24.17	20.14	APHA 23rd Ed.,2017, 5220-B

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RESULTS OF MARINE WATER [M12 SPM N 22°40'938" E 069°39'191"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m³	2.11	2.86	2.21	2.86	2.36	2.65	3.26	3.01	2.27	2.89	2.65	3.01	APHA (23rd Ed. 2017)10200 H
2.	Phaeophytin	mg/m³	1.43	0.97	1.87	1.25	0.85	1.49	0.89	1.88	1.11	2.1	1.63	2.44	APHA (23rd Ed. 2017)10200 H
3.	Cell Count	No. x 10³/L	95	97	102	98	140	127	134	130	134	106	145	152	APHA (23rd Ed. 2017)10200 F
4	Name of Group Number and name of group species of each group	--	*Odentella*	*Diploneis*	*Melosira*	*Nitzschia*	*Thallassiosira*	*Melosira*	*Thallassiosira*	*Melosira*	*Dinophysis*	*Pinnularia*	*Nitzschia*	*Nitzschia*	APHA (23rd Ed. 2017)10200 F
			Rhizosolenia	*Rhizosolenia*	*Pinnularia*	*Pinnularia*	*Melosira*	*Cyclotella*	*Melosira*	*Cyclotella*	*Pinnularia*	*Surirella*	*Pinnularia*	*Gramma tophora*	
			Coscinodiscus	*Nitzschia*	*Skeletonema*	*Odontella*	*Nitzschia*	*Odontella*	*Nitzschia*	*Odontella*	*Thalassiothrix*	*Odentella*	*Diploneis*	*Diploneis*	
			Gramma tophora	*Thalassiothrix*	*Thallassiosira*	*Dinophysis*	*Rhizosolenia*	*Skeletonema*	*Rhizosolenia*	*Skeletonema*	*Gramma tophora*	*Gramma tophora*	*Gramma tophora*	*Thalassiothrix*	
			Thallassiosira	*Pleurosigma*	*Thalassionema*	*Surirella*	*Pleurosigma*	*Thallassiosira*	*Pleurosigma*	*Thallassiosira*	*Ceratium*	*Melosira*	*Ceratium*	*Pleurosigma*	

B			Zooplankton						
1	Abudance(Population)	noX103 / 100 m3	40	54	70	72	44	42	APHA (23rd Ed. 2017)10200 G
2	Name of Group Number and name of group species of each group		*Copepods nauplii*	*Crustacean*	*Crustacean*	*Crustacean*	*Crustacean*	*Egg(Fish and Shrimps)*	
			Oikoplura	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	
			Crustacean Larvae	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Crustacean Larvae*	*Copepods nauplii*	
			Oikoplura	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Oikoplura*	*Crustacean*	
			Bivalve Larvae	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	*Bivalve Larvae*	
3	Total Biomass	ml/100 m³	16.54	17.36	16.32	16.45	13.25	13.45	

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RESULTS OF MARINE WATER [M12 SPM N 22°40'938" E 069°39'191"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER-2022		NOVEMBER-2022		DECEMBER-2022		JANUARY-2023		FEBRUARY-2023		MARCH-2023		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	184		196		210		215		206		222		APHA 23rd Ed.2017,9215-C
2	Total Coliform	/100ml	49		47		48		51		42		35		APHA 23rd Ed.2017,9222-B
3	E.coli	/100ml	38		25		23		25		35		23		IS :15185:2016
4	Enterococcus	/100ml	27		20		20		18		22		14		IS:15186:2002
5	Salmonella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:15187:2016
6	Shigella	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA 23rd Ed.2017,9260-E
7	Vibrio	/100ml	110		142		230		222		212		196		IS: 5887 (Part V):1976

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Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

RESULTS OF ETP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	LIQUID TERMINAL						GPCB Limit	TEST METHOD
			OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023		
			21-10-2022	21-11-2022	28-12-2022	28-01-2023	27-02-2023	29-03-2023		
1.	Colour	Pt. Co. Scale	30	25	30	20	40	50	100	IS 3025(Part 4)
2.	pH @ 27 ° C	--	7.05	7.35	7.24	7.48	6.94	7.08	6.5 to 8.5	APHA 23rd Ed.,2017,4500-H^+B
3.	Temperature	^0C	30.5	30	29	28.5	29	29	40	IS 3025(Part 9)1984
4.	Total Suspended Solid	mg/L	36	32	30	34	42	26	100	APHA 23rd Ed.,2017,2540 –D
5.	Total Dissolved Solids	mg/L	1480	1480	1460	1044	904	990	2100	APHA 23rd Ed.,2017,2540- C
6.	COD	mg/L	81.1	78.6	86.4	82.4	84.2	80.6	100	IS 3025(Part 58)2006
7.	BOD (3 days at 27 ^0C)	mg/L	22	21	23	23	23	22	30	IS 3025(Part 44)1993Amd.01
8.	Chloride (as Cl) $^-$	mg/L	539.1	510.4	311.1	410.5	536	443.2	600	IS 3025(PART 32) 1988
9.	Oil & Grease	mg/L	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	10	IS 3025(Part39)1991, Amd. 2
10.	Sulphate (as SO_4)	mg/L	94	88	33.4	46	110	90	1000	IS 3025(Part 24)1986
11.	Ammonical Nitrogen	mg/L	29.8	25.4	25.3	18.6	22.4	26.8	50	IS 3025(Part 34)1988,
12.	Phenolic Compound	mg/L	BDL(MDL:0.1)	BDL(MDL:0.1)	BDL(MDL:0.1)	BDL(MDL:0.1)	BDL(MDL:0.1)	BDL(MDL:0.1)	1	IS 3025(Part 43)1992, Amd.2
13.	Copper as Cu	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	3	IS 3025(Part 42)1992amd.01,
14.	Lead as Pb	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	0.1	APHA 23rd Ed.,2017,3111-B

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SR.NO.	TEST PARAMETERS	UNIT	LIQUID TERMINAL						GPCB Limit	TEST METHOD
			OCTOBER-2022	NOVEMBER-2022	DECEMBER-2022	JANUARY-2023	FEBRUARY-2023	MARCH-2023		
			21-10-2022	21-11-2022	28-12-2022	28-01-2023	27-02-2023	29-03-2023		
15.	Sulphide as S	mg/L	0.12	0.64	0.6	0.94	0.86	0.58	2	APHA 23rd Ed.,2017,4500 S^{-2} F
16.	Cadmium as Cd	mg/L	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	2	APHA 23rd Ed.,2017,3111-B
17.	Fluoride as F	mg/L	0.84	0.64	1.1	1.15	0.94	0.86	2	APHA 23rd Ed.,2017,4500 F, D
18.	Residual Chlorine	mg/L	0.75	0.82	0.94	0.86	BDL(MDL:0.1)	0.92	0.5 Min.	APHA 23rd Ed.,2017,4500-Cl-B
19.	Percent Sodium	%	45.93	45.32	47.91	47.85	46.99	45.28	60	By Calculation
20.	Sodium Absorption ratio	--	6.5	5.73	4.86	5.03	3.46	3.3	26	By Calculation

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Results of Ambient Air Quality Monitoring

Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
1.	03-10-2022	84.41	39.33	22.47	29.33	0.92	NOT DETECTED	NOT DETECTED
2.	06-10-2022	76.53	34.26	19.89	26.34	1.15	NOT DETECTED	NOT DETECTED
3.	10-10-2022	85.65	38.93	26.69	37.18	1.00	NOT DETECTED	NOT DETECTED
4.	13-10-2022	86.38	28.63	34.27	41.13	1.20	NOT DETECTED	NOT DETECTED
5.	17-10-2022	72.97	37.23	31.92	36.48	1.15	NOT DETECTED	NOT DETECTED
6.	20-10-2022	78.29	42.35	23.74	33.63	1.23	NOT DETECTED	NOT DETECTED
7.	27-10-2022	82.36	31.12	26.48	36.82	1.00	NOT DETECTED	NOT DETECTED
8.	28-10-2022	79.19	29.70	34.86	38.62	0.95	NOT DETECTED	NOT DETECTED
9.	31-10-2022	88.69	34.26	29.85	36.73	1.15	NOT DETECTED	NOT DETECTED
10.	03-11-2022	85.45	45.12	17.68	29.34	1.00	2.94	NOT DETECTED
11.	07-11-2022	88.34	44.56	20.14	32.45	0.94	4.69	NOT DETECTED
12.	10-11-2022	86.78	49.12	19.87	34.12	1.15	3.27	NOT DETECTED
13.	14-11-2022	79.23	40.16	20.15	32.45	1.15	4.19	NOT DETECTED
14.	17-11-2022	85.34	47.12	17.89	27.89	1.00	6.83	NOT DETECTED
15.	21-11-2022	83.45	44.56	21.45	31.89	0.95	6.03	NOT DETECTED

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Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
16.	24-11-2022	81.26	39.12	22.17	34.12	1.18	3.35	NOT DETECTED
17.	28-11-2022	83.54	44.23	15.89	28.92	1.05	5.12	NOT DETECTED
18.	01-12-2022	83.26	36.38	24.75	36.68	1.15	4.21	NOT DETECTED
19.	05-12-2022	76.23	39.63	16.92	27.13	1.00	3.27	NOT DETECTED
20.	08-12-2022	85.39	42.39	26.46	32.04	1.19	2.19	NOT DETECTED
21.	12-12-2022	74.62	44.26	24.19	28.46	0.92	2.34	NOT DETECTED
22.	15-12-2022	89.34	37.85	24.74	38.19	1.15	4.31	NOT DETECTED
23.	19-12-2022	82.62	41.05	27.64	37.26	1.14	4.72	NOT DETECTED
24.	22-12-2022	75.44	34.97	16.54	29.91	1.00	4.86	NOT DETECTED
25.	26-12-2022	73.86	37.13	18.62	32.25	1.16	2.64	NOT DETECTED
26.	29-12-2022	87.63	32.57	22.39	36.47	1.00	3.18	NOT DETECTED
27.	02-01-2023	71.69	42.17	27.73	33.18	1.00	2.96	NOT DETECTED
28.	05-01-2023	82.11	32.92	24.84	34.79	1.13	3.26	NOT DETECTED
29.	09-01-2023	87.24	31.29	21.46	27.56	1.00	3.28	NOT DETECTED
30.	12-01-2023	85.24	38.37	28.84	34.1	1.15	2.98	NOT DETECTED
31.	16-01-2023	67.86	27.41	18.27	31.36	1.00	3.17	NOT DETECTED

