

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: ecompliance-guj@gov.in, iro.gandhingr-mefcc@gov.in

Sub : Half yearly Compliance report of Environment Clearance of "Single Point Mooring (SPM), Crude Oil Terminal (COT) and connecting pipes at Mundra Port, District Kachchh by M/s. Adani Ports & SEZ Limited"

Ref : Environment clearance granted to M/s Adani Ports & SEZ Ltd. vide letter dated 21st July, 2004 bearing no. J-16011/30/2003-IA-III.

Dear Sir,

Please refer to the above cited reference for the said subject matter. In connection to the same, it is to state that copy of the compliance report for the Environmental and CRZ Clearance for the period of April 2024 to September 2024 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 Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003.
- 2) The Zonal Officer, Regional Office, CPCB – Western Region, Parivesh Bhawan, Opp. VMC Ward Office No. 10, Subhanpura, Vadodara – 390023.
- 3) The Member Secretary, GPCB – Head Office, Paryavaran 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.

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Environmental Clearance Compliance Report

of



SPM, Crude Oil Terminal and
Connecting Pipes

at

Mundra Port,
Dist. Kutch, Gujarat

of

Adani Ports and SEZ Limited

Period:

April-2024 to September-2024

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**Adani Ports and Special Economic
Zone Limited, Mundra.**

**From : Apr'24
To : Sep'24**

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 Apr'21 to Sep'21.

Status of the conditions stipulated in Environment Clearance under CRZ notification

Half yearly Compliance report of Environment and CRZ Clearance of "Single Point Mooring (SPM), Crude Oil Terminal (COT) and connecting pipes at Mundra Port, District Kutch issued by MoEF vide letter no. J-16011/30/2003-IA.III dated 21st July 2004.

Sr. No.	Conditions	Compliance Status as on 30.09.2024
A. Specific Condition		
1.	<p>Mangrove afforestation in 25 ha of area, suitably identified in consultation with State Forest Department. The GAPL shall bear the cost of the said land as well as the cost of the plantation of mangroves and its sustenance and implant within 6 months from the date of clearance of this letter. Further, it shall be ensured that mangroves in the vicinity of the salt works are not affected due to the project.</p>	<p>Complied.</p> <p>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.</p> <p>There are no salt works within the project area.</p> <p>It may be noted that to enhance the marine biodiversity, till Sep'24 APSEZ has carried out mangrove afforestation in 4140 ha. Area across the coast of Gujarat. Total expenditure for the same till date is INR 1592.8 lakh.</p> <p>Details on Mangroves afforestation & Green belt development carried out by APSEZ till date is annexed as Annexure - 1.</p> <p>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 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 Hecter 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.</p> <p>These plantations are diligently maintained and continually monitored. Notably, these forests have evolved into a thriving habitat for various marine and migratory bird species, enriching the local ecosystem.</p> <p>Please refer attached Annexure - 2 for CSR activity report carried out by Adani Foundation.</p>

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024
2.	<p>In addition to the mangrove plantation, GAPL should also take up massive green belt developments in 30 acres of land in and around the project in consultation with the Forest Department. Detailed plan indicating the area identified for the mangrove plantation as indicated at (i) above and for green belt development along with the financial outlay shall be provided to this ministry within 6 months from the date of receipt of this letter.</p>	<p>Complied.</p> <p>During the course of development of the project, green belt was developed in 8.58 Hectares of land. Total 8981 trees were planted with the density of 1047 trees per hectare within port premises at a cost of Rs. 25 Lakh.</p> <p>This plantation was done in consultation with Gujarat Ecological Commission (as they are one of the authorized agencies of Dept. of Forest & Env. Dept., Govt. of Gujarat).</p> <p>In addition to this, various activities on green belt development and mangrove plantation are being carried out on regular basis by horticulture department. The budget of Horticulture Department for the period of financial year 2024-25 was INR 831 lacs and allocated budget has 253 lacs spent during the current FY 2024-25 till Sep'24.</p> <p>It may be noted that, APSEZ has developed 458 ha. area as greenbelt with plantation of more than 9.06 Lacs saplings within the APSEZ area. Details on mangroves afforestation & Green belt development carried out by APSEZ till date is annexed as Annexure - 1.</p>
3.	<p>No dredging activity shall be carried out.</p>	<p>Complied.</p> <p>Construction activities are completed & project is in operation stage. SPM is approximately 8.6 km inside the open sea from the shore where 30 m of draft is naturally available. Hence no dredging is required.</p>
4.	<p>No ground water should be tapped at the project site / within CRZ area.</p>	<p>Complied.</p> <p>No ground water is tapped at the project site. Entire water requirement is fulfilled through APSEZ Desal Water and GWIL.</p>
5.	<p>Adequate facilities as listed in National Oil spill Disaster Contingency Plan for the Mundra Port which includes firefighting equipment of 1200 cum/hr. spray capacity with 2 monitor fitted with the dolphin 2,</p>	<p>Complied.</p> <p>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.</p> <p>Oil spill contingency response plan is being updated on regular basis and the same was last updated on 30.07.2022</p>

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024																						
	<p>3, 4 and 5 oil spill dispersant foam liquid etc. should be maintained and put into operation immediately in case of oil spills.</p>	<p>is in place and implemented. The Oil spill contingency response plan was submitted along with EC Compliance report for the period Apr'22 to Sep'22.</p> <p>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.</p> <p>Latest Regional Level Pollution Response exercise "SWACHCHH SAMUDRA-NW 2024" was carried out by Indian Coast Guard on 02-03 May 2024 at Mundra, Gujarat. All participants from various Oil Handling Agencies and Stakeholders (DPA, HMEL, Indian Coast Guard Services (ICGS) and APSEZ, Mundra) were participated in this exercise. Details of the same is attached as Annexure - 3.</p> <p>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. Shoreline Resources available with APSEZ, for deployment during shoreline cleanup/ emergent situation:</p> <table border="1" data-bbox="651 1331 1435 1908"> <thead> <tr> <th>Item</th> <th>Quantity</th> </tr> </thead> <tbody> <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> </tbody> </table>	Item	Quantity	Oil Spill Dispersants	5000 ltr.	Absorbent pads	2000 Nos.	Portable dispersant storage tank: 1000 ltr. Capacity	1 no.	Portable pumps	2 nos.	Oil Containment Boom-Length 2000 metres, Height -1500 mm, Draft-900mm, Free Board-600mm	2000 m	Skimmer-KOMARA 15 Duplex Skimmer System with floating IMP 6 Pump.	4 Nos.	12.5T Flexible Floating Storage Tank (PUA).	3 Nos.	Lamor Minimax 12 m ³ skimmer	2 sets	Lamor Side Collector system (Recovery Capacity 123 m ³ / hr)	2 Nos. 2 sets	Canadyne Fence Boom (Reel model 7296/8496 with Power Pack, Towing	1 No.
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		<p>bridles and Tow lines - 235 meter</p> <ul style="list-style-type: none"> • 10 Tugs are fitted with Oil Spill Lamor Side Dispersant boom and proportionate pump to mix OSD and Sea water as required. • 10 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. • Dolphin 11 has firefighting system of 1200 m³/hr. along with 20 ton lifting "A" frame and diving support facility. • The equipment are being kept in working condition. Routine inspection, maintenance and testing is performed as per the stipulated requirements. • Detail of resource available at APSEZL is provided in Oil Spill Contingency Plan, which was submitted during the compliance period Apr'22 to Sep'22.
6.	The duration of construction phase of the project should be kept to a maximum of 8 months to avoid impact on marine environment and birds as suggested by NIO.	<p>Already complied. Not applicable at present.</p> <p>Construction activity is already completed and the project is in operation.</p>
7.	It shall be ensured that there is no displacement of people, houses or fishing activity as a result of the project.	<p>Not Applicable</p> <p>Location of SPM is unmanned (approximately 8.6 km inside the open sea from the shore) hence; there is no displacement of people, houses or fishing activity as a result of the project.</p>
8.	The project proponents must make necessary arrangements for disposal of solid wastes and for the treatment of effluents / liquid wastes. It must be ensured that the effluents / liquid wastes are not discharged into the seawater.	<p>Complied.</p> <p>No used oil / spent oil generated during compliance period.</p> <p>No other type of hazardous waste as well as no effluent or liquid waste are generated from operation of SPM or discharged into the sea water.</p> <p>The non-hazardous solid waste generated from on-shore SPM operational activity is being handled and managed as per 5R concept for environmentally sound management.</p> <p>In order to analyzed marine water quality, marine sampling</p>

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024																																																														
		<p>(surface, bottom & sediment) is being carried out at a location nearby SPM 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 Apr'24 to Sep'24 is mentioned below.</p> <p>Total Sampling Locations: 09 Nos. (Frequency: Once a month)</p> <table border="1"> <thead> <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>Avg.</th> <th>Min</th> <th>Max</th> <th>Avg.</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>--</td> <td>7.91</td> <td>8.24</td> <td>8.12</td> <td>7.74</td> <td>8.16</td> <td>7.97</td> </tr> <tr> <td>BOD (3 Days @ 27 °C)</td> <td>mg/L</td> <td>2.2</td> <td>3.4</td> <td>2.89</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>94</td> <td>144</td> <td>127.04</td> <td>76</td> <td>132</td> <td>106.96</td> </tr> <tr> <td>DO</td> <td>mg/L</td> <td>5.73</td> <td>6.69</td> <td>6.23</td> <td>5.48</td> <td>6.49</td> <td>6.04</td> </tr> <tr> <td>Salinity</td> <td>ppt</td> <td>35.31</td> <td>38.82</td> <td>36.07</td> <td>26.76</td> <td>37.54</td> <td>36.86</td> </tr> <tr> <td>TDS</td> <td>mg/L</td> <td>34410</td> <td>36550</td> <td>35858</td> <td>35370</td> <td>37610</td> <td>36873</td> </tr> </tbody> </table> <p style="text-align: right;">*BDL – Below Detection Limit *MDL – Minimum Detection Limit</p> <p>Please refer Annexure – 4 for detailed analysis reports. Approx. INR 6.11 Lakh is spent for all environmental monitoring activities during the compliance period i.e. FY 2024-25 till Sep'24 for overall APSEZ, Mundra.</p>	Parameter	Unit	Surface			Bottom			Min	Max	Avg.	Min	Max	Avg.	pH	--	7.91	8.24	8.12	7.74	8.16	7.97	BOD (3 Days @ 27 °C)	mg/L	2.2	3.4	2.89	BDL (MDL 1.0)	BDL (MDL 1.0)	BDL (MDL 1.0)	TSS	mg/L	94	144	127.04	76	132	106.96	DO	mg/L	5.73	6.69	6.23	5.48	6.49	6.04	Salinity	ppt	35.31	38.82	36.07	26.76	37.54	36.86	TDS	mg/L	34410	36550	35858	35370	37610	36873
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9.	The camps of labor shall be kept outside the Coastal Regulation Zone area. Proper arrangements for cooking fuel shall be made for the labor during construction phase so as to ensure that mangroves are not cut / destroyed for this purpose.	<p>Complied. Not applicable at present.</p> <p>Construction activities are completed and project is in operational phase.</p>																																																														