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Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
32.	19-01-2023	83.02	31.27	22.76	29.14	1.15	3.63	NOT DETECTED
33.	23-01-2023	68.39	38.49	21.27	37.56	1.12	5.72	NOT DETECTED
34.	26-01-2023	86.56	31.28	24.66	36.96	1.19	3.68	NOT DETECTED
35.	30-01-2023	73.42	26.58	28.93	33.41	1.15	2.39	NOT DETECTED
36.	02-02-2023	78.63	34.58	23.73	28.14	1.17	3.28	NOT DETECTED
37.	06-02-2023	64.18	37.16	31.47	39.02	1.00	4.26	NOT DETECTED
38.	09-02-2023	85.3	43.63	27.59	34.61	0.96	3.59	NOT DETECTED
39.	13-02-2023	72.44	31.63	26.56	31.29	1.00	3.73	NOT DETECTED
40.	16-02-2023	87.18	42.16	34.71	41.38	1.14	4.82	NOT DETECTED
41.	20-02-2023	76.28	36.28	31.39	37.86	1.15	2.69	NOT DETECTED
42.	23-02-2023	86.27	34.92	26.37	33.49	1.00	3.61	NOT DETECTED
43.	27-02-2023	71.32	36.47	28.62	32.17	1.12	4.79	NOT DETECTED
44.	02-03-2023	88.48	31.25	27.61	34.05	1.00	3.89	NOT DETECTED
45.	06-03-2023	81.97	43.76	36.28	41.83	1.14	4.79	NOT DETECTED
46.	09-03-2023	85.35	39.68	34.76	39.53	1.17	3.26	NOT DETECTED
47.	13-03-2023	78.12	36.62	29.76	34.14	1.13	3.15	NOT DETECTED

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Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
48.	16-03-2023	86.39	38.11	27.36	32.89	1.00	4.16	NOT DETECTED
49.	20-03-2023	79.83	40.87	33.46	38.95	1.18	3.64	NOT DETECTED
50.	23-03-2023	85.76	42.86	36.14	42.47	1.14	4.28	NOT DETECTED
51.	27-03-2023	72.19	39.76	31.53	37.68	1.00	4.18	NOT DETECTED
52.	30-03-2023	78.84	36.17	28.73	35.66	1.15	3.57	NOT DETECTED
Permissible Value as per NAAQMS		**100.0**	**60.0**	**80.0**	**80.0**	**2.0**	**---**	**5.0**
Test Method		**IS - 5182, Part-23**	**UERL/AIR/SOP/11**	**IS - 5182, Part - 2**	**IS - 5182, Part - 6**	**IS - 5182, Part - 10**	**Gas analyzer**	**IS – 5182, Part – 11**

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Results of Ambient Air Quality Monitoring

Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
1.	03-10-2022	87.35	37.24	24.92	32.24	1.00	NOT DETECTED	NOT DETECTED
2.	06-10-2022	72.06	32.21	27.58	34.39	1.15	NOT DETECTED	NOT DETECTED
3.	10-10-2022	82.91	28.36	23.93	28.64	0.92	NOT DETECTED	NOT DETECTED
4.	13-10-2022	75.31	38.95	28.37	37.81	0.95	NOT DETECTED	NOT DETECTED
5.	17-10-2022	83.28	36.82	31.29	38.62	1.10	NOT DETECTED	NOT DETECTED
6.	20-10-2022	83.23	31.06	34.22	41.27	1.14	NOT DETECTED	NOT DETECTED
7.	27-10-2022	79.42	29.24	28.39	36.74	0.90	NOT DETECTED	NOT DETECTED
8.	28-10-2022	81.29	37.86	28.19	32.68	1.15	NOT DETECTED	NOT DETECTED
9.	31-10-2022	88.67	38.72	33.26	39.93	1.00	NOT DETECTED	NOT DETECTED
10.	03-11-2022	81.23	38.76	21.34	26.51	1.00	3.95	NOT DETECTED
11.	07-11-2022	83.45	35.12	18.12	23.45	1.15	4.13	NOT DETECTED
12.	10-11-2022	80.12	30.89	25.23	29.23	0.94	4.74	NOT DETECTED
13.	14-11-2022	73.45	39.76	28.15	33.45	1.10	5.83	NOT DETECTED
14.	17-11-2022	77.34	31.25	25.66	30.12	1.15	3.89	NOT DETECTED
15.	21-11-2022	85.67	43.45	27.35	32.05	0.95	5.64	NOT DETECTED

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CIN:U73100GJ2007PTC051463

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Near G.I.D.C. Office, Char Rasta,
Vapi-396 195, Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
16.	24-11-2022	82.45	38.12	23.45	28.45	1.13	3.68	NOT DETECTED
17.	28-11-2022	73.45	29.53	27.15	32.45	1.15	4.13	NOT DETECTED
18.	01-12-2022	73.28	43.39	17.2	21.63	1.18	2.64	NOT DETECTED
19.	05-12-2022	78.64	39.17	24.36	32.87	1.00	2.39	NOT DETECTED
20.	08-12-2022	87.32	34.53	28.61	37.27	1.16	3.18	NOT DETECTED
21.	12-12-2022	82.59	44.16	21.67	31.46	1.00	4.4	NOT DETECTED
22.	15-12-2022	71.36	37.49	27.36	35.97	1.15	4.33	NOT DETECTED
23.	19-12-2022	89.61	36.83	29.72	38.49	1.15	2.97	NOT DETECTED
24.	22-12-2022	68.42	41.06	28.48	33.74	1.12	5.27	NOT DETECTED
25.	26-12-2022	78.26	36.11	24.17	29.55	1.00	2.41	NOT DETECTED
26.	29-12-2022	73.47	39.58	26.74	34.16	1.12	3.79	NOT DETECTED
27.	02-01-2023	87.55	29.38	14.45	27.52	1.00	3.73	NOT DETECTED
28.	05-01-2023	73.18	31.84	28.63	28.48	1.13	4.18	NOT DETECTED
29.	09-01-2023	64.83	38.61	21.99	34.17	1.15	2.48	NOT DETECTED
30.	12-01-2023	87.36	35.26	26.28	31.63	1.12	3.28	NOT DETECTED
31.	16-01-2023	69.58	27.42	31.24	39.29	1.00	3.77	NOT DETECTED

Continue…

Regd. Office : 215, Royal Arcade, Near G.I.D.C.Office, Char Rasta,Vapi-396 195, Gujarat, India.
Extended Work Office : G.I.D.C., Dahej-II, Bharuch, Gujarat.
CIN:U73100GJ2007PTC051463

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Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
32.	19-01-2023	81.27	31.48	23.59	36.92	1.00	3.39	NOT DETECTED
33.	23-01-2023	70.92	34.57	29.89	38.56	1.15	2.58	NOT DETECTED
34.	26-01-2023	79.68	29.72	16.27	24.36	1.14	3.85	NOT DETECTED
35.	30-01-2023	73.29	32.96	31.36	38.84	1.00	2.14	NOT DETECTED
36.	02-02-2023	76.38	31.62	18.14	21.28	0.92	3.27	NOT DETECTED
37.	06-02-2023	88.17	24.29	33.73	43.44	1.00	3.72	NOT DETECTED
38.	09-02-2023	71.63	31.62	27.38	39.74	1.12	3.86	NOT DETECTED
39.	13-02-2023	69.74	27.63	21.92	27.53	1.00	2.18	NOT DETECTED
40.	16-02-2023	85.41	39.84	28.66	32.19	1.17	4.52	NOT DETECTED
41.	20-02-2023	62.18	36.62	31.39	43.65	0.95	2.18	NOT DETECTED
42.	23-02-2023	75.37	28.18	19.32	26.17	1.00	4.38	NOT DETECTED
43.	27-02-2023	83.56	33.69	26.18	37.51	1.16	2.95	NOT DETECTED
44.	02-03-2023	84.38	26.15	23.89	31.27	1.14	3.57	NOT DETECTED
45.	06-03-2023	73.81	29.27	26.64	35.86	1	4.13	NOT DETECTED
46.	09-03-2023	89.64	39.55	34.28	42.46	0.96	4.27	NOT DETECTED
47.	13-03-2023	82.57	36.39	31.67	37.16	1.15	3.19	NOT DETECTED

Continue…

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Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
48.	16-03-2023	89.79	34.18	28.36	35.13	1.12	4.25	NOT DETECTED
49.	20-03-2023	77.73	39.13	34.88	41.29	1.00	2.69	NOT DETECTED
50.	23-03-2023	74.52	35.07	23.18	31.44	1.14	3.56	NOT DETECTED
51.	27-03-2023	85.36	37.48	29.67	34.89	1.1	3.21	NOT DETECTED
52.	30-03-2023	81.29	41.35	32.58	38.1	1.17	4.24	NOT DETECTED
Permissible Value as per NAAQMS		**100.0**	**60.0**	**80.0**	**80.0**	**2.0**	**---**	**5.0**
Test Method		**IS - 5182, Part-23**	**UERL/AIR/ SOP/11**	**IS - 5182, Part - 2**	**IS - 5182, Part - 6**	**IS - 5182, Part - 10**	**Gas analyzer**	**IS – 5182, Part – 11**

Nikunj D. Patel
(Chemist)

UNISTAR ENVIRONMENT & RESEARCH LABS PVT. LTD. * GUJARAT VAPI.

Jaivik S. Tandel
(Manager - Operations)

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Results of Ambient Air Quality Monitoring

Name of Location		ADANI PORT – TUG Berth 600 KL Pupm House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
1.	03-10-2022	83.26	32.68	21.38	34.27	1.00	NOT DETECTED	NOT DETECTED
2.	06-10-2022	79.54	36.82	26.32	34.86	1.12	NOT DETECTED	NOT DETECTED
3.	10-10-2022	88.31	33.96	28.64	34.72	1.00	NOT DETECTED	NOT DETECTED
4.	13-10-2022	78.47	29.81	29.94	41.65	0.95	NOT DETECTED	NOT DETECTED
5.	17-10-2022	83.27	27.38	32.16	39.89	1.00	NOT DETECTED	NOT DETECTED
6.	20-10-2022	82.86	36.32	24.28	27.13	1.15	NOT DETECTED	NOT DETECTED
7.	27-10-2022	69.89	38.24	31.46	39.03	1.00	NOT DETECTED	NOT DETECTED
8.	28-10-2022	79.84	27.38	19.24	26.86	0.95	NOT DETECTED	NOT DETECTED
9.	31-10-2022	81.29	29.17	32.23	37.2	1.00	NOT DETECTED	NOT DETECTED
10.	03-11-2022	86.78	37.65	22.43	28.25	1.00	2.97	NOT DETECTED
11.	07-11-2022	83.45	43.45	24.14	30.25	1.09	4.28	NOT DETECTED
12.	10-11-2022	88.76	44.12	21.34	27.12	1.15	3.16	NOT DETECTED
13.	14-11-2022	83.45	45.67	25.67	32.45	1.00	6.79	NOT DETECTED
14.	17-11-2022	80.68	37.83	26.74	33.89	1.12	3.57	NOT DETECTED
15.	21-11-2022	84.21	36.46	22.35	28.95	0.95	2.86	NOT DETECTED

Continue…

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Extended Work Office : G.I.D.C., Dahej-II, Bharuch, Gujarat.
CIN:U73100GJ2007PTC051463

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Name of Location		ADANI PORT – TUG Berth 600 KL Pupm House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
16.	24-11-2022	86.53	43.15	27.69	35.15	1.00	3.29	NOT DETECTED
17.	28-11-2022	83.24	40.15	22.45	27.86	0.94	4.69	NOT DETECTED
18.	01-12-2022	72.18	31.63	28.46	35.27	1.15	3.14	NOT DETECTED
19.	05-12-2022	85.42	37.89	21.75	32.84	1.00	3.28	NOT DETECTED
20.	08-12-2022	83.81	41.52	26.34	38.91	1.00	2.68	NOT DETECTED
21.	12-12-2022	88.57	37.6	29.49	31.06	1.17	4.52	NOT DETECTED
22.	15-12-2022	86.77	34.28	19.96	26.43	0.94	2.16	NOT DETECTED
23.	19-12-2022	76.23	46.16	27.28	37.67	1.13	4.66	NOT DETECTED
24.	22-12-2022	82.94	38.58	32.13	39.64	1.00	2.79	NOT DETECTED
25.	26-12-2022	86.41	34.24	28.44	34.59	1.15	3.83	NOT DETECTED
26.	29-12-2022	79.67	36.79	23.46	31.37	1.00	2.65	NOT DETECTED
27.	02-01-2023	66.17	36.24	21.45	32.19	1.12	2.37	NOT DETECTED
28.	05-01-2023	79.46	27.52	16.38	28.74	1.00	2.96	NOT DETECTED
29.	09-01-2023	74.61	36.74	29.64	36.78	1.15	3.17	NOT DETECTED
30.	12-01-2023	76.24	32.82	24.79	39.83	1.00	2.68	NOT DETECTED
31.	16-01-2023	82.47	27.17	27.54	19.99	1.00	4.27	NOT DETECTED

Continue…

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Name of Location		ADANI PORT – TUG Berth 600 KL Pupm House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
32.	19-01-2023	78.52	39.36	26.17	28.14	1.15	3.95	NOT DETECTED
33.	23-01-2023	85.35	31.24	24.39	31.57	1.12	4.68	NOT DETECTED
34.	26-01-2023	78.31	38.57	26.73	33.87	1.00	2.52	NOT DETECTED
35.	30-01-2023	87.49	29.63	25.44	36.26	1.17	3.47	NOT DETECTED
36.	02-02-2023	83.26	31.59	16.72	24.14	1.15	3.62	NOT DETECTED
37.	06-02-2023	86.72	37.52	28.68	36.89	0.95	3.79	NOT DETECTED
38.	09-02-2023	67.38	44.74	34.54	41.38	1.00	4.62	NOT DETECTED
39.	13-02-2023	75.18	38.57	29.84	37.49	1.14	3.96	NOT DETECTED
40.	16-02-2023	81.38	36.62	26.81	29.75	1.00	2.85	NOT DETECTED
41.	20-02-2023	80.32	31.28	33.49	38.16	1.13	2.59	NOT DETECTED
42.	23-02-2023	74.91	37.26	28.81	36.57	0.97	3.66	NOT DETECTED
43.	27-02-2023	87.74	35.96	31.63	38.27	1.00	3.74	NOT DETECTED
44.	02-03-2023	70.69	42.58	23.34	29.75	1.00	3.88	NOT DETECTED
45.	06-03-2023	87.43	44.51	32.74	39.46	1.14	4.15	NOT DETECTED
46.	09-03-2023	76.57	37.59	28.17	34.15	1.12	4.86	NOT DETECTED
47.	13-03-2023	72.45	34.21	31.42	38.76	1.00	2.98	NOT DETECTED

Continue…

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Name of Location		ADANI PORT – TUG Berth 600 KL Pupm House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
48.	16-03-2023	78.82	39.76	29.57	32.56	1.12	3.12	NOT DETECTED
49.	20-03-2023	87.05	42.95	32.47	41.2	1.15	3.26	NOT DETECTED
50.	23-03-2023	85.26	34.18	30.88	38.65	1.00	4.62	NOT DETECTED
51.	27-03-2023	74.24	38.65	29.74	34.71	1.13	4.42	NOT DETECTED
52.	30-03-2023	83.28	32.41	24.25	29.48	1.15	3.78	NOT DETECTED
Permissible Value as per NAAQMS		**100.0**	**60.0**	**80.0**	**80.0**	**2.0**	**---**	**5.0**
Test Method		**IS - 5182, Part-23**	**UERL/AIR/SOP/11**	**IS - 5182, Part - 2**	**IS - 5182, Part - 6**	**IS - 5182, Part - 10**	**Gas analyzer**	**IS – 5182, Part – 11**

Nikunj D. Patel
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Results of Ambient Air Quality Monitoring

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
1.	03-10-2022	79.37	28.34	17.38	26.86	0.92	NOT DETECTED	NOT DETECTED
2.	06-10-2022	83.47	36.86	19.63	23.26	1.15	NOT DETECTED	NOT DETECTED
3.	10-10-2022	82.38	32.12	17.88	29.10	1.00	NOT DETECTED	NOT DETECTED
4.	13-10-2022	73.48	29.73	18.39	26.24	1.12	NOT DETECTED	NOT DETECTED
5.	17-10-2022	84.32	26.46	24.96	31.82	1.00	NOT DETECTED	NOT DETECTED
6.	20-10-2022	88.74	37.94	23.58	29.39	1.10	NOT DETECTED	NOT DETECTED
7.	27-10-2022	75.93	23.63	29.34	37.43	0.96	NOT DETECTED	NOT DETECTED
8.	28-10-2022	81.29	32.45	22.25	31.98	1.13	NOT DETECTED	NOT DETECTED
9.	31-10-2022	78.64	39.41	31.48	38.71	1.00	NOT DETECTED	NOT DETECTED
10.	03-11-2022	83.21	27.43	11.24	16.78	1.00	4.72	NOT DETECTED
11.	07-11-2022	78.23	21.25	14.78	20.15	1.15	3.29	NOT DETECTED
12.	10-11-2022	65.78	31.16	17.89	24.56	0.94	5.63	NOT DETECTED
13.	14-11-2022	77.58	22.47	23.45	31.36	1.00	5.09	NOT DETECTED
14.	17-11-2022	81.24	26.28	26.78	30.15	1.00	4.37	NOT DETECTED
15.	21-11-2022	83.45	34.56	23.10	28.15	1.15	4.86	NOT DETECTED

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Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
16.	24-11-2022	73.45	28.51	22.45	27.14	0.95	2.98	NOT DETECTED
17.	28-11-2022	80.12	23.83	19.25	22.53	1.00	4.12	NOT DETECTED
18.	01-12-2022	84.42	23.57	16.38	26.47	1.16	3.72	NOT DETECTED
19.	05-12-2022	68.54	21.75	19.43	25.79	1.00	4.76	NOT DETECTED
20.	08-12-2022	82.71	24.17	26.19	34.27	1.10	4.88	NOT DETECTED
21.	12-12-2022	76.83	29.96	28.77	37.36	1.13	4.26	NOT DETECTED
22.	15-12-2022	86.53	32.78	21.91	27.52	1.00	3.57	NOT DETECTED
23.	19-12-2022	83.36	31.26	27.62	33.13	1.16	3.72	NOT DETECTED
24.	22-12-2022	79.16	34.04	25.12	31.98	1.00	3.14	NOT DETECTED
25.	26-12-2022	73.58	29.36	22.65	29.07	1.00	3.64	NOT DETECTED
26.	29-12-2022	85.63	36.42	26.83	36.17	1.15	4.12	NOT DETECTED
27.	02-01-2023	72.36	29.62	13.28	31.34	1.00	2.96	NOT DETECTED
28.	05-01-2023	84.27	24.38	26.73	34.86	1.12	3.59	NOT DETECTED
29.	09-01-2023	81.63	27.47	17.38	26.47	1.00	3.26	NOT DETECTED
30.	12-01-2023	75.38	37.24	26.77	32.14	1.00	4.83	NOT DETECTED
31.	16-01-2023	87.31	26.48	16.64	27.92	1.15	4.89	NOT DETECTED

Continue…

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Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
32.	19-01-2023	64.38	39.63	21.94	31.23	1.13	3.26	NOT DETECTED
33.	23-01-2023	73.29	32.47	29.58	38.96	1.17	2.13	NOT DETECTED
34.	26-01-2023	69.04	36.72	26.16	37.53	1.13	2.79	NOT DETECTED
35.	30-01-2023	84.27	27.84	18.24	26.48	1.12	3.74	NOT DETECTED
36.	02-02-2023	89.28	34.79	23.85	27.13	1.17	4.83	NOT DETECTED
37.	06-02-2023	73.59	29.82	21.29	29.75	1.00	2.37	NOT DETECTED
38.	09-02-2023	86.27	39.84	32.06	43.27	1.17	4.72	NOT DETECTED
39.	13-02-2023	77.33	32.61	31.29	37.55	0.95	2.79	NOT DETECTED
40.	16-02-2023	76.52	31.28	24.66	31.74	1.00	3.16	NOT DETECTED
41.	20-02-2023	63.38	34.39	28.17	37.93	1.00	4.33	NOT DETECTED
42.	23-02-2023	88.56	41.39	23.72	33.84	1.15	3.69	NOT DETECTED
43.	27-02-2023	73.41	38.69	31.43	36.16	1.00	3.48	NOT DETECTED
44.	02-03-2023	75.41	40.62	27.17	34.29	0.95	4.03	NOT DETECTED
45.	06-03-2023	86.36	36.17	25.74	31.58	0.98	3.12	NOT DETECTED
46.	09-03-2023	78.72	32.96	24.68	28.49	1.14	4.18	NOT DETECTED
47.	13-03-2023	74.17	41.22	28.54	35.25	1.12	2.96	NOT DETECTED