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024				
10.	Regular drills should be conducted to check the effectiveness of the on-site Disaster Management Plan. The recommendations made in the Environmental Management Plan and Disaster Management Plan, as contained in the Environmental Impact Assessment and Risk analysis reports of the project, shall be effectively implemented.	<p>Complied.</p> <p>Disaster Management plan is in place and implemented. Updated DMP was submitted to the MoEF & CC along with half yearly compliance report for the period from Apr – 2016 to Sep – 2016 and there is no further change.</p> <p>On Site Emergency Response Plan and Crisis Management Plan updated on August-2023 is in place and implemented. The updated Onsite emergency plan –was submitted during the EC compliance report submission for the period Apr'23 to Sep'23.</p>				
		<p>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. The Oil spill contingency response plan updated on 30.07.2022 is in place and implemented. Please refer Compliance of Specific Condition No. 5 for further details.</p> <p>Mock drills are conducted regularly by APSEZ. Last Oil Spill Mock drill was conducted on 3rd May, 2024. Updated Oil Spill Mock Drill report is enclosed as Annexure - 5.</p> <p>All the recommendations given in the report of NIO and Tata AIG Risk Management Services are implemented. Few examples are provided below.</p> <p>Few Marine EIA recommendations:</p> <table border="1" data-bbox="625 1444 1458 1917"> <tr> <td data-bbox="625 1444 971 1822">Temporary colonies of workforce should be located sufficiently away from the HTL with proper sanitation. Adequate arrangement of fuel supply to the workers should be made to discourage them from using mangroves for firewood.</td> <td data-bbox="971 1444 1458 1822">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 APSEZL.</td> </tr> <tr> <td data-bbox="625 1822 971 1917">As a step towards improvement in marine environment quality,</td> <td data-bbox="971 1822 1458 1917">25 hectare of mangrove plantation with a cost of 10 Lakh is already completed near railway yard in</td> </tr> </table>	Temporary colonies of workforce should be located sufficiently away from the HTL with proper sanitation. Adequate arrangement of fuel supply to the workers should be made to discourage them from using mangroves for firewood.	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 APSEZL.	As a step towards improvement in marine environment quality,	25 hectare of mangrove plantation with a cost of 10 Lakh is already completed near railway yard in
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Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024	
		<p>mangrove afforestation of intertidal mudflats should be encouraged through adequate institutional support.</p>	<p>consultation with Dr. Maity, Mangrove consultant of India. Details on mangroves afforestation & Green belt development carried out by APSEZ till date is annexed as Annexure - 1.</p>
		<p>The prevailing traffic control management of deep-sea ships navigating through the gulf needs thorough review and introduction of state of the art VTS should be considered.</p>	<p>APSEZ is practicing well defined traffic control procedure.</p> <p>A VTS service for Gulf of Kutch is provided by the VTS Gulf of Kutch, operated by Directorate General of Lighthouses and Lightships (DGLL), Govt. of India.</p> <p>Marine Control of APSEZ provides traffic update to vessels in Mundra Port Limit on VHF Channel- 77.</p> <p>Arrival and departure information before arrival and departure respectively in Gulf of Kutch is provided to VTMS information cell through agent or by directly sending mail to vtsmanagergulfofkutch@yahoo.com and vtsgok@yahoo.com</p> <p>Mundra port has subscribed and taking VTMS feed from Kandla from link www.vts.gov.in.</p>
		<p>Few Tata AIG Risk Assessment Recommendations:</p>	
		<p>There should be facilities of boom, skimmer, dispersant, diving suits, firefighting equipment and excellent communication facilities.</p>	<p>10 Dolphin tugs fitted with Oil Spill Dispersant boom and proportionate pump to mix OSD and Sea water as required; out of them 10 Dolphin Tugs are fitted with a fire curtain and remote-controlled fire monitors.</p>

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024	
		<p>In the event of oil spillage the oil slick normally will be carried away by water current and wind. It is very difficult to identify oil slick patches by boats/vessels, hence it is suggested that GAPL may take help from coast guard/Navy for aerial surveillance in order to identify and monitor oil slick movement.</p>	<p>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 plan updated & approved by coast guard, which was submitted during last half yearly compliance report.</p>
11.	<p>The entire stretch of the pipelines shall be buried underground except at the booster pumping station, which will be properly fenced and the station would be manned round the clock. The buried lines will be protected with anticorrosive coal tar based coating. The coating will be tested by high voltage detector in accordance with prescribed standards.</p>	<p>Complied.</p> <p>Entire SPM pipeline is buried underground. Total pipeline length is 15.4 km including 8.6 km inside the open sea and 6.8 km on landward side.</p> <p>Booster pump is not provided throughout the pipeline. However, the material is transferred by using pumping system of respective vessels berthed at SPM.</p> <p>Anticorrosive 3 LPE coating is provided to the portion of onshore pipeline while offshore pipeline is also protected by concrete coating.</p> <p>For offshore pipeline, Cathodic Potential (CP) survey is being done once in three years. Last CP inspection of offshore pipeline done in Mar'2021. The report of offshore pipeline, Cathodic Potential (CP) survey were submitted along with previous EC compliance report submission for the period Oct'21 to Mar'22.</p> <p>For onshore pipeline CP survey is being done by APSEZ on monthly bases. Monthly reports of CP survey for this compliance period are enclosed as Annexure - 6.</p>	

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024								
12.	<p>Markers shall be installed at every 30 m to indicate the position of the line. Regular patrolling of the pipelines needs to be done. This will help in identifying any activity that have the potential to cause pipeline damage or to identify small leaks whose effects are too small to be detected by instrument.</p>	<p>Complied.</p> <p>Markers are installed at every 30 m to indicate position of pipeline. Details of the same were submitted during half yearly EC Compliance report for the period Oct'18 to Mar'19.</p> <p>Pressure at vessel and reception points of transfer line is being monitoring during operation to ensure no leakage in pipeline.</p> <p>Regular patrolling of pipeline is being done by APSEZL Security Department. Following mitigation plan is followed in case of small leaks leading to spills.</p> <table border="1" data-bbox="621 915 1471 1205"> <thead> <tr> <th data-bbox="621 915 992 947">Activity</th> <th data-bbox="992 915 1471 947">Adequacy of Measures</th> </tr> </thead> <tbody> <tr> <td data-bbox="621 947 992 1031">Hose Connection / Disconnection (liquid operation)</td> <td data-bbox="992 947 1471 1031">It is collected in deep tray in case of leakage. Stop the supply of liquid discharge.</td> </tr> <tr> <td data-bbox="621 1031 992 1115">Hose Connection / Disconnection (liquid operation)</td> <td data-bbox="992 1031 1471 1115">Immediately stop the supply of liquid discharge. Marine break away coupling available for control of load.</td> </tr> <tr> <td data-bbox="621 1115 992 1199">Tanker discharge operation (SPM operation)</td> <td data-bbox="992 1115 1471 1199">Emergency operation shut off (stopping the discharge)</td> </tr> </tbody> </table>	Activity	Adequacy of Measures	Hose Connection / Disconnection (liquid operation)	It is collected in deep tray in case of leakage. Stop the supply of liquid discharge.	Hose Connection / Disconnection (liquid operation)	Immediately stop the supply of liquid discharge. Marine break away coupling available for control of load.	Tanker discharge operation (SPM operation)	Emergency operation shut off (stopping the discharge)
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Hose Connection / Disconnection (liquid operation)	Immediately stop the supply of liquid discharge. Marine break away coupling available for control of load.									
Tanker discharge operation (SPM operation)	Emergency operation shut off (stopping the discharge)									
13.	<p>There should be display boards at critical locations along the pipeline viz. road / rail /river crossings giving emergency instructions as well as contact details of GAPL. This will ensure prompt information regarding location of accident during any emergency. Emergency Information board should contain emergency instructions in addition to contact details.</p>	<p>Complied.</p> <p>Display boards with emergency contact detail are provided at critical locations.</p> <p>Photographs of the same were submitted as part of the compliance report for the period from Oct'16 to March'17 and there is no farther change.</p>								
14.	<p>During operation phase, proper precautions should be taken to avoid any oil spills and no oily wastes</p>	<p>Complied</p> <p>During operation, SPM team takes responsibility and actively supervises the operation. Inspection and maintenance</p>								