Continue…

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Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
48.	16-03-2023	84.23	36.71	28.16	34.86	1.00	3.55	NOT DETECTED
49.	20-03-2023	88.98	42.58	31.32	39.13	1.12	3.75	NOT DETECTED
50.	23-03-2023	76.63	35.93	29.65	36.29	1.00	4.25	NOT DETECTED
51.	27-03-2023	86.24	31.47	26.96	31.83	1.14	3.38	NOT DETECTED
52.	30-03-2023	89.58	38.25	19.63	25.58	1.11	3.15	NOT DETECTED
Permissible Value as per NAAQMS		**100.0**	**60.0**	**80.0**	**80.0**	**2.0**	**---**	**5.0**
Test Method		**IS - 5182, Part-23**	**UERL/AIR/ SOP/11**	**IS - 5182, Part - 2**	**IS - 5182, Part - 6**	**IS - 5182, Part - 10**	**Gas analyzer**	**IS – 5182, Part – 11**

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Results of Noise Level Monitoring

Location Name		CT3 RMU-2					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		13-10-2022	14-11-2022	12-12-2022	12-01-2023	13-02-2023	13-03-2023
1	06:00 to 07:00	63.4	62.8	61.2	59.9	61.9	64.6
2	07:00 to 08:00	66.9	68.5	63.8	61.4	68.5	68.2
3	08:00 to 09:00	63.2	67.4	62.8	68.6	64.7	66.7
4	09:00 to 10:00	69.6	64.7	64.3	65.5	62.1	64.9
5	10:00 to 11:00	61.2	64.1	68.5	66.1	67.5	63.6
6	11:00 to 12:00	67.4	68.9	69.1	69.1	65.7	64.2
7	12:00 to 13:00	68.8	67.1	64.2	64.2	62.4	64.9
8	13:00 to 14:00	67.5	68.3	66.9	68.3	69.0	68.7
9	14:00 to 15:00	65.2	64.2	63.6	63.6	64.2	63.6
10	15:00 to 16:00	69.5	62.3	64.2	62.6	62.3	61.9
11	16:00 to 17:00	65.5	69.4	63.9	63.9	68.6	68.4
12	17:00 to 18:00	68.2	61.2	66.8	62.9	61.2	67.4
13	18:00 to 19:00	68.7	68.4	64.4	63.7	67.2	63.4
14	19:00 to 20:00	65.5	65.5	63.6	62.2	65.5	62.7
15	20:00 to 21:00	60.7	65.4	65.4	65.4	63.4	60.5
16	21:00 to 22:00	62.9	64.8	63.1	62.7	64.7	63.8
Day Time		<75 dB (A)					

Continue...

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Location Name		CT3 RMU-2					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		13-10-2022	14-11-2022	12-12-2022	12-01-2023	13-02-2023	13-03-2023
1	22:00 to 23:00	62.4	59.2	59.6	59.0	60.3	62.4
2	23:00 to 24:00	63.1	62.5	60.3	60.8	61.3	60.5
3	24:00 to 01:00	57.5	61.2	63.2	62.2	61.2	58.5
4	01:00 to 02:00	61.1	57.9	61.7	60.8	57.4	59.3
5	02:00 to 03:00	62.7	57.4	62.1	62.1	58.3	56.8
6	03:00 to 04:00	60.9	60.2	60.4	60.4	61.9	60.9
7	04:00 to 05:00	58.4	61.8	64.5	63.1	61.8	62.6
8	05:00 to 06:00	59.9	63.9	62.5	61.9	58.6	60.7
Night Time		<70 dB (A)					

Test Method	IS: 9989 : 1981

Nikunj D. Patel
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Jaivik S. Tandel
(Manager - Operations)

Results of Noise Level Monitoring							
Location Name		**Near Fire Station**					
Sr. No.	**Sampling Date and Time**	**Noise Level Leq. dB(A) - Day Time**					
		06-10-2022	**07-11-2022**	**05-12-2022**	**05-01-2023**	**06-02-2023**	**06-03-2023**
1	06:00 to 07:00	63.5	63.4	62.3	61.4	64.8	61.9
2	07:00 to 08:00	64.3	67.8	63.6	66.8	61.6	63.6
3	08:00 to 09:00	66.7	69.3	67.2	65.3	68.4	67.3
4	09:00 to 10:00	62.8	61.3	63.0	67.5	65.3	66.8
5	10:00 to 11:00	68.1	65.1	64.4	61.3	68.1	63.2
6	11:00 to 12:00	63.2	68.3	66.8	62.8	67.2	65.1
7	12:00 to 13:00	64.2	68.9	65.9	62.9	64.7	67.3
8	13:00 to 14:00	66.9	66.7	63.5	61.4	68.3	68.1
9	14:00 to 15:00	61.2	58.7	68.2	66.3	59.7	60.2
10	15:00 to 16:00	64.8	67.5	62.6	65.7	68.4	65.3
11	16:00 to 17:00	63.1	66.3	67.9	67.9	67.7	68.3
12	17:00 to 18:00	60.8	67.1	61.4	64.7	61.0	63.2
13	18:00 to 19:00	66.9	65.9	66.8	62.4	66.3	67.5
14	19:00 to 20:00	61.3	64.2	64.2	64.2	65.1	63.9
15	20:00 to 21:00	63.3	63.2	62.1	64.1	64.8	63.2
16	21:00 to 22:00	58.7	61.3	61.3	63.6	62.6	64.8
Day Time		**<75 dB (A)**					

Continue…

Location Name		Near Fire Station					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Night Time					
		06-10-2022	07-11-2022	05-12-2022	05-01-2023	06-02-2023	06-03-2023
1	22:00 to 23:00	59.2	58.6	60.9	58.4	56.8	54.8
2	23:00 to 24:00	62.5	57.8	61.3	61.3	58.4	56.6
3	24:00 to 01:00	62.3	61.2	59.6	59.3	60.2	58.5
4	01:00 to 02:00	57.9	59.8	61.3	60.2	56.4	57.4
5	02:00 to 03:00	60.3	60.4	59.8	59.8	57.3	58.4
6	03:00 to 04:00	62.4	58.6	60.3	61.3	61.3	60.4
7	04:00 to 05:00	61.5	61.3	59.5	59.5	60.2	58.7
8	05:00 to 06:00	61.7	59.8	58.6	58.1	59.8	55.2
Night Time		<70 dB (A)					

Test Method	IS: 9989 : 1981

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Results of Noise Level Monitoring

Location Name		ADANI PORT – TUG Berth 600 KL Pump House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		10-10-2022	10-11-2022	08-12-2022	09-01-2023	09-02-2023	09-03-2023
1	06:00 to 07:00	63.8	61.3	59.7	62.3	63.1	62.7
2	07:00 to 08:00	65.4	65.4	62.7	64.8	64.4	61.3
3	08:00 to 09:00	61.2	67.3	63.9	61.8	66.3	64.8
4	09:00 to 10:00	67.4	64.3	63.2	62.3	67.5	68.3
5	10:00 to 11:00	63.3	68.9	68.6	65.9	67.9	64.7
6	11:00 to 12:00	68.8	67.3	63.6	68.1	68.4	67.5
7	12:00 to 13:00	67.2	64.3	68.1	67.4	62.1	64.8
8	13:00 to 14:00	61.5	67.1	65.4	68.2	68.3	67.2
9	14:00 to 15:00	67.1	66.2	61.3	65.8	65.3	67.9
10	15:00 to 16:00	60.4	69.8	64.9	64.9	68.1	66.5
11	16:00 to 17:00	62.6	68.2	67.4	67.4	67.4	68.3
12	17:00 to 18:00	68.2	65.3	67.3	64.2	61.7	62.5
13	18:00 to 19:00	68.1	66.4	66.2	66.2	64.3	66.8
14	19:00 to 20:00	65.2	61.3	69.7	69.7	63.2	64.1
15	20:00 to 21:00	64.1	64.3	64.8	64.8	65.8	63.8
16	21:00 to 22:00	62.3	63.9	63.4	58.4	62.8	60.9
Day Time		<75 dB (A)					

Continue…

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Location Name		ADANI PORT – TUG Berth 600 KL Pump House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Night Time					
		10-10-2022	10-11-2022	08-12-2022	09-01-2023	09-02-2023	09-03-2023
1	22:00 to 23:00	60.8	61.4	61.2	61.2	58.5	56.7
2	23:00 to 24:00	63.5	62.3	61.8	61.8	61.8	60.4
3	24:00 to 01:00	63.8	56.8	62.3	62.8	56.8	57.2
4	01:00 to 02:00	62.7	59.5	60.9	60.7	58.5	57.7
5	02:00 to 03:00	60.6	56.5	60.3	61.4	56.5	58.5
6	03:00 to 04:00	61.4	58.8	61.5	61.5	57.3	58.5
7	04:00 to 05:00	58.7	60.7	63.8	64.5	60.7	58.4
8	05:00 to 06:00	54.7	61.4	62.4	62.7	62.4	59.9
Day Time		<70 dB (A)					

Test Method	IS: 9989 : 1981

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Results of Noise Level Monitoring