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	shall be discharged into the water bodies.	activities are carried out regularly for prevention of any kind of oil spill at SPM. No liquid waste are generated / discharged from the project activity. In order to analyze marine water quality, marine sampling is being carried out at a location near SPM. Please refer condition no 8 for further details.
15.	All conditions stipulated by the Forest and Environment Department, Government of Gujarat should be strictly implemented.	Complied All the conditions stipulated by Forest and Environment Department are being complied. Point wise compliance report of CRZ recommendations issued vide letter No. ENV-10-2002-124-P (Part1) dated 8th October 2003 is enclosed as Annexure- A .
16.	All conditions stipulated in Gujarat Pollution Control Board vide their letter No. PC/NOC/381/1039 dated 8 th January, 2002 should be implemented.	Complied. Consent to Operate (CC&A) was granted by GPCB based on the compliance of conditions of the No Objection Certificate (CtE). This CC&A is renewed from time to time based on its validity. The last CC&A renewal has granted and issued by GPCB vide Order no. WH 117830 issued dated 29.03.2022 & valid till 26 th April, 2027. Copy of the renewed CC&A were submitted along with previous EC compliance report submission for the period Oct'21 to Mar'22.
B. General Condition		
1	Construction of the proposed structures should be undertaken meticulously confirming 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 Department / Agencies.	Complied. Not applicable at present. Construction activities are completed & project is in operation stage. Entire SPM pipeline is buried underground. Total pipeline length is 15.4 km including 8.6 km inside the open sea and 6.8 Km on landward side. Construction activities are carried out based on the approvals of the concerned state government department and prevailing laws.
2	The project authorities should take appropriate community development	Complied APSEZ is actively working with local community around the

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Sr. No.	Conditions	Compliance Status as on 30.09.2024				
	<p>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.</p>	<p>project area and provides required support for their livelihood and other concerns through the CSR arm – Adani Foundation. Adani Foundation is working in main five persuasions as below.</p> <ul style="list-style-type: none"> ❖ Education ❖ Community Health ❖ Rural Infrastructure ❖ Sustainability Livelihood ❖ Skill Development <p>Brief information about activities in the main five persuasions is mentioned below. Activities carried out for the same are summarized as below.</p> <table border="1" data-bbox="621 951 1469 1911"> <thead> <tr> <th data-bbox="621 951 813 999">Area</th> <th data-bbox="813 951 1469 999">Activity</th> </tr> </thead> <tbody> <tr> <td data-bbox="621 999 813 1911">Community Health</td> <td data-bbox="813 999 1469 1911"> <ul style="list-style-type: none"> • Mobile Health Care Units and Rural Clinics • 07 Rural Clinics • 05 villages of Mundra & 02 village Mandvi block has benefited by rural clinic service. • Total 5519 Patients Benefitted FY 24-25 till Sep'24 (direct & indirect) by Mobile van and rural clinic. • 2 financially challenged patients has been supported with Dialysis treatment at 22 Times which added day in their Life. • Provided 27,355 medical health services ❖ Burn & Intensive Care Unit <ul style="list-style-type: none"> • On August 11 (Adani Foundation Day), the foundation stone for the Burn Ward at GK General Hospital, Bhuj, was laid. • This center will provide comprehensive care for burn victims, from emergency treatment to long-term rehabilitation. It will benefit 22 lakh population of Kutch. ❖ Eye Vision Care: <ul style="list-style-type: none"> • To address these challenges, the Adani Foundation, in collaboration with Vision Spring, is launching a holistic eye care initiative for the community. ❖ This initiative focuses on: <ul style="list-style-type: none"> • Student: See to Learn , SHG Women: See to Earn, Driver of APSEZ: See to be Safe • Total Screening 7476 (Students) + 3958 </td> </tr> </tbody> </table>	Area	Activity	Community Health	<ul style="list-style-type: none"> • Mobile Health Care Units and Rural Clinics • 07 Rural Clinics • 05 villages of Mundra & 02 village Mandvi block has benefited by rural clinic service. • Total 5519 Patients Benefitted FY 24-25 till Sep'24 (direct & indirect) by Mobile van and rural clinic. • 2 financially challenged patients has been supported with Dialysis treatment at 22 Times which added day in their Life. • Provided 27,355 medical health services ❖ Burn & Intensive Care Unit <ul style="list-style-type: none"> • On August 11 (Adani Foundation Day), the foundation stone for the Burn Ward at GK General Hospital, Bhuj, was laid. • This center will provide comprehensive care for burn victims, from emergency treatment to long-term rehabilitation. It will benefit 22 lakh population of Kutch. ❖ Eye Vision Care: <ul style="list-style-type: none"> • To address these challenges, the Adani Foundation, in collaboration with Vision Spring, is launching a holistic eye care initiative for the community. ❖ This initiative focuses on: <ul style="list-style-type: none"> • Student: See to Learn , SHG Women: See to Earn, Driver of APSEZ: See to be Safe • Total Screening 7476 (Students) + 3958
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Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>(Drivers) = 11434</p> <ul style="list-style-type: none"> ❖ Vision Aids: 621 (Students) + 1110 (Drivers) = 1731 ❖ Cataract Screening: 366 nos. of peoples ❖ Cataract Surgery: 18 nos. of peoples <p>Medical Services Data April to Sep - 2024:</p> <ul style="list-style-type: none"> • Ayushman Card : 243 beneficiary • Eye Vision Care ; 7740 beneficiary • Driver Health Check-up : 2423 beneficiary • Blood Donation Camp : 2902 beneficiary • Specialty Health Camp : 2578 beneficiary • General Health Camp : 1074 beneficiary • Rural Clinic: 5519 beneficiary • Mobile Health Care Unit : 4348 beneficiary • Medical Supports: 1071 beneficiary • Dialysis Support: During this year, 2 patients were supported for regular dialysis with 22 Times which added day in their Life. • 1094 –Economically Challenged patients have been supported for operation, OPD, IPD, Medicines and lab-test. <p>Animal Husbandry:</p> <ul style="list-style-type: none"> • Fodder support to 25 villages, benefiting 15005 cattle, Dry Fodder Support - 10,90,875 Kg & Green Fodder Support - 27,64,920 Kg • Launched a vaccination camp for 20,000 cattle, in collaboration with the Animal Health Department of Bhuj. 6,200+ cattle have been successfully vaccinated,
	Sustainable Livelihood – Fisher folk, Agriculture & Women	<ul style="list-style-type: none"> ❖ "CHETNA" - initiative with gender diversity • Adani Foundation, in collaboration with Unnati Portal and Adani Solar, launched an initiative to provide equal opportunities for employment and self-development to women from Kutch. • Till Now 167 Female Joined Adani Solar @Pan India, 154 are from Kutch (92.21%) ❖ Saheli Groups: Form 82 Self Help Groups in

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Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>coordination with National Rural Livelihood Mission (850+ Members). 16 SHG are on pathways of self-reliance their total Corpus Rs. 32,27,100 in 6 months.</p> <p>❖ 3 women SHGs from Adani Foundation Mundra participated in the prestigious Sathwaro Mela in Ahmedabad, showcasing Mud Art, Bead Art, and Soof Art, along with two artisans specializing in Rabari and Dori work, achieving an impressive turnover of Rs.1,30,000/-</p> <p>Empowering Fisherfolk Community:</p> <ul style="list-style-type: none"> • Education Support: Vehicle transportation facilities to 86 fisherfolk students, Education kits Support to 77 students, Scholarship support of Rs. 3,58,765 to 34 students. • Job Support: Facilitated job placements for 75 fisherfolk as RTG operators, in the HR department, professional painting roles and as supervisors in APSEZ companies. <p>Animal Husbandry:</p> <ul style="list-style-type: none"> • Fodder support to 25 villages, benefiting 15005 cattle, Dry Fodder Support - 10,90,875 Kg & Green Fodder Support - 27,64,920 Kg • Launched a vaccination camp for 20,000 cattle, in collaboration with the Animal Health Department of Bhuj. 6,200+ cattle have been successfully vaccinated, <p>Last Year conducted activities:</p> <p>Overall Persistent efforts for Fisherman development:</p> <ul style="list-style-type: none"> • 598 Education Kit Support • 273 Fisherman Shelter Support • 1,247 Vehicle transportation support of Mundra and Mandvi taluka • 106 Cycle Support to high school going students • 613 Scholarship Support • 419 Youth Employment • 195 Linkages with Fisheries Scheme

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<ul style="list-style-type: none"> • 3,534 Ramaotsav Community Engagement • 56,523 Man days Mangroves Plantation <p>Empowering Fisherfolk Communities through Education:</p> <ul style="list-style-type: none"> • Vehicle Transportation Facilities: 146 Students supported Mundra Taluka and 58 Students supported at Mandvi Taluka during the compliance period • Education Kits Support: Education Kits including notebooks, guides, and bags, to fisherfolk students studying in 9th to 12th standard to enhance their learning experience (57 nos. students benefitted). • Educational Awareness Sessions: Through targeted awareness sessions in Fisherfolk Vasahat, we promote the transformative power of education, with a particular focus on advancing girl-child education. (487 Students motivated for high school Education). • Scholarship Support: Provide scholarship support to 31 deserving students, covering their higher secondary school fees. Emphasizing gender equality, we offer 100% fee support to female candidates and 80% to male candidates. • Cycle Support: Overcoming transportation obstacles, our cycle support initiative enables six 9th standard fisherfolk students from Juna Bandar to continue their education with ease. • Assisting During Emergencies: Fisherfolk Home were significantly damaged by the Biporjoy Cyclone. In response to that we provided 2696 cement sheets to 336 fisherfolk households of Juna Bandar, Luni, and Randh Bandar to support their recovery. (336 Fisherfolk house benefited) • Fostering Youth Employment: At APSEZ Mundra, our mission revolves around providing sustainable employment opportunities for the local fishing community. We serve as a bridge between industries and Fisherfolk youth, facilitating job placements to enhance livelihoods. This year, we have successfully engaged 115+

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Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>Fisherfolk youth, paving the way for a brighter future. (115+ Fisherfolk youth employed)</p> <ul style="list-style-type: none"> • Strengthening Fisherfolk women: Through comprehensive health and hygiene initiatives, we empower Fisherfolk women. Our programs include family planning resources, menstrual hygiene workshops, nutrition advocacy, and health awareness sessions covering vaccinations, clean water access, and mental health support. (449 Women benefited) • Potable Water Distribution: Providing potable water facilities to 9 Fisherfolk Vasahat daily, either through water tankers or by establishing linkages with the nearest Gram Panchayat. This initiative benefits over 5000 Fisherfolk, significantly improving their health and productivity. (5000+ Population benefited). <p><u>Sustainable Livelihood - Agriculture:</u> During compliance period This year, the Adani Foundation continued its strong commitment to advancing natural farming in Mundra. Through various initiatives and partnerships, we provided crucial support to local farmers, empowering them with knowledge and resources to transition to sustainable practices.</p> <ul style="list-style-type: none"> • 2200+ Farmers educated in natural farming • 800+ Farmers embracing natural farming methods • 200 Farmers got financial assistance of Rs. 10,000 • 3 District level exposure visit • ₹ 36.7 lakh Business done by our benefited Farmers <p><u>Promoting Natural Farming:</u></p> <ul style="list-style-type: none"> • Training: Conducted training for 1250 farmers in 16 villages, enlightening them about the harmful effects of chemical fertilizers. Demonstrated how to produce organic fertilizer using household products, emphasizing its benefits and cost-effectiveness. After adopting it, they

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Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>witnessed its positive effects on their fields.</p> <ul style="list-style-type: none"> • Kitchen Garden Kit: We have supported vegetable kitchen garden kits to 500 farmers with the aim to enable them to grow fresh and nutritious, chemical-free vegetables. This will enhance their food security and promote self-reliance. • Empowering Farmers: This year, amidst the aftermath of the cyclone, we stood by our farmers and held dedicated meetings with KVK, KCS, and DRC to restore the fallen date trees. Collaboratively, provided JCB, technical support, organic fertilizer etc. Successfully restored 615 trees. Each Date trees is projected to yield approximately Rs. 25,000, Total Yield in Next Season:- Rs.1.53 Cr. • Financial Assistance: Extend financial support to 200 farmers, each receiving Rs. 10,000, a transaction gracefully facilitated by Mr. R. N. Parmar, virtually transferring funds to their bank accounts, funded by Adani Petrochemicals. This fund will help farmers in planting a total of 53,136 fruit-bearing plants. <p><u>Raj Shakti Prakrutik Kheti Sahkari Mandali:</u></p> <ul style="list-style-type: none"> • Appreciation by Governor: Governor of Gujarat, Shree Acharya Devvratji, encouraged 25 of our farmers practicing natural farming at the Krushi and Dairy Expo event in Bhuj. • Exposure Visits Certification by GOPCA: Our farmers embarked on three eye-opening exposure visits to Gautech-2023, • Certification by GOPCA: We have successfully certified 28 farmers under the Gujarat Organic Products and Certification Agency (GOPCA). <p><u>Kutch Kalptaru FPO (KKPC) and Prakrutik Mandli</u></p> <ul style="list-style-type: none"> • To promote horticulture, the Kutch Kalptaru FPO (KKPC) was established in 2020 by farmers from Mundra Block to address various challenges they faced. With an initial 350 shares held by 280 shareholders,

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Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>the company is now expanding to include up to 5000 farmers and 537 registered shareholders. (800 Farmers benefited and ₹ 33.67 lacs Turn over)</p> <ul style="list-style-type: none"> 19 nos. of Market Linkage for supporting to Green carnival at Samudra Township & Shantivan colony Now 302+ farmers are collaborated with Mandli. Total Green Carnivals 37, Total Sell 8,623 kg and Revenue generated ₹ 30184805. by connecting directly with consumers, they've seen a remarkable 35% increase in their income. Adani Foundation has also provided 14.38 lacs kg Dry Fodder and 45.85 lacs kg Green fodder in 31 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. 305.55 Lacs during FY 2023-24. Adani Foundation provides Good Quality dry and green fodder to 24 Villages. Project is covering total 15005 Cattels / 2070 farmers and hence enhancing cattle productivity during FY 2023-24. Grass Land development: AF converted 18 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara, Siracha, Gundal, Kukadsar village to transform into Fodder Sustain village during FY 2023-24. <p>Women Empowerment:</p> <ul style="list-style-type: none"> 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 more than Rs 35 Lacs.

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Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<ul style="list-style-type: none"> ❖ Making SHG Self Reliant: <ul style="list-style-type: none"> ● 16 SHG are on pathways of self-reliance. ● Various handicraft, dry and fresh food making, stitching, tie and die etc. ● 175+ women - Monthly average income @ 7000 of each member over Month. ❖ Job Sourcing – Govt: <ul style="list-style-type: none"> ● 11 Women supported for application and process of Gram Rakshak Dal, Bank Sakhi, Bima Sakhi and Professional Resource Person. ● Average income 4200 Per Month. ❖ Job Sourcing – Private: <ul style="list-style-type: none"> ● Coordination for Job by Unnati Portal with Adani Group company companies, Britania, B Medical and Emphazer company. ● 398 Women supported till date for job sourcing of more than 18 villages. ● Average income 10200 Per Month. ❖ Social Empowerment: <ul style="list-style-type: none"> ● 2 Livelihood Enhancement Training through RSETI. ● Financial support for business set up. ● Legal rights and domestic violence workshops. ● Family counselling for Job sourcing. ● During FY2023-24 Approx. INR 122.32 lakh were spent for Fisherfolk Amenities work in different core areas. ● Till FY 2023-24 Adani Foundation has done total expenditure of INR 1460.50 lakh for Fisherfolk Amenities work in different core areas. ● 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.
	Education	<p>Key programmatic accomplishments:</p> <ul style="list-style-type: none"> ● 69 Primary schools (10452 Students)

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Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<ul style="list-style-type: none"> • 8 High schools (1211 Students) • 12000+ Students • 2371 Progressive learner • 3421 IT on Wheels • 2449 Adani competitive coaching center • 250 Adani Evening Education center • Library Activity: 45000+ Books issued. 300+ Oasis workshop arranged to increase reading habits of students. • Mothers Meet: Mothers' meetings conducted every second Saturday in Utthan schools. 10,000+ mothers have participated. • Vedic maths and Abacus
	Rural Infrastructure & Environmental Sustainability	<p>Adani foundation designed and build various structure and provide service in the Health, Education, agriculture and sustainable livelihood area.</p> <ul style="list-style-type: none"> ❖ Renovation of Zarpara High School - benefit 450+ students/annually ❖ Construction of Madhav seva trust School at Zarpara - benefit 250+ students/annually ❖ Renovation of AVMB school - benefit 640+ students/annually ❖ Vruksh Se Vikas – Massive Drive <ul style="list-style-type: none"> • In the 6 months we establish 3 Adani Van, planting 22,460 trees in 9.5 acres area in N khakhar, Borana, and Dhrub village. Till Date 8 Adani Van 75,078 Trees @28 acres • Prakrutik Rath: Empowering Communities Through Green Initiatives 7,136 saplings distributed and planted in 6 months. • Total 1.79 Lac tree plantation done till date. ❖ Mangrove Nursery Development with 10,000 seeds. ❖ Coastal Cleanup day: At Kashivishvnath Beach, Mandvi, 200+ students and 80 Utthan Sahayaks cleaned a 1 km stretch, collecting significant plastic waste as part of

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Sr. No.	Conditions	Compliance Status as on 30.09.2024																							
		<p>a coastal cleanup and awareness drive.</p> <p>❖ Green Schools: Eco-clubs in 77 Utthan Schools and 12000+ students participate in "No Plastic" activities.</p> <p>Last Year Completed Activities/Projects:</p> <p>Water Conservation Projects:</p> <p>Swajal Project:</p> <ul style="list-style-type: none"> ➤ Aim: The Foundation's Water Conservation program, SWAJAL, is aimed at addressing the alarming depletion of groundwater levels and reduction in water sources in various parts of Kutch district. ➤ Water Security Plan: Due to arid climatic characters of the Kutch region, it is essential to plan for water security drinking and livelihood purposes. Considering weather condition, rainfall characters, geohydrological condition and water demand, water security plan has been prepared for the Seven villages. <table border="1" data-bbox="813 1262 1463 1688"> <thead> <tr> <th>Block Name</th> <th>Water conservation structure</th> <th>Total no. of Structure</th> <th>Total Capacity Created (CUM)</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Mundra</td> <td>Check Dam</td> <td>23</td> <td>6,07,332.80</td> </tr> <tr> <td>Pond Deepening</td> <td>66</td> <td>1,89,121.08</td> </tr> <tr> <td>RRWHS</td> <td>275</td> <td>2750</td> </tr> <tr> <td>Recharge Borewell</td> <td>209</td> <td>-</td> </tr> <tr> <td>Percolation Well</td> <td>24</td> <td>-</td> </tr> </tbody> </table> <p>Soil Conservation:</p> <ul style="list-style-type: none"> • 1250 Farmers Awareness Sessions at Village Level: Spreading awareness on natural farming benefits and address their concerns. • 7 exposure of Hands-On Training & 				Block Name	Water conservation structure	Total no. of Structure	Total Capacity Created (CUM)	Mundra	Check Dam	23	6,07,332.80	Pond Deepening	66	1,89,121.08	RRWHS	275	2750	Recharge Borewell	209	-	Percolation Well	24	-
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			<p>Exposures: Arranged Workshop and training to emphasizing on real-world techniques.</p> <ul style="list-style-type: none"> • 857 Farmers link with Government Scheme: facilitation of govt. Cow Nurturing scheme to promote eco- friendly farming practices. • 258 Gobardhan Bio-gas Support: Link with Gov Gobar Dhan Biogas Unit Nutrient-rich slurry serves as an essential organic fertilizer for natural farming. • 35 Farmers Natural Farming Certification Process to obtain natural farming certification through the GOPCA for the 35 Farmers who are Members of Raj shakti Sahakrai Mandali. • Rs.9.88 Lacs RG Marketing Assistance: Provide platforms and resources ensuring fair prices and broader consumer reach.
		Skill Development	<p>Empowering Youth : Impact of ASDC in Mundra and Bhuj Center</p> <p>ASDC has significantly enhanced employability in Mundra and Mandvi. Training programs in digital literacy, RTG crane operation, beauty therapy, and advanced Excel have provided practical skills and certifications. Real-time exposure along with the Entrepreneurship Development Program (EDP), has further empowered youth. Successful placements have resulted in well-paying jobs, contributing to regional economic growth. Overall, ASDC's initiatives have transformed the lives of many individuals, fostering both personal and professional development.</p> <p>ASDC Mundra Center Activities & Achievements:</p> <ul style="list-style-type: none"> • Women Empowerment through Skill Training: Provided Mud work training to 180 women in Mundra taluka villages supported by MPL. • RTG Crane Operator Training: Collaborated with APSEZ HR Team to train 79 students. • Dori Work and Hand Embroidery Training: Benefited 90 women in various Mundra villages supported by MPL. • Health Awareness and Career Sessions: 108 Ambulance Department enlightened GDA trainees at Adani Institute of Medical Sciences. Guest session on career advancement led by Mr. Kapil Goswami.