Location Name		PUB/Adani House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		03-10-2022	03-11-2022	01-12-2022	02-01-2023	02-02-2023	02-03-2023
1	06:00 to 07:00	62.5	63.8	62.7	61.8	60.6	62.4
2	07:00 to 08:00	66.1	61.4	64.2	63.5	62.5	61.8
3	08:00 to 09:00	68.2	58.7	63.1	62.8	60.9	63.7
4	09:00 to 10:00	62.4	62.6	65.6	62.4	63.2	63.2
5	10:00 to 11:00	67.8	68.7	64.2	63.4	67.4	64.2
6	11:00 to 12:00	64.0	63.4	67.9	69.6	65.2	61.8
7	12:00 to 13:00	61.3	69.7	64.3	65.7	68.9	65.9
8	13:00 to 14:00	65.9	62.1	63.2	64.2	64.8	63.1
9	14:00 to 15:00	64.2	62.5	66.5	67.5	63.6	66.3
10	15:00 to 16:00	63.7	61.8	65.2	67.1	61.8	62.9
11	16:00 to 17:00	67.0	65.5	64.5	63.8	66.4	64.7
12	17:00 to 18:00	65.3	64.1	65.1	64.9	67.9	64.3
13	18:00 to 19:00	69.1	59.2	62.7	63.8	58.2	60.1
14	19:00 to 20:00	66.7	68.3	61.3	65.4	67.0	63.4
15	20:00 to 21:00	61.8	63.3	60.2	63.9	61.9	62.7
16	21:00 to 22:00	60.4	66.3	60.8	62.5	65.3	61.2
Day Time		<75 dB (A)					

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Location Name		PUB/Adani House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Night Time					
		03-10-2022	03-11-2022	01-12-2022	02-01-2023	02-02-2023	02-03-2023
1	22:00 to 23:00	63.6	56.3	58.7	60.3	57.3	58.4
2	23:00 to 24:00	64.2	57.8	61.6	62.3	56.2	54.2
3	24:00 to 01:00	63.4	54.3	60.7	59.8	54.3	55.7
4	01:00 to 02:00	64.1	58.6	60.6	60.6	57.4	58.3
5	02:00 to 03:00	58.6	59.3	59.3	58.1	60.1	59.2
6	03:00 to 04:00	58.2	55.8	60.5	59.2	56.3	57.9
7	04:00 to 05:00	64.2	59.2	61.3	60.5	59.2	55.4
8	05:00 to 06:00	61.3	57.4	62.7	61.3	58.3	57.8
Day Time		<70 dB (A)					

Test Method	IS: 9989 : 1981

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UNISTAR ENVIRONMENT & RESEARCH LABS PVT. LTD. * GUJARAT VAPI.

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(Manager - Operations)

Results of Stack Monitoring

Sr. No.	Parameter	Unit	Hot Water System-1 (Liquid Terminal)	Hot Water System-2 (Liquid Terminal)	Thermic Fluid Heater (Bitumin-1)	Thermic Fluid Heater (Bitumin-2)	GPCB LIMIT	Method of Test
Oct-22								
1	Particulate Matter	mg/Nm^3	21.19	23.64	23.72	22.96	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	6.63	7.24	9.03	9.84	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	18.47	23.36	22.38	21.29	50	IS 11255 (Part - 7)
Nov-22								
1	Particulate Matter	mg/Nm^3	22.79	21.44	22.37	21.47	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO2	ppm	7.26	6.63	8.69	8.32	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NOX	ppm	20.19	21.79	21.52	22.16	50	IS 11255 (Part - 7)
Dec-22								
1	Particulate Matter	mg/Nm^3	22.48	22.92	22.89	22.36	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	6.84	6.89	9.08	9.16	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	19.72	22.31	22.14	22.68	50	IS 11255 (Part - 7)
Jan-23								
1	Particulate Matter	mg/Nm^3	22.83	23.18	23.48	22.79	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	7.12	7.13	9.83	9.58	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	21.26	22.58	22.94	23.13	50	IS 11255 (Part - 7)

Continue…

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Sr. No.	Parameter	Unit	Hot Water System-1 (Liquid Terminal)	Hot Water System-2 (Liquid Terminal)	Thermic Fluid Heater (Bitumin-1)	Thermic Fluid Heater (Bitumin-2)	GPCB LIMIT	Method of Test
Feb-23								
1	Particulate Matter	mg/Nm^3	21.36	22.39	21.72	19.79	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	6.27	7.58	8.36	8.68	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	19.89	22.94	20.52	21.56	50	IS 11255 (Part - 7)
Mar-23								
1	Particulate Matter	mg/Nm^3	21.14	21.85	19.38	18.78	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	6.58	7.32	8.14	7.46	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	20.36	22.58	19.69	20.83	50	IS 11255 (Part - 7)

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CIN:U73100GJ2007PTC051463

Results of Stack Monitoring

Sr. No.	Parameter	Unit	D.G. Set-6, 7 & 8 (1250 KVA - CT2) Common Stack	D.G. Set-9 (1500 KVA - CT3)	D.G. Set-10 (1500 KVA - CT3)	D.G. Set-11 (1500 KVA - CT3)	GPCB LIMIT	Method of Test
			Mar-23	Feb-23				
			17-03-2023	03-02-2023	03-02-2023	03-02-2023		
1	Particulate Matter	mg/Nm^3	22.48	13.49	17.28	14.96	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	8.26	9.84	13.63	13.37	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	17.85	21.69	24.71	17.81	50	IS 11255 (Part - 7)
4	Carbon Monoxide	mg/Nm3	3.27	4.6	4.8	4.2	--	UERL/AIR/SOP/18
5	Non Methyl Hydro Carbon	ppm	Not Detected	Not Detected	Not Detected	Not Detected	--	UERL/AIR/SOP/27
Sr. No.	Parameter	Unit	D.G. Set-12 (1500 KVA) - CT4	D.G. Set-13 (1500 KVA) - CT4	D.G. Set-14 (1500 KVA) - CT4	D.G. Set-1 (500 KVA) - DG House - MPT	GPCB LIMIT	Method of Test
			Feb-23			Dec-22		
			01-02-2023	01-02-2023	01-02-2023	18-12-2022		
1	Particulate Matter	mg/Nm^3	19.27	22.39	19.36	18.73	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	7.84	8.68	7.73	7.42	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	15.96	19.52	15.24	24.38	50	IS 11255 (Part - 7)
4	Carbon Monoxide	mg/Nm3	4.13	4.46	3.92	2.69	--	UERL/AIR/SOP/18
5	Non Methyl Hydro Carbon	ppm	Not Detected	Not Detected	Not Detected	Not Detected	--	UERL/AIR/SOP/27

Continue…

Sr. No.	Parameter	Unit	D.G. Set-2 (500 KVA) - DG House - MPT	D.G. Set-3 (500 KVA) - DG House - MPT	D.G. Set-4 (500 KVA) - DG House - MPT	D.G. Set-5 (500 KVA) - DG House - MPT	GPCB LIMIT	Method of Test
			Dec-22					
			18-12-2022	18-12-2022	18-12-2022	18-12-2022		
1	Particulate Matter	mg/Nm^3	23.74	21.47	26.68	23.74	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO_2	ppm	6.84	9.39	8.36	9.37	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	26.72	27.51	26.64	28.58	50	IS 11255 (Part - 7)
4	Carbon Monoxide	mg/Nm3	3.26	4.17	4.79	4.15	--	UERL/AIR/SOP/18
5	Non Methyl Hydro Carbon	ppm	Not Detected	Not Detected	Not Detected	Not Detected	--	UERL/AIR/SOP/27

Nikunj D. Patel
(Chemist)

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RESULTS OF BORE HOLE WATER

SR.NO.	TEST PARAMETERS	UNIT	Pump House-1	Pump House-2	Pump House-3	Near Unloading bays	Near ETP	TEST METHOD
			14-02-2023	14-02-2023	14-02-2023	14-02-2023	14-02-2023	
1.	pH @ 25 ° C	--	8.11	7.78	7.89	7.98	8.01	IS 3025(Part 11)1983
2.	Salinity	ppt	3.37	1.06	1.81	1.02	7.17	APHA 23rd Ed.,2017,2520 B
3.	Oil & Grease	mg/L	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	IS 3025(Part39)1991, Amd. 2
4.	Hydrocarbon	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	GC/GCMS
5.	Lead as Pb	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	IS 3025 (PART 47) 1994
6.	Arsenic as As	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	APHA 23rd Ed.,2017,3114-C
7.	Nickel as Ni	mg/L	0.076	0.022	0.033	0.015	0.127	IS 3025 (PART 54) 2003
8.	Total Chromium as Cr	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	IS 3025 (PART 52) 2003
9.	Cadmium as Cd	mg/L	0.042	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	0.094	IS 3025(PART 41) 1992
10.	Mercury as Hg	mg/L	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)	APHA 23rd Ed.,2017, 3112-B
11.	Zinc as Zn	mg/L	0.102	0.061	BDL(MDL:0.05)	BDL(MDL:0.05)	0.054	IS 3025(PART 49) 1994
12.	Copper as Cu	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	IS 3025 (PART 42) 1992
13.	Iron as Fe	mg/L	0.835	0.516	BDL(MDL:0.1)	BDL(MDL:0.1)	0.342	IS 3025(PART 53) 2003
14.	Insecticides/Pesticides	µg/L	Absent	Absent	Absent	Absent	Absent	USEPA 8081 B
15.	Depth of Water Level from Ground Level	meter	1.9	2.1	1.95	2.15	2	--

Mr. Nilesh Patel
Sr. Chemist

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RESULTS OF BORE HOLE WATER

SR.NO.	TEST PARAMETERS	UNIT	Pump House-1	Pump House-2	Pump House-3	Near Unloading bays	Near ETP	TEST METHOD
			04-08-2022	04-08-2022	04-08-2022	04-08-2022	04-08-2022	
1.	pH @ 25 ° C	--	8.44	8.02	8.06	7.79	7.6	IS 3025(Part 11)1983
2.	Salinity	ppt	3.4	0.79	0.81	1.12	11.64	APHA 23rd Ed.,2017,2520 B
3.	Oil & Grease	mg/L	BDL	BDL	BDL	BDL	BDL	IS 3025(Part39)1991, Amd. 2
4.	Hydrocarbon	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	GC/GCMS
5.	Lead as Pb	mg/L	0.064	0.072	0.044	0.034	0.042	IS 3025 (PART 47) 1994
6.	Arsenic as As	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	APHA 23rd Ed.,2017,3114-C
7.	Nickel as Ni	mg/L	0.114	0.101	0.09	0.069	0.105	IS 3025 (PART 54) 2003
8.	Total Chromium as Cr	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	IS 3025 (PART 52) 2003
9.	Cadmium as Cd	mg/L	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	IS 3025(PART 41) 1992
10.	Mercury as Hg	mg/L	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)	APHA 23rd Ed.,2017, 3112-B
11.	Zinc as Zn	mg/L	0.132	0.246	0.129	0.122	0.197	IS 3025(PART 49) 1994
12.	Copper as Cu	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	IS 3025 (PART 42) 1992
13.	Iron as Fe	mg/L	0.12	0.85	0.79	1.12	0.94	IS 3025(PART 53) 2003
14.	Insecticides/Pesticides	µg/L	Absent	Absent	Absent	Absent	Absent	USEPA 8081 B
15.	Depth of Water Level from Ground Level	meter	1.9	2.1	1.95	2.15	2	--

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Minimum Detection Limit			
Ambient Air Quality Monitoring			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	Particulate Matter (PM10)	µg/m3	5 µg/m3
2	Particulate Matter (PM2.5)	µg/m3	5 µg/m3
3	Sulphur Dioxide (SO2)	µg/m3	4 µg/m3
4	Nitrogen Dioxide (NO2)	µg/m3	5 µg/m3
5	Carbon Monoxide (CO)	mg/m3	0.01 mg/m3
6	Ammonia (NH3)	µg/m3	5 µg/m3
7	Ozone (O3)	µg/m3	5 µg/m3
8	Lead (Pb)	µg/m3	0.5 µg/m3
9	Nickle (Ni)	ng/m3	1 ng/m3
10	Arsenic (As)	ng/m3	1 ng/m3
11	Benzene	µg/m3	1µg/m3
12	Benzo(o)Pyrene	ng/m3	0.1 ng/m3
14	Hydro Carbon	µg/m3	1 µg/m3
Stack Emission Monitoring			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	Suspended particulate matter	mg/Nm3	2 mg/Nm3
2	Sulphur Dioxide SOX	mg/Nm3	4 mg/Nm3
3	Oxides of Nitrogen NOX	mg/Nm3	5 mg/Nm3

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ETP Water			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	Colour	Pt. Co. Scale	5
2	pH @ 27 ° C	--	2
3	Temperature	0C	5
4	Total Suspended Solids	mg/L	4
5	Total Dissolved Solids	mg/L	4
6	COD	mg/L	2
7	BOD (3 days at 27 0C)	mg/L	1
8	Chloride (as Cl) -	mg/L	1
9	Oil & Grease	mg/L	2
10	Sulphate (as SO4)	mg/L	1
11	Ammonical Nitrogen	mg/L	2
12	Phenolic Compound	mg/L	0.1
13	Copper as Cu	mg/L	0.05
14	Lead as Pb	mg/L	0.01
15	Sulphide as S	mg/L	0.05
16	Cadmium as Cd	mg/L	0.003
17	Fluoride as F	mg/L	0.2
18	Residual Chlorine	mg/L	0.1
19	Percent Sodium	%	--
20	Sodium Absorption ratio	--	--

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MARINE WATER			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	pH	--	5
2	Temperature	oC	5
3	Total Suspended Solids	mg/L	4
4	BOD (3 Days @ 27oC)	mg/L	1
5	Dissolved Oxygen	mg/L	0.2
6	Salinity	ppt	0.01
7	Oil & Grease	mg/L	2
8	Nitrate as NO_3	µmol/L	0.4
9	Nitrite as NO_2	µmol/L	0.04
10	Ammonical Nitrogen as NH_3	µmol/L	0.8
11	Phosphates as PO_4	µmol/L	0.4
12	Total Nitrogen	µmol/L	2.2
13	Petroleum Hydrocarbon	µg/L	0.1
14	Total Dissolved Solids	mg/L	4
15	COD	mg/L	2

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Sea SEDIMENT			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	Organic Matter	%	0.5
2	Phosphorus as P	µg/g	1
3	Texture	--	--
4	Petroleum Hydrocarbon	µg/g	0.1
5	Aluminum as Al	%	0.1
6	Total Chromium as Cr+3	µg/g	2
7	Manganese as Mn	µg/g	1
8	Iron as Fe	%	0.1
9	Nickel as Ni	µg/g	1
10	Copper as Cu	µg/g	1
11	Zinc as Zn	µg/g	1
12	Lead as Pb	µg/g	1
13	Mercury as Hg	µg/g	0.05

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BORE HOLE WATER			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	pH @ 25 ° C	--	5
2	Salinity	ppt	--
3	Oil & Grease	mg/L	2
4	Hydrocarbon	mg/L	0.1
5	Lead as Pb	mg/L	0.01
6	Arsenic as As	mg/L	0.01
7	Nickel as Ni	mg/L	0.02
8	Total Chromium as Cr	mg/L	0.05
9	Cadmium as Cd	mg/L	0.003
10	Mercury as Hg	mg/L	0.001
11	Zinc as Zn	mg/L	0.05
12	Copper as Cu	mg/L	0.05
13	Iron as Fe	mg/L	0.1
14	Insecticides/Pesticides	µg/L	0.1
15	Depth of Water Level from Ground Level	meter	--

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Annexure – 3

Details of Greenbelt Development at APSEZ, Mundra

	Total Green Zone Detail till Up to March 2023				
LOCATION	**Area (In Ha.)**	**Trees (Nos.)**	**Palm (Nos.)**	**Shrubs (SQM)**	**Lawn (SQM)**
SV COLONY	72.29	34920.00	7962.00	69696.00	100646.00
PORT & NON SEZ	81.61	149359.00	19220.00	75061.78	62966.38
SEZ	115.70	226120.00	20489.00	220583.60	28162.03
MITAP	2.47	8113.00	33.00	3340.00	4036.00
WEST PORT	104.29	248074.00	66816.00	24112.00	16369.00
AGRI PARK	8.94	17244.00	1332.00	5400.00	2121.44
SOUTH PORT	14.45	27530.00	3470.00	3882.00	3327.26
Samundra Township	58.26	63722.00	11834.00	23908.89	47520.07
Productive Farming (Vadala Farm)	0.00	0.00	0.00	0.00	0.00
TOTAL (APSEZL)	**457.99**	**775082.00**	**131156.00**	**425984.27**	**265148.18**
		906238.00			

Details of Mangrove Afforestation done by APSEZ

Sl. no.	Location	District	Area (Ha)	Duration	Species	Implementation agency
1	Mundra Port	Kutch	24	-	Avicennia marina	Dr. Maity, Mangrove consultant of India
2	Mundra Port	Kutch	25	-	Avicennia marina	Dr. Maity, Mangrove consultant of India
3	Luni/Hamirmora (Mundra,)	Kutch	160.8	2007 - 2015	Avicennia marina, Rhizophora mucronata, Ceriops tagal	GUIDE, Bhuj
4	Kukadsar (Mundra)	Kutch	66.5	2012 - 2014	Avicennia marina	GUIDE, Bhuj
5	Forest Area (Mundra)	Kutch	298	2011 - 2013	Avicennia marina	Forest Dept, Bhuj
6	Jangi Village (Bhachau)	Kutch	50	2012 - 2014	Avicennia marina	GUIDE, Bhuj
7	Jakhau Village (Abdasa)	Kutch	310.6	2007-08 & 2011-13	Avicennia marina, Rhizophora mucronata, Ceriops tagal	GUIDE, Bhuj
8	Sat Saida Bet	Kutch	255	2014-15 & 2016-17	Avicennia marina & Biodiversity	GUIDE, Bhuj
9	Dandi Village	Navsari	800	2006 - 2011	Avicennia marina, Rhizophora mucronata, Ceriops tagal	GEC, Gandhinagar
10	Talaja Village	Bhavnagar	50	2011-12	Avicennia marina	Forest Dept, Talaja
11	Narmada Village	Bhavnagar	250	2014 - 2015	Avicennia marina	GEC, Gandhinagar
12	Malpur Village	Bharuch	200	2012-14	Avicennia marina	SAVE, Ahmedabad
13	Kantiyajal Village	Bharuch	50	2014-15	Avicennia marina	SAVE, Ahmedabad
14	Devla Village	Bharuch	150	210-16	Avicennia marina	SAVE, Ahmedabad
15	Village Tala Talav (Khambhat)	Anand	100	2015 - 2016	Avicennia marina	SAVE, Ahmedabad
16	Village Tala Talav (Khambhat)	Anand	38	2015 - 2016	Avicennia marina	GEC, Gandhinagar
17	Aliya Bet, Village Katpor (Hansot)	Bharuch	62	2017-18	Avicennia marina & Rhizophora spp.	GEC, Gandhinagar
18	Kukadsar-(Bhadeswar-Mundra)	Kutch	250	2021-22	Avicennia marina	Shreeji Enterprise, Amreli
19	Kukadsar-(Bhadeswar-Mundra)	Kutch	750	2022-23	Avicennia marina	Shreeji Enterprise, Amreli
Total			**3890**			

Annexure – 4

ALGAL REMOVAL WORK FROM MANGROVE AREAS

Creek area is regularly observed for checking algal encrustations. On the mangrove recruits & where the algal encrustation is found to be substantial, it is removed manually by deployment of required manpower. This operation is performed during the low tide conditions. The main object is to provide better growing condition for the growth of mangroves. Periodically, spread of Prosopis sp towards the mangrove areas is also observed as this species will compete with mangrove plants for growth.

Mangroves nursery is developed in a creek behind IOCL & 125,000 nos of new saplings are planted in creek area.