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Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<ul style="list-style-type: none"> • Exposure Visit for Women: Women trained in Mud Work, Dori Work, and Hand Embroidery showcased their skills during a visit by foreign delegates to the Solar Plant. • Women's Related Training Seminar: Held at Matravadana College, Bidada, Mandvi. <p>ASDC Bhuj Center Activities & Achievements:</p> <ul style="list-style-type: none"> • Commendation from Shree Jeet Adani: Received appreciation for supporting the Divyang job fair. • Employee Development Initiatives: Conducted Advanced Excel training for 18 Sumitomo India Ltd employees • Entrepreneurship Development Program: Organized a comprehensive 12- day program with 60 diverse candidates. • New Trainee Orientation: Conducted sessions about SAKSHAM center and LMS registration at the Bhuj Centre. • Civil Defense Training (5 days): Covered essential topics including Disaster Management, First Aid, 181 Mahila Helpline, 108 Emergency Services, and Fire Safety. • F&B & Housekeeping Batch Inauguration: 92 students trained to enhance employability. • Indo-Euro Project Seminar: Arranged at various Nursing Colleges in Kutch District. Focused on German Language training and job placements. • Crucial Meeting with ISAR & UNICEF: Discussed future skill development challenges and transgender equality on 9th December 2023. <p>Please refer Annexure – 2 for full details of CSR activities carried out by Adani Foundation in the Mundra region. Budget for CSR Activity for the FY 2024-25 is to the tune of INR 823.58 lakh. Out of which, Approx. INR 309.11 lakh is spent during the FY 2024-25 till Sep'24.</p> <p>Till Sep'24, Adani Foundation has done total expenditure of INR 175.85 Cr. for CSR activities in Kutch region since its inception.</p>
3	To meet any emergency situation, appropriate fire – fighting system should be installed. Appropriate	Complied. Tug (Dolphin-11) has firefighting system of 1200 m3/hr. along with 20 ton lifting "A" frame and diving support facility

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	<p>arrangements for uninterrupted power supply to the environment protection equipment and continuous water supply for the firefighting system should be made.</p>	<p>for support at offshore.</p> <p>With respect to onshore facilities valve station, pumping station and transportation pipeline, foam base fire tender is available.</p> <p>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 APSEZL was submitted as part of the compliance report for the period from Oct'16 to March'17 and there is no farther change.</p>
4	<p>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.</p>	<p>Complied.</p> <p>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 Site environment head direct report to site Chief Executive Officer (CEO) and the CEO directly reports to the top management. Updated Environment Management Cell Organogram is attached as Annexure - 7.</p>
5	<p>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's Regional Office at Bhopal.</p>	<p>Complied.</p> <p>Separate budget for the Environment Protection measures is earmarked every year. All environmental and horticulture activities are considered at group level and budget allocation is also done accordingly. No separate bank account is maintained for the same however, all the expenses are recorded in advanced accounting system of the organization.</p> <p>Budget for environmental management measures (including horticulture) for the FY 2024-25 is to the tune of INR 1340.21 lakh. Out of which, Approx. INR 365.97 lakh are spent during the year FY 2024-25 till Sep'24. Detailed breakup of the expenditures for the past 3 years is attached as Annexure - 8.</p>

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024
6	<p>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 Board 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.</p>	<p>Complied</p> <p>APSEZL is always extending full support to the regulatory authorities during their visit to the project site.</p> <p>Last visit of Regional Office, GPCB was done on 14.02.2022 with respect to SPM project and compliance of the same has been submitted vide our letter dated 16.02.2022. Details of the same Details were submitted during half yearly EC Compliance report for the period Oct'21 to Mar'22.</p> <p>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 and as per the compliance certification received, there was no major non-compliance observed.</p> <p>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.</p> <p>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.</p> <p>Inline to the compliance certification process of Environment Clearance of Waterfront Development Plan, IRO- MoEF&CC Gandhinagar has lastly visited the site on 18th</p>

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024
		to 20 th December, 2023 for compliance verification. APSEZ provided all requisite information and documents required by the Regional Officer MoEF&CC). During the said compliance verification visit and as per the compliance certification received, there was no non-compliance observed. Copy of submitted action taken report w.r.t. certified compliance were submitted during half yearly EC Compliance report for the period Oct'23 to Mar'24.
7	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 one for ensuring environmental protection. The project proponents should be responsible for implementing the suggested safeguard measures.	Point noted. There is no change in the approved project proposal.
8	This Ministry reserves the right to revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	Point noted.
9	This Ministry or any other competent authority may stipulate any other additional conditions subsequently, if deemed necessary, for environmental protection, which should be complied with.	Point noted.
10	A copy of the clearance letter should be marked	Not applicable at present


Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024
	to the concerned Panchayat / local NGO, if any, from whom any suggestion / representation has been received while processing the proposal.	
11	State Pollution Control Board / Committee should display a copy of the clearance letter at the District Industries Center and Collector's Office/ Tehsildar's Office for 30 days from the date of receipt of this letter.	Not Applicable This condition does not belong to project proponent.
12	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 letter are available with the Gujarat Pollution Control Board and may also be seen at the website of the Ministry of Environment & Forests at http://www.envfor.nic.in/	Already Complied.
13	The project proponents should inform regional Office Bhopal as well as the Ministry, the date of financial closure and final approval of the project by the concerned authority and the date of start of	Already Complied

Status of the conditions stipulated in Environment Clearance under CRZ notification

Sr. No.	Conditions	Compliance Status as on 30.09.2024
	work.	
14	The project proponent will obtain Forest clearance for any stretch of land if it passes through the forest land.	Not Applicable No forest land was involved in the project.
15	So as to maintain ecological features and avoid damage to the ecosystem, movement of vehicles in the Inter Tidal Zone shall be restricted to minimum.	Complied. All activities are carried out as per the permissions obtained from competent authorities. No unauthorized movement of vehicles is allowed in the intertidal zone.
16	Since the pipeline passes along mangrove areas and the mud flats of Mundra area, the project proponents will ensure adequate protection to mangroves.	Complied. Not applicable at present Construction activities are completed & project is in operation stage. Please refer to specific condition no 1 for detailed reply regarding mangrove plantation activity.
17	Budgetary break up for Environmental Management Plan for the project to be mentioned.	Complied. Please refer to general condition no 5 for detailed reply regarding budgetary break up.

Annexure - A

	Adani Ports and Special Economic Zone Limited, Mundra.	From : Apr'24 To : Sep'24
Status of the conditions stipulated under CRZ Recommendation		

Half yearly Compliance report of CRZ recommendation for "SPM, COT and connecting pipeline at Mundra Port, Dist. Kutch in Gujarat" issued by DoEF, GOG vide letter no. ENV-10-2002-124-P (Part1) dated 8th October 2003.

Sr. No.	Conditions	Compliance Status as on 30.09.2024
1	The provision of the CRZ notification of 1991 and its amendments issued from time to time shall be strictly complied with by the GAPL.	Complied. Construction activities are completed and the project is in operation phase. All stipulations with respect to the CRZ notification and its subsequent amendments are complied with.
2	This recommendation is only for those activities proposed to be commissioned before the end of the year 2008 as mentioned in the bar chart submitted by GAPL.	Point noted. Construction activities are completed and the project is in operation phase.
3	A separate clearance shall be obtained by the GAPL for construction of the SPM No. 3 and 4, corresponding pipelines and COTs after demonstrating the compliance of the conditions, ecological upliftment activities undertaken successfully and mitigative measures implemented while developing the SPM no.1 and corresponding COT. A regional EIA shall also be commissioned immediately by the GAPL and all future development should be based on the outcome of the said regional EIA only.	Point Noted. APSEZL has only developed SPM no. 1 so far. SPM no. 3 and 4 are not developed yet and required permissions for the same will be obtained by following procedures mentioned in respective notifications.
4	Before commissioning of the construction	Complied.

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024
	<p>activities, the construction design and pipeline alignment shall be validated/ approved by National Institute Oceanography to ensure that there is no negative impact on the coastal morphology, hydrodynamics and ecological systems including the corals, if any. The mitigative measures as may be suggested by the NIO for this purpose shall be implemented by the GAPL.</p>	<p>Construction activities are completed and the project is in operation phase.</p> <p>The EIA report was prepared by NIO and specific design considerations were taken into account for carrying out various studies for preparation of the same. Findings of the studies were considered before commissioning of the construction activities.</p> <p>There are no corals present at the project site.</p>
5	<p>A comprehensive EIA shall be prepared and submitted to this Department by the GAPL, before commissioning of the SPM. All the suggestions for environmental protection /management that may be given in the comprehensive EIA shall be implemented by the GAPL.</p>	<p>Complied.</p> <p>EIA study has been completed and report is already submitted to MoEF&CC and other concerned authorities. Based on the same, Environment and CRZ clearance was granted by MoEF&CC.</p> <ul style="list-style-type: none"> • A Regional Impact Assessment study to identify impacts of all the existing as well as proposed project activities in Mundra region inline to ToR issued by GCZMA. CIA Report was prepared inline to the ToR by Chola MS and the same was submitted to the GCZMA on 30.04.2018. Details of the same were submitted along with half yearly EC Compliance report for the period Apr'19 to Sep'19. • Presentation on the findings of the report was made to GCZMA committee on 4th October 2019 and after detailed discussion, authority has decided to constitute committee to discuss the details of the report further. • Reminder Letter vide dated 07.09.2020 & 10.03.2021 submitted to the GCZMA, Gandhinagar for further directives to present the findings of the CIA report in detail. Details of the same were submitted along with previous half yearly EC Compliance report for the period Oct'20 to Mar'21. • Presentation done before GCZMA on 31.10.2021 and 16.02.2021 to discuss proposed EMP of CIA study in detail

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024																					
		<p>and way forward.</p> <ul style="list-style-type: none"> GCZMA, Gandhinagar issued a letter to co-ordinate with various departments in the matter of CIA with Gujarat Pollution Control Board as Nodal Agency vide dated 12th July, 2022. APSEZ submitted the letter to GPCB for detailed deliberation and suitable action / way forward vide letter dated 20th July, 2022. Details of the same were submitted during the last compliance period Apr'22 to Sep'22. <p>However, APSEZ is already complying with the Environment Management Plan (applicable to APSEZ) suggested in the Cumulative Impact Assessment report. The detailed compliance, applicable to APSEZ is attached as Annexure - 9.</p>																					
6	The ground water shall not be tapped in any case to meet with the water requirements during construction and/or operation phases.	<p>Complied.</p> <p>APSEZ does not draw any ground water for the water requirement. Present source of water for entire port and SEZ is desalination plant and/or Gujarat Water Infrastructure Limited (GWIL).</p>																					
7	The GAPL shall ensure that the free flow of water in the intertidal area is not hampered due to proposed construction activities for pipeline corridor as well as other activities including the COT. Further, it shall be ensured by the GAPL that the nearby mangroves are not at all affected due to proposed development activities specifically the COT.	<p>Complied.</p> <p>Construction activity is already completed and the project is in operation phase.</p> <p>Free flow of water in the intertidal area is not hampered due to any operational activities. There are no filling or reclamation activities done at any of the creeks or mangrove areas in the vicinity of the project. 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.</p> <p>Summary of Conservation of mangroves:</p> <table border="1" data-bbox="662 1650 1398 1866"> <thead> <tr> <th rowspan="2">Mangrove mapping Year</th> <th rowspan="2">Monitoring Agency</th> <th rowspan="2">Mangrove cover total Area (Ha.)</th> <th colspan="2">Mangrove cover area Increased</th> </tr> <tr> <th>Hac.</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td rowspan="2">NCSCM</td> <td>2094</td> <td>-</td> <td>-</td> </tr> <tr> <td>2011 to 2016-17</td> <td>2340</td> <td>246</td> <td>11.75%</td> </tr> <tr> <td>2017 to 2019 till March</td> <td>NCSCM</td> <td>2596</td> <td>256</td> <td>10.94%</td> </tr> </tbody> </table>	Mangrove mapping Year	Monitoring Agency	Mangrove cover total Area (Ha.)	Mangrove cover area Increased		Hac.	%	2011	NCSCM	2094	-	-	2011 to 2016-17	2340	246	11.75%	2017 to 2019 till March	NCSCM	2596	256	10.94%
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Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024									
		2019 to 2021 till March	GUIDE	2723	127	4.89%					
		Total		2723	629	--					
	<p>Hence, overall increase in mangrove cover area in creek system in and around APSEZ from 2011 (2094 Ha) to 2021 (2723 Ha) is 629 Ha (30%).</p> <p>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Recommendations</th> <th>Compliance</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Mangrove mapping and monitoring in and around APSEZ</td> <td> <ul style="list-style-type: none"> 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 10.94%. This suggests that the mangroves and 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. According to GUIDE Mangrove monitoring study report November 2023 (the report was submitted during the last compliance report submission Apr'23 to Sep'23), the distribution of mangroves in Kotadi, Baradi mata, Navinal, Bocha and Khari </td> </tr> </tbody> </table>					Sr. No.	Recommendations	Compliance	1.	Mangrove mapping and monitoring in and around APSEZ	<ul style="list-style-type: none"> 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 10.94%. This suggests that the mangroves and 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. According to GUIDE Mangrove monitoring study report November 2023 (the report was submitted during the last compliance report submission Apr'23 to Sep'23), the distribution of mangroves in Kotadi, Baradi mata, Navinal, Bocha and Khari
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Sr. No.	Conditions	Compliance Status as on 30.09.2024																											
			<p>creeks as well as in the Bocha island was studied using LISS IV satellite images for the duration of March 2019 to March 2021. The mangrove cover in the creeks in and around APSEZ showed a positive trend from March 2019 to March 2021, with an overall increase of 52.79 ha (1.9%) compared to the cover during the year 2019. The total mangrove cover during 2019 was 2670 ha which has increased to 2723 ha during the year 2021.</p> <ul style="list-style-type: none"> Hence, overall increase in mangrove cover area in creek system in and around APSEZ from 2011 (2094 Ha) to 2021 (2723 Ha) is 629 Ha (30%). The cost of the said study was INR 23.60 Lacs incurred by APSEZ. <p>Summary of Mangrove mapping and monitoring (from 2011 to 2021):</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="text-align: center;">Mangrove mapping Year</th> <th rowspan="2" style="text-align: center;">Mangrove cover total Area (Ha.)</th> <th colspan="2" style="text-align: center;">Mangrove cover area Increased</th> </tr> <tr> <th style="text-align: center;">Hac.</th> <th style="text-align: center;">%</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">2011</td> <td style="text-align: center;">2094</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td style="text-align: center;">2011 to 2016-17</td> <td style="text-align: center;">2340</td> <td style="text-align: center;">246</td> <td style="text-align: center;">11.75%</td> </tr> <tr> <td style="text-align: center;">2017 to 2019 till March</td> <td style="text-align: center;">2596</td> <td style="text-align: center;">256</td> <td style="text-align: center;">10.94%</td> </tr> <tr> <td style="text-align: center;">2019 to 2021 till March</td> <td style="text-align: center;">2723</td> <td style="text-align: center;">127</td> <td style="text-align: center;">4.89</td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">2723</td> <td style="text-align: center;">629</td> <td style="text-align: center;">--</td> </tr> </tbody> </table>	Mangrove mapping Year	Mangrove cover total Area (Ha.)	Mangrove cover area Increased		Hac.	%	2011	2094	-	-	2011 to 2016-17	2340	246	11.75%	2017 to 2019 till March	2596	256	10.94%	2019 to 2021 till March	2723	127	4.89	Total	2723	629	--
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2.	Tidal observation in creeks in and around APSEZ		<ul style="list-style-type: none"> 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		<ul style="list-style-type: none"> Algal and Prosopis growth monitoring was done in and around mangrove area and algal encrustation was 																										

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024	
			<p>found in some of the mangrove areas, which has been removed manually.</p> <ul style="list-style-type: none"> The cost of the said activity was Rs. 80000 during FY 2023-24. The algal removal report was submitted during the last compliance report submission Oct'23 to Mar'24.
		4.	<p>Awareness of mangroves importance in surrounding communities</p> <ul style="list-style-type: none"> 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 25 Villages. Project is covering total 15005 Cattels and hence enhancing cattle productivity. Dry Fodder 10,90,875 Kg Green – 27,64,920 Kg. Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 132.0 Lacs during FY 2024-25 till Sep'24, which was incurred by APSEZ. Grass Land development: 213 acres of gauchar land has been cleaned and allocated for Grass land development with strong Community Contribution and Mobilization. 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 with coordination of Adani Foundation from 24th to 26th July 2024 to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The report for the same is attached as Annexure - 10. Refer CSR report attached as Annexure - 2.
	<p>To comply with the GCZMA recommendations regarding mangrove monitoring at every 2 years, presently APSEZ has awarded the work order to NCSCM, Chennai vide order no.</p>		

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024
		4802055905, dated 24/09/2024 with cost 45.87 Lacs for mangrove mapping in and around APSEZ March 2021 to March 2023. The said work will be undertaken by NCSCM shortly.
8	The GAPL shall take up massive mangroves plantation activities in addition 25 Ha. of area suitably identified in consultation with the office of the Principal Chief Conservator of Forests, GoG, as well as this Department. The GAPL shall bear the cost of the said land as well as the cost of the plantation of mangroves & its sustenance for a reasonable period of time.	Complied. Construction activities are completed & project is in operation stage. Please refer to specific condition no 1 of the compliance of EC and CRZ clearance for detailed reply regarding mangrove plantation activity.
9	In addition to the mangroves plantation, the GAPL shall also take up massive greenbelt development in and around the project site in consultation with the Forest Department.	Complied. Construction activities are completed & project is in operation stage. Please refer to specific condition no 2 of the compliance of EC and CRZ clearance for detailed reply regarding greenbelt development activity.
10	The GAPL shall provide financial contribution as many as decided by this department for any common study like carrying capacity for the Gulf of Kachchh as well as for any common facilities including Vessels Traffic Management System in the Gulf of Kachchh, for the purpose of the environment protection/management.	Complied. APSEZ is practicing well defined traffic control procedure. A VTMS service for Gulf of Kutch is provided by the VTS Gulf of Kutch, operated by Directorate General of Lighthouses and Lightships (DGLL), Govt. of India. Marine Control of APSEZ provides traffic update to vessels in Mundra Port Limit on VHF Channel- 77. Arrival and departure information before arrival and departure respectively in Gulf of Kutch is provided to VTMS information cell through agent or by directly sending mail to vtsmanagergulfofkutch@yahoo.com and vtsgok@yahoo.com