Reference photographs of activities undertaken as per given guidelines,

A) Plantation of Mangroves & removal of algal encrustations:

Annexure – 5

ANNEXURES

ANNEXURE 1	**INITIAL OIL SPILL REPORT**	
Particulars of person, office reporting	Capt. Sachin Srivastava- HOD Marine Capt. Rajat Garg - HOS marine, APSEZ	
Tel No.	+91 6359883102	
Date & time of incident	30.11.2022 / 1052 hrs	
Spill location	IOCL SPM	
Likely cause of spill	Leakage from SPM Hose joining flange	Witness – Tug Victor
Initial response action	Initiated OSCRP	
Any other information	NO	

Identity of informant	Tug Victor
Time of FIR	1112
Source of spill	IOCL SPM floating hose
Cause of spill	Leakage from flange
Type of spill	Crude Oil
Color code information (from CG)	Yellow
Radius of slick	10-12 m
Tail	15 m
Volume	0.5 to 0.7 cubic meter approx.
Quantity	20 to 25 L
Weather	NE' Ly x 6-8 knots.
Tide / current	Ebbing / 0.1 to 0.2 knots.
Density	0.2 to 0.86 kg/m qube approx.
Layer thickness	0.02 mm approx.
Air / Sea temp.	24 deg C / 22 deg C
Predicted slick movement	SW'ly
Size of spill classification (Tier 1, 2 or 3)	Tier 1

ANNEXURE 2 **POLREP**

In case of an oil spill, MPSEZ will provide information to Commandant Coast Guard District 1 Porbandar COMDIS 1 and Coast Guard Station Vadinar CGS Vadinar in the following format:

SN.	Parameter	Data
1.	Identity of the informant	Tug Victor
2.	Time of information receipt	1112
3.	Source of Spill	IOCL SPM
4.	Cause of Spill	Hose rupture while discharging Cargo
5.	Type of oil	Crude Oil
6.	Colour code information	Yellow
7.	Configuration	-
8.	Radius	10 to 12 m
9.	Tail	15 m
10.	Volume	0.5 to 0.7 cubic meter approx.
11.	Quantity	20 to 25 L
12.	Weathered or Fresh	Fresh
13.	Density	0.2 to 0.86 kg/m qube approx.
14.	Viscosity	-2-4.5 CST@40 deg centigrade
15.	Wind	NE' Ly x 6 - 8 knots.
16.	Wave Height	0.1 to 0.2 m
17.	Current	0.1 to 0.2 knots.
18.	Layer Thickness	0.2 to 0.4 mm approx.
19.	Ambient air temperature	25 deg C
20.	Ambient sea temperature	23 deg C
21.	Predicted slick movement	SW'ly
22.	Confirm Classification of spill size	Tier 1

Log Sheet of Drill

Page Number: 1 of 1	**Date**: 30-11-2022
Name: Anish	**Position:** Radio Officer
Contact Number: 9825228673	**Signature:**

Activity Timeline:

1052- Dol 11 informed on VHF that Tug Victor reported oil spillage from SPM hose.

1052- Informed Dol 11 to report same to SPM & Diving In charge onboard.

1052 – Dolphin 11 commenced lowering Containment Boom

1053- Informed HOD Marine / HOD-Marine Technical/ HOS

1054- Informed POC & Tech team (Mr. Jimish).

1054- Dol 11 sent Zodiac to the site for inspection.

1055- Dol 11 reported lowering boom.

1055- Tide Ebbing (HW- 0645- 5.68. LW-1328-2.08), Wind NEly 6-8 kts

1055- Instruct Dol 2 & 15 at WB to prepare OSD boom and stand by to cast off.

(OSD ROB- Dol 2- 4.77 KL, Dol 15- 4.25 KL)

1056- Zodiac reported that inspected carried out and found leakage from floating hose. They have tighten the flange to reduce to leakage.

1056- Informed security/safety/medical/dredging by POC.

1057- Dol 11 reported valve tighten, leakage reduced.

1058- 50 meter boom paid out and continue.

1059- Informed Environment Dept & CG Station

1100- Dolphin 11 reported both side OSD spraying system started.

1100- ICG Mundra informed.

1110- Zodiac reported that the leakage is stopped from source

1101- Dol 11 reported leakage stopped.

1109- Dol 11 reported boom lowered 100 m and continue lowering.

1110- Informed Corporate/Legal/Commercial by POC.

1115- Dol 11 reported boom lowered 150 m and will lower 50 m more.

1122- Dol 11 reported boom lowered 200 m.

1131- Dol 11 reported U formation started.

1141- Dol 11 reported U formation completed will commence oil recovery soon.

1146- Dol 11 reported skimmer lowered in water and oil recovery commenced.

1159- Dol 11 reported oil recovery completed, skimmer recovered on deck and commencing boom recovery.

1245- Dol 11 reported boom recovered.

1245- Debrief carried out and Drill called off.

1247- Informed all concern.

Personnel & Boats Participated in Drill

Off Shore

01 Capt Girish Chandra
02 Mr. Yogesh Nandaniya
03 Mr. Sudhakar Singh
03 Mr. Ramdas Pawale
04 Mr. Yugul Kishor Sharma
05 Mr Leelu Singh Solanki
06 Mr Pradeep Pandey
07 Mr. Upinder Samkaria
08 Mr. Shashikant Padave
09 Mr. Santosh Rasam
10 Mr. Vishwanath Chauhan
11 Mr. Dharamveer Yadav
12 Mr Narayan –Tanker Seaman
13 Mr Bharmal Bishoni-Diver
14 Mr. Ayush – HMEL
15 04 members from Sea Care
16 Crew of Tug Dolphin 11
17 Crew of Tug Victor
18 Crew of Boat Al Dariyah
19 Tug Dol 2, 15

Onshore:

1. Capt Sachin Srivastava
2. Capt Rajat Garg
3. Mr. Anish
4. Mr Saket Kumar
5. Mr Salim Sayyad

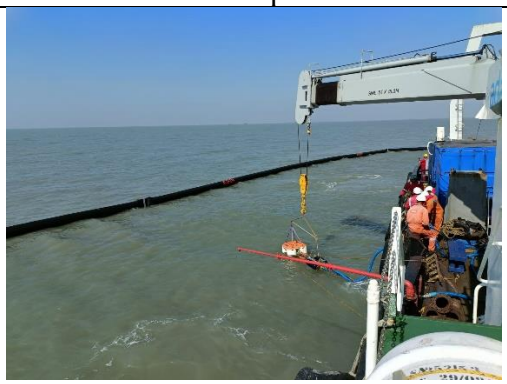
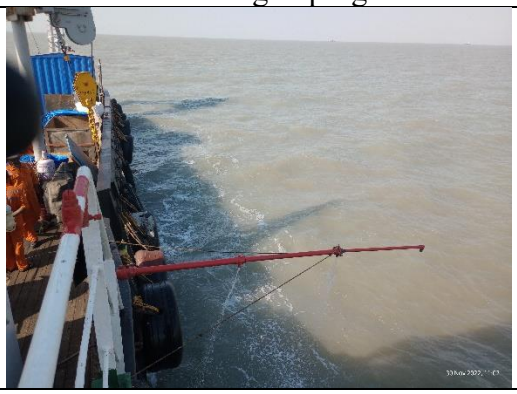
Drill Performance Monitoring:

Sl. No	Activity	Time Taken
1.	Time taken to shift OSR equipment from SPM Store to load on DSV tugs	NA. 200 meter Fence boom and 1-skimmer is kept 24 x 7 on Tug Dol 11.
2.	Time taken for Tug cast off from time information given.	02 min.
3.	Time taken from tug cast off to Reach at Location.	05 min.
4.	Time taken for deploying 200 meter boom and skimmer after reaching at site.	30 min.
5	Time taken for J/U formation and deployment of skimmer.	19 min.

Observations:

SR. NO.	POINTS	ACTION TAKEN	TARGET DATE	RESPONSIBILITY	REMARKS
1	The communication flow between onsite, jetty and Control Room was clear and satisfactory.	NA	NA	NA	

Drill snap

Pre Drill Briefing	Boom laying from Dol 11
	
U foramtion making in progress	OSD Spraying System check from Dol 11
	
Skimmer Operations	U foramtion making in progress
	
OSR Team on Tug Dolphin -11	
	

Annexure – 6

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

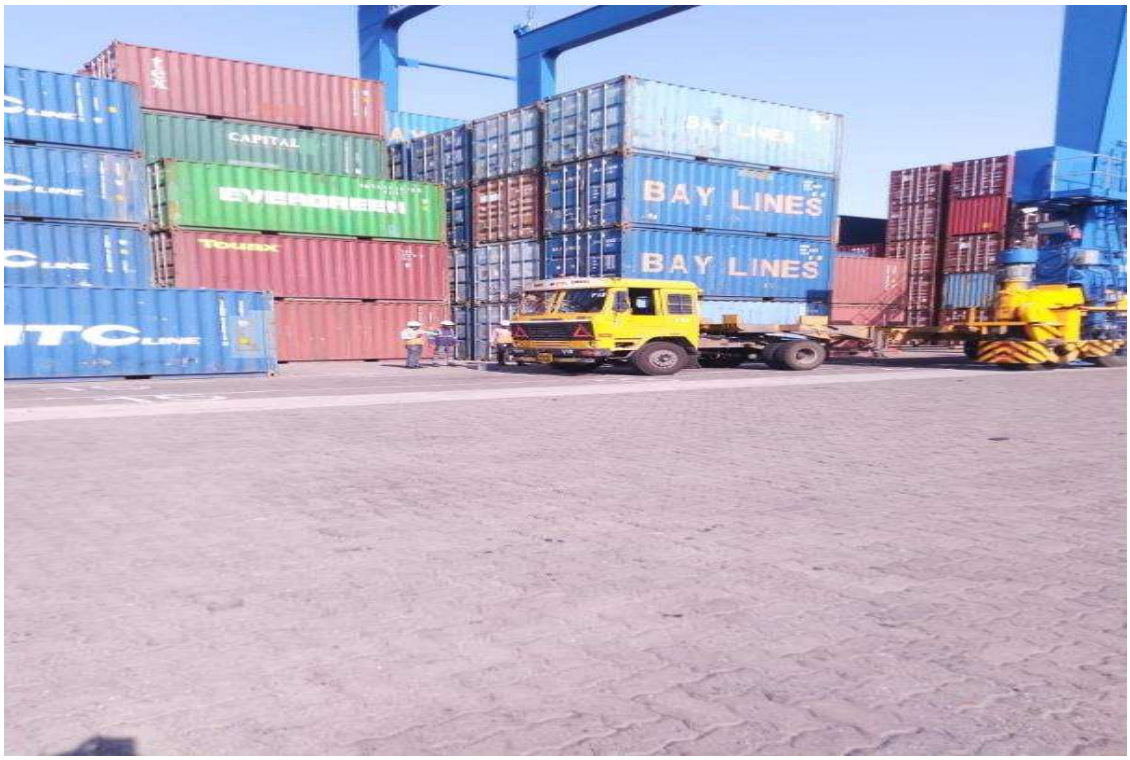
MOCK DRILL REPORT

Date	19.01.2023
Time	15:08 Hrs
Location	Yard 4C, Slot 13, AICTPL
Type/Text of the Scenario	Scenario was created as container loaded on ITV P-13 driver cabin by RTG-505 during yard operation at 4C13

INTRODUCTION:

During yard operation, while loading of container by RTG on ITV/HMV, container loaded on ITV P-13 driver cabin (Driver- Mr. Lalbahadur Prasad) by RTG-505E during yard operation at 4C13 yard. RTG Operator (Mr. Dhanraj) immediate informed to yard supervisor through VHF, Yard supervisor informed to tower controller as well as shift superintendent, Tower controller immediate informed to Shift Superintendent, OHC, Security Service, Fire service, Engineering Service, and Safety Service. Shift superintendent informed to terminal head, Engineering head regarding emergency

LOCATION (WITH PHOTOGRAPH): 4C13 , AICTPL



4C13

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MOCK DRILL REPORT

SEQUENCE OF EVENTS WITH PHOTOGRAPHS:

SEQUENCE OF EVENTS:

- Container loaded on ITV P-13 cabin by RTG-505E during yard operation.
- RTG operator informed yard supervisor through VHF regarding situation.
- Yard supervisor immediate informed to tower control as well as Shift superintendent regarding situation
- Tower control immediate informed to OHC, Fire Services, ISCR, Safety, Engineering about emergency.
- Yard Supervisor reached at incident spot and access the situation
- Shift superintendent reached at location, Access the situation and taken responsibility as site incident Controller.
- Engineering team came at location with first aid box.
- ITV Driver bring down by engineering team and yard supervisor after seen his condition
- After checking of physical condition of IP, CPR provided till ambulance came
- OHC team reached at incident spot with ambulance and necessary appliance like AED kit, Auto stretcher etc. to provide primary assistance.
- Fire team reached at location, and provide necessary help
- Safety team reached at location and met to incident controller and asked about any assistance required
- Victim shifted to ambulance and taken him at OHC centre for further treatment

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MOCK DRILL REPORT

- Security team reached at location.
- Site incident controller call off the emergency.