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>Mundra port has subscribed and taking VTMS feed from Kandla from link www.vts.gov.in.</p> <p>Necessary financial contribution if require will be provided on hearing from MOEF&CC.</p>
11	<p>The GAPL shall provide financial support in implementation of National Green Corps scheme (being implemented in Gujarat by the GEER Foundation) in Kachchh district in consultation with Forests & Environment Department.</p>	<p>Complied</p> <p>Necessary contribution if require will be provided on hearing from GEER foundation to support NGC scheme.</p>
12	<p>The GAPL shall bear the cost of the external agency that may be appointed by the Forests and Environment Department, GoG for supervision/ monitoring of their activities during construction and/or operational phases.</p>	<p>Point noted.</p> <p>APSEZ will provide full support for supervision and monitoring of the project operations after due discussion with the concerned agency and Forests & Environment Department, GoG. No such agency was appointed during the compliance period.</p> <p>As part of the directions given by MoEF&CC vides order dated 18th Sep, 2015, following studies were conducted.</p> <ol style="list-style-type: none"> 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. <p>As a part of mangrove conservation plan, APSEZ has done following activities.</p> <ol style="list-style-type: none"> 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

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024																															
		<p>the said activity was Rs. 80000 during the FY 2023-24. The algal removal report was submitted during the last compliance report submission Oct'23 to Mar'24.</p> <p>d. Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 132.0 Lacs during FY 2024-25 till Sep'24, which was incurred by APSEZ. This activity is being done on continuous basis as a part of CSR activity.</p> <p>Summary of Conservation of mangroves:</p> <table border="1" data-bbox="626 856 1435 1104"> <thead> <tr> <th rowspan="2">Mangrove mapping Year</th> <th rowspan="2">Monitoring Agency</th> <th rowspan="2">Mangrove cover total Area (Ha.)</th> <th colspan="2">Mangrove cover area Increased</th> </tr> <tr> <th>Hac.</th> <th>%</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td rowspan="2">NCSCM</td> <td>2094</td> <td>-</td> <td>-</td> </tr> <tr> <td>2011 to 2016-17</td> <td>2340</td> <td>246</td> <td>11.75%</td> </tr> <tr> <td>2017 to 2019 till March</td> <td>NCSCM</td> <td>2596</td> <td>256</td> <td>10.94%</td> </tr> <tr> <td>2019 to 2021 till March</td> <td>GUIDE</td> <td>2723</td> <td>127</td> <td>4.89%</td> </tr> <tr> <td>Total</td> <td></td> <td>2723</td> <td>629</td> <td>--</td> </tr> </tbody> </table> <p>Hence, overall increase in mangrove cover area in creek system in and around APSEZ from 2011 (2094 Ha) to 2021 (2723 Ha) is 629 Ha (30%).</p> <p>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.</p>	Mangrove mapping Year	Monitoring Agency	Mangrove cover total Area (Ha.)	Mangrove cover area Increased		Hac.	%	2011	NCSCM	2094	-	-	2011 to 2016-17	2340	246	11.75%	2017 to 2019 till March	NCSCM	2596	256	10.94%	2019 to 2021 till March	GUIDE	2723	127	4.89%	Total		2723	629	--
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13	<p>The dredged material that may be generated, if any, shall be disposed of at location suitably identified in consultation with the institute of repute like NEERI/NIO after due consideration of various environmental aspects and ensuring no significant negative impacts due to the same.</p>	<p>Complied. Construction activities are completed & project is in operation stage. SPM is approximately 8.6 km inside the open sea from the shore where 30 m of draft is naturally available. Hence no dredging is required.</p>																															

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024
14	No waste including the construction debris, oily waste from construction equipment's, untreated sewage, etc. would be disposed of in to sea/ river/ creek or in the CRZ areas. The treated sewage meeting with the norms fixed by the Gujarat Pollution Control Board and the reject water from RO plant if any, shall be disposed of at a point in the deep sea as may be suggested by the institute of repute like the NEERI/NIO.	<p>Complied.</p> <p>Construction activities are completed and the project is in operation phase.</p> <p>There is no disposal of any waste including civil debris in CRZ area.</p> <p>No Sewage or RO Reject water is being generated by SPM activity.</p>
15	The Gujarat Maritime Board shall ensure that the Vessel Traffic Management System for safe navigation in the Gulf of Kachchh shall be established and commissioned before commissioning of the SPM No. 1 by the GAPL. The GAPL shall follow up for this with various stakeholders and provide financial and technical inputs for the same.	<p>Complied.</p> <p>Kandla, GMB & DGLL are the agencies who financially support to VTMS. For SPM, APSEZ is mutual partner to support in case of Oil spill & vice versa. For further details regarding traffic management, please refer condition no. 10 of CRZ recommendations above.</p>
16	A mutual aid system for the Mundra Port region shall be developed to meet with any unforeseen circumstances or to meet with any accidental condition.	<p>Complied.</p> <p>APSEZ has signed an MoU with HPCL, Mittal Pipeline Ltd., Mundra in the region of Gulf of Kutch to assist each other within stipulated time frame with best combination of resources.</p> <p>Interface with ROSDCP and NOSDCP</p> <p>For responding to oil spill, the Indian Coast Guard has developed</p>

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024
	<p>The GAPL shall take a lead for this by involving other stakeholders including HPCL.</p>	<p>the National Oil Spill Disaster Contingency Plan NOSDCP which has the approval of the Committee of Secretaries and has been in operation since 1996. The NOSDCP brings together the combined resources of the various organizations and departments, Coast Guard, Ports and Oil handling Agencies, and related industries, to provide a level of preparedness to the threat posed to the marine environment by oil spills.</p> <p>Latest Regional Level Pollution Response exercise "SWACHCHH SAMUDRA-NW 2024" was carried out by Indian Coast Guard on 02-03 May 2024 at Mundra, Gujarat. All participants from various Oil Handling Agencies and Stakeholders (DPA-, HMEL, ICGS and APSEZ, Mundra) were participated in this exercise. Details of the same is attached as Annexure - 3.</p>
17	<p>A detailed Risk Assessment and Disaster Management Plan shall be worked out before commissioning of the SPM by the GAPL and the mitigative measures shall be identified and implemented. The local Oil Spill Contingency Plan in lines with the National Oil Spill Disaster Contingency Plan for the Mundra Port shall be put into operation immediately.</p>	<p>Complied.</p> <p>Detailed Risk Assessment and Disaster Management Plan were prepaid By Tata AIG risk assessment services and few mitigation measures are addressed in compliance of specific condition no 10 of EC & CRZ clearance above. These studies were carried out before the start of the development activity and were considered by MoEF&CC before grant of the EC and CRZ clearance.</p> <p>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) is prepared in accordance with the NOSDCP. Please refer specific condition no 5 of EC & CRZ clearance for further details.</p>
18	<p>Proper rehabilitation scheme shall be worked out for local fisherman communities in consultation with the District Collector/the Commissioner of Fisheries, Government of Gujarat, before commissioning of the SPM and report shall be furnished to the Forests</p>	<p>Not applicable</p> <p>Location of SPM is unmanned (approximately 8.64 km inside the open sea from the shore) hence, there is no displacement of people, houses or fishing activity because of the project. However, APSEZ performs large scale socio-economic upliftment program and shares the details with FOKIA (Federation of Kutch Industries Association) chaired by District Collector quarterly.</p> <p>For further information related to CSR activities carried out by Adani Foundation in the Mundra region, please refer to</p>

Status of the conditions stipulated under CRZ Recommendation

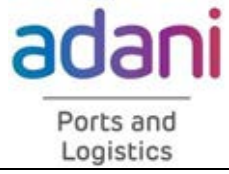
Sr. No.	Conditions	Compliance Status as on 30.09.2024
	and Environment Department.	compliance of General condition no. 2 of the EC and CRZ clearance above.
19	The construction labour shall be provided with adequate amenities/facilities including the water supply, sanitation and fuel to ensure that the existing environmental condition is not deteriorated by them. The camps for the construction labour shall be kept outside the CRZ area. The GAPL shall ensure that there is no confrontation amongst the local villagers and construction labour.	<p>Complied.</p> <p>Construction activity is already completed, project is in operation phase.</p> <p>No construction camps were located in CRZ area. Most workers came from nearby villages however, for others; construction camps were located outside CRZ area.</p> <p>All necessary infrastructure and facilities like mobile toilets, safe drinking water, medical health care etc. were provided.</p>
20	All possible social and health impacts due to the proposed development at Mundra Port shall be assessed in detail in the comprehensive EIA and a detailed management plan shall be developed to mitigate the same.	<p>Complied.</p> <p>Aspects of social and health impact were studied as part of EIA report prepared by NIO and mitigation measures have been implemented.</p> <p>APSEZ performs large scale socio-economic upliftment program and shares the details with FOKIA (Federation of Kutch Industries Association) chaired by District Collector quarterly.</p> <p>For further information related to CSR activities carried out by Adani Foundation in the Mundra region, please refer to compliance of General condition no. 2 of the EC and CRZ clearance above.</p>
21	The GAPL shall work out a detailed socio-economic upliftment programme in consultation with the District Collector and District Development Officer and shall implement the same. Separate budgetary provisions shall be kept for this purpose.	Complied.
22	An Environmental Management Cell with	Complied.

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024																																																												
	person having proper background shall be constituted. A separate budgetary provision shall have to be made for implementation of the Environmental Management Plan.	<p>APSEZL has a well-structured Environment Cell, staffed with qualified manpower for implementation of the Environmental Management Plan. For further details on the same, please refer to compliance of general condition no. 4 of the EC and CRZ clearance above.</p> <p>Separate budget for the Environment Protection measures is earmarked every year. For further details on the same, please refer to compliance of general condition no. 5 of the EC and CRZ clearance above.</p>																																																												
23	Post project environmental monitoring shall be carried out regularly through a reputed institute like NEERI/NIO and report shall be submitted to the Forests and Environment Department, GoG every year.	<p>Being complied.</p> <p>Monitoring of various environmental parameters for Ambient Air, Noise, marine water and sediments is being carried out by NABL accredited and MoEF&CC approved agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi.</p> <p>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'23 to Mar'24 is mentioned below.</p> <p>Total Ambient Air & Noise Sampling Locations: 5 Nos.</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>Min</th> <th>Max</th> <th>Average</th> <th>Perm. Limit⁵</th> </tr> </thead> <tbody> <tr> <td colspan="6">AAQM</td> </tr> <tr> <td>PM₁₀</td> <td>µg/m³</td> <td>36.49</td> <td>87.39</td> <td>66.30</td> <td>100</td> </tr> <tr> <td>PM_{2.5}</td> <td>µg/m³</td> <td>16.94</td> <td>36.72</td> <td>26.54</td> <td>60</td> </tr> <tr> <td>SO₂</td> <td>µg/m³</td> <td>10.87</td> <td>33.71</td> <td>22.20</td> <td>80</td> </tr> <tr> <td>NO₂</td> <td>µg/m³</td> <td>13.66</td> <td>38.91</td> <td>25.63</td> <td>80</td> </tr> <tr> <td colspan="6">Noise</td> </tr> <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>58.3</td> <td>69.6</td> <td>64.6</td> <td>75</td> </tr> <tr> <td>Night Time</td> <td>dB(A)</td> <td>57.8</td> <td>64.8</td> <td>61.6</td> <td>70</td> </tr> </tbody> </table> <p>⁵ as per NAAQ standards, 2009 * as per CC&A granted by SPCB Values recorded confirms to the stipulated standards.</p> <p>Marine water monitoring is carried out on monthly frequency. In order to analyzed marine water quality, marine sampling is being carried out at a location nearby SPM. Please refer specific condition No. 8 of EC & CRZ clearance above.</p> <p>Environmental monitoring reports for the period from Oct'23 to Mar'24 are enclosed as Annexure - 4.</p>	Parameter	Unit	Min	Max	Average	Perm. Limit ⁵	AAQM						PM ₁₀	µg/m ³	36.49	87.39	66.30	100	PM _{2.5}	µg/m ³	16.94	36.72	26.54	60	SO ₂	µg/m ³	10.87	33.71	22.20	80	NO ₂	µg/m ³	13.66	38.91	25.63	80	Noise						Noise	Unit	Leq Min	Leq Max	Leq Ave.	Leq Perm. Limit*	Day Time	dB(A)	58.3	69.6	64.6	75	Night Time	dB(A)	57.8	64.8	61.6	70
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24	No construction	Already Complied. Not applicable at present.																																																												

Status of the conditions stipulated under CRZ Recommendation

Sr. No.	Conditions	Compliance Status as on 30.09.2024																					
	activities shall be carried out by the GAPL in any of the Forest areas.	The construction work is completed and project is in operation phase. No construction activity at any of the forest area is carried out for project of SPM, COT and connecting pipeline.																					
25	All necessary clearances from different Government Department/Agencies shall be obtained before commissioning any construction activities.	Complied. All necessary clearances as per prevailing laws have been already obtained. Construction activity is already completed, project is in operation phase.																					
26	A half yearly compliance report with respect to above mentioned conditions as well as the implementation of the suggestions/ recommendations of the EIA and Risk Assessment reports shall be furnished to the Forest and Environment Department, GoG, without fail at regular interval.	Complied. Compliance report of EC conditions is uploaded regularly. A soft copy of last compliance report including results of monitoring data for the period of Apr'23 to Sep'23 was submitted through e-mail to Integrated Regional Office (IRO), MoEF&CC @ Gandhinagar, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar & Gandhidham and Dept. of Forests & Env., Gandhinagar on dated 28.05.2024. Copy of the same is also available on our web site https://www.adaniports.com/ports-downloads . Please refer below for the details regarding past six compliance submissions. <table border="1" data-bbox="651 1266 1411 1497"> <thead> <tr> <th>Sr. No.</th> <th>Compliance period</th> <th>Date of submission</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Apr'21 to Sep'21</td> <td>30.11.2021</td> </tr> <tr> <td>2</td> <td>Oct'21 to Mar'22</td> <td>30.05.2022</td> </tr> <tr> <td>3</td> <td>Apr'22 to Sep'22</td> <td>30.11.2022</td> </tr> <tr> <td>4</td> <td>Oct'22 to Mar'23</td> <td>30.05.2023</td> </tr> <tr> <td>5</td> <td>Apr'23 to Sep'23</td> <td>30.11.2023</td> </tr> <tr> <td>6</td> <td>Oct'23 to Mar'24</td> <td>28.05.2024</td> </tr> </tbody> </table> All the recommendations given in the report of Tata AIG Risk Management Services are implemented. For further information related to the same, please refer to compliance of specific condition no. 10 of the EC and CRZ clearance above.	Sr. No.	Compliance period	Date of submission	1	Apr'21 to Sep'21	30.11.2021	2	Oct'21 to Mar'22	30.05.2022	3	Apr'22 to Sep'22	30.11.2022	4	Oct'22 to Mar'23	30.05.2023	5	Apr'23 to Sep'23	30.11.2023	6	Oct'23 to Mar'24	28.05.2024
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6	Oct'23 to Mar'24	28.05.2024																					
27	The GAPL shall also have to comply with any other condition as may be stipulated by the Forests and Environment Department, GoG, from time to time.	Point noted.																					



**Adani Ports and Special Economic
Zone Limited, Mundra.**

**From : Apr'24
To : Sep'24**

Status of the conditions stipulated under CRZ Recommendation

Annexure – 1

Details of Greenbelt Development at APSEZ, Mundra

	Total Green Zone Detail till Up to September 2024				
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	131156	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
20	Kukadsar- (Bhadeswar- Mundra)	Kutch	250	2023-24	Avicennia marina	Shreeji Enterprise, Amreli
Total			4140			

Annexure – 2



Mundra

Half Yearly update: Apr – Sept 2024

Utilization status

Rs. in Lakhs

Site name: Mundra

Adani Foundation - Mundra Budget Tracking CSR Budget-AF-Mundra_F.Y.-2024-25											
(Amount in Lakhs)											
Sr No	Particulars	Proposed Budget			Salary & Admin Not Req.NFA	NFA Planned	NFA	PR	PO	Utilization	Percentage
		CAPEX	OPEX	Total							
A.	General Management and Administration	1.30	87.61	88.91	41.12	47.79	47.44	39.77	39.50	40.08	45.08%
B.	Education		45.26	45.26	28.66	16.60	16.04	15.69	11.65	27.43	60.60%
B1	Utthan-Education -Mundra		39.26	39.26	28.66	10.60	10.04	9.10	5.36	22.67	57.74%
B2	Utthan : Fisherfolk		6.00	6.00	-	6.00	6.00	6.59	6.29	4.76	79.29%
C.	Community Health		82.22	82.22	53.37	28.85	28.85	33.71	33.21	44.82	54.51%
D.	Sustainable Livelihood		162.68	162.68	37.68	125.00	125.01	124.25	5.49	43.49	26.74%
E.	Climate Action		10.00	10.00	-	10.00	10.00	9.65	7.50	3.92	39.22%
F.	Community Development		42.85	42.85	9.41	33.44	32.94	32.94	12.80	9.59	22.39%
G	EDM Recommended Projects		100.00	100.00	-	100.00	61.94	52.32	37.59	30.79	30.79%
	Total AF CSR Budget :	1.30	530.62	531.92	170.24	361.68	322.21	308.33	147.75	200.13	37.62%
							89.09%	95.69%	47.92%	37.62%	
Fodder Support- 1 Cr +										56.42%	

Key programmatic accomplishments

Community Health

Education

Sustainable Livelihoods

Community Infrastructure

Stakeholder engagement

Medical Services Data April to Sep - 2024



Key programmatic accomplishments

Community Health

Education

Sustainable Livelihoods

Community Infrastructure

Stakeholder engagement

❖ **Burn & Intensive Care Unit**

- On August 11 (Adani Foundation Day), the foundation stone for the Burn Ward at GK General Hospital, Bhuj, was laid.
- This center will provide comprehensive care for burn victims, from emergency treatment to long-term rehabilitation. **It will benefit 22 lakh population of Kutch..**

❖ **Eye Vision Care:**

- To address these challenges, the Adani Foundation, in collaboration with Vision Spring, is launching a holistic eye care initiative for the community.

❖ **This initiative focuses on:**

- Student: See to Learn , SHG Women: See to Earn, Driver of APSEZ: See to be Safe

❖ **Total Screening 7476 (Students) + 3958 (Drivers) = 11434**

❖ **Vision Aids 621 (Students) + 1110 (Drivers) = 1731**

❖ **Cataract Screening 366**

❖ **Cataract Surgery 18**

Highlights: Community Health



Eye Vision Care



Cataract Surgery



Nutritional kits to 153 children with thalassemia

Key programmatic accomplishments

Community Health

Education

Sustainable Livelihoods

Community Infrastructure

Stakeholder engagement

- 69 Primary schools (10452 Students)
- 8 High schools (1211 Students)
- 12000+ Students
- 2371 Progressive learner
- 3421 IT on Wheels
- 2449 Adani competitive coaching center
- 250 Adani Evening Education center
- Library Activity: 45000+ Books issued. 300+ Oasis workshop arranged to increase