RESPONSE TIME

#	Description	Exact Time
1	First Responder (RTG Operator) informed to yard supervisor regarding situation	15:08 Hrs
2	Yard supervisor informed to tower control and duty superintendent about situation	15:08 Hrs
3	Yard supervisor reached at incident location	15:09 Hrs
4	Tower control informed to OHC and Engineering Services regarding emergency	15:09 Hrs
5	Tower control informed to Fire Service, ISCR, Safety services, Shift Superintendent regarding emergency	15:10 Hrs
6	Shift Superintendent reached at location, assess the situation and take charge as incident controller	15:11 Hrs
7	Engineering team reached at location	15:10 Hrs
8	Safety team reached at location	15:11 Hrs
9	OHC team reached with ambulance at location	15:15 Hrs
10	Fire team reached at location	15:17 Hrs
11	Security team reached at location	15:17 Hrs
12	IP shifted to ambulance further treatment	15:16 Hrs
13	Ambulance reached at OHC	15:20 Hrs
14	Incident Controller contacted with OHC team for health condition of IP	15:21 Hrs

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MOCK DRILL REPORT

15	Termination of emergency situation by incident controller	15:21 Hrs
16	De-briefing of Mock drill observations by Observers and Incident controller at Incident Spot	15:22 Hrs.to 15:27 Hrs.

Communication & Actions:

Action By	Information To / Action By	Remarks
First Responder	First Responder (RTG Operator) informed to yard supervisor regarding emergency/Scenario	Yes
Site incident Controller	Site incident controller assess the side and declare emergency situation	Yes
Safety Team	Safety team reached at location, Met with incident controller and discussed about required assistance	Yes
Engineering team	Engineering team reached with first aid box, Bring ITV down ITV driver with yard supervisor, provided CPR (Engineering team member is certified first aider)	Yes
OHC / Ambulance	Reached at location and assess the situation, AED use for CPR, Shifted IP into ambulance by auto stretcher and shifted to OHC for further treatment	Yes
Fire service	Reached at location with fire tender and necessary rescue devices, discussed with incident controller for any assistance	Yes
Security Service	Reached at location and traffic diverted	Yes
HR / Admin	NA	NA
Corporate Affaires	NA	NA

COMMUNICATION TO MUTUAL AID GROUP
(IF REQUIRED, AS AND WHEN MUTUAL AID IS CALLED)

To	By Whom/ Media	Standard	Performance
IOCL	NA	2 min. after receiving information to	
HPCL	NA		
JINDAL SAW	NA		

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MOCK DRILL REPORT

ADANI POWER	NA	Emergency Control Room	
CGPL	NA		
HMEL	NA		

RESPONSE TIME PERFORMANCE OF ACTION

Agency	Standard Time	Performance	Rating (Max. 9/ Block)	
			+VE Marks	-VE Marks
Ambulance	6 minutes, 30 Sec	6 Minutes	**9**	**0**
Safety	4-5 Min	1 minutes	**9**	**0**
Fire Services	5 minutes, 42 Sec	7 Minutes	**8**	**1**

A. PERFORMANCE OF OHS & F SERVICES & RESCUE SERVICES

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Turn out time of Fire Team	Good Fire team reached at site	2	1
Turn out time of OHC Team	OHC team reached at site within benchmark of response time.	3	0
Turn out/ response time of Safety Team and in coordination with incident controller mobilisation of personnel and resources.	Response time of Safety team is within benchmark and will coordinate with incident controller for mobilisation of personnel, resources, PPE's etc.	3	0
Firefighting at the site	NA		
Medical attention at the site	Reached at location and assess the situation, AED use for CPR, Shifted IP	3	0

	into ambulance by auto stretcher and shifted to OHC for further treatment		
Rescue of person	IP shifted from incident spot to ambulance by auto stretcher	3	0

B. PERFORMANCE OF ENGINEERING DEPARTMENT

Performance	Performance Rating	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Power shut down/ cut off	NA		
Immediate arrangements at the site	Engineering team member reached at location immediate at location with first aid box	3	0
Mobilizing of personnel and resources	Engineering team member bring down IP from ITV with the help of yard supervisor, started CPR after assess the condition	3	0
Maintenance activities being carried out at the site	NA		
Clearing debris	NA		
Other arrangement at required to meet emergency	NA		

C. PERFORMANCE OF SECURITY SERVICES

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Turnout of Security	Security team reached at location somewhat late as it was reached when IP shifted to ambulance and ambulance went for OHC	2	1

Performance of security guards	Good	2	1
Security officer's command & control	Good	3	0
Area cordoned off	Immediate barricade the area for restrict to entry at scene by security team as guided by incident controller.	3	0
Prevent unwanted/ unauthorized entry and traffic controlled at incident spot / location	Security officers restrict the entry of unauthorized persons	3	0
Closer of gates	NA		
Providing security coverage at main gate and directing concern person to the site	NA		

D. PERFORMANCE OF OPERATION DEPARTMENT

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Immediately pass the communication message through VHF / other available media to subordinates & emergency response team.	Yard supervisor immediate informed to tower control as well as Shift superintendent regarding situation Tower control immediate informed to OHC, Fire Services, ISCR, Safety, Engineering about emergency.	3	0
Stopping of operation / like critical operations first & on priority basis	Operation stopped at concern yard and other vehicle rout diverted.	3	0
Emergency response of particular department at site	Response time of concern department found adequate.	3	0
Support for evacuation of people at site and	NA		

head count along with HR/ Admin			
Availability and response of emergency kit / equipment / Other.	NA		
Audibility of the scenario on PA System by Persons	NA		

Good Observations:

1. Engineering team immediate came at location with first aid kit and provide CPR to IP (Engineering team member is trained first aider) also security vehicle having first aid kit & fire extinguisher.
2. Paramedic officer bring AED machine for CPR at Incident spot and came with required appliance
3. Response of Emergency Agencies (i.e. OHC, Safety, and Fire Service) was satisfactory.

Observer – I (Mr. Ankit Jalgonwkar)

- Area was not barricading around incident spot
- Security team not know about incident controller and not identify yard location

Observer – II (Mr. Jignesh Bhatt)

- Communication not adequate between team
- Checker not know about his role during emergency

Observer – III (Mr. Vinod Rajput)

- Emergency contact numbers not displayed inside the tower control

Overall rating

Marks from 95 to 100 - Excellent

Marks from 90 to 95 - Very Good

Marks below 90 - Needs Improvement

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MOCK DRILL REPORT

VOTE OF THANKS:

Vote of thanks by Mr. Jignesh Bhatt, Ankit, Mr. Dharmesh Chovatiya and given special thanks to all team members of mock drill participants.

SUPPORTING STAFF:

Drill Organized By	:	Mr. Manan Bhatt
Drill guided By	:	Mr. Vinod Rajput, Mr. Uttam Chand
Exercise Performance Assessor	:	Mr. Jignesh Bhatt, Mr. Ankit, Mr. Vinod Rajput
Site incident controller	:	Mr. Ishavar Sinh (Superintendent)
Report prepared By	:	Mr Vijay Chavda

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

COMPLIANCE REPORT FOR MOCK DRILL

Plant/ Facilities: AICTPL
Date of Mock Drill: 19.01.2023

#	Recommendations	Action Taken	Target Date
1	Area was not barricading around incident spot	Superintendent AICTPL	
2	Communication not adequate between team	Superintendent	
3	Checker not know about his role during emergency	Superintendent	
5	Security team not know about incident controller and not identify yard location	Security Services	
6	Emergency contact numbers not displayed inside the tower control	Jignesh Bhatt / Vinod Rajput	

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MOCK DRILL REPORT

Annexure – 7

Cost of Environmental Protection Measures

Sr. No.	Activity	Cost incurred (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2020 – 21	2021 – 22	2022 – 23	2022 – 23
1.	Environmental Study / Audit and Consultancy	6.2	6.82	7.32	11.05
2.	Legal & Statutory Expenses	10.58	10.52	12.32	12
3.	Environmental Monitoring Services	19.17	14.31	15.32	33
4.	Hazardous / Non-Hazardous Waste Management & Disposal	83.55	107.09	104.035	127.72
5.	Environment Days Celebration and Advertisement / Business development	5.3	4.04	2.53	8.00
6.	Treatment and Disposal of Bio-Medical Waste	2.09	2.14	2.29	2.04
7.	Mangrove Plantation, Monitoring & Conservation	32.59	53.6	50.0	50.0
8.	Other Horticulture Expenses	689	921	956	979
9.	O&M of Sewage Treatment Plant and Effluent Treatment Plant (including STP, ETP of Port & SEZ & Common Effluent Treatment Plant)	148.49	252.27	141.33	164.46
10.	Expenditure of Environment Dept. (Apart from above head)	89.11	149.8	90.136	75.79
	Total	**1086.08**	**1371.79**	**1381.28**	**1463.06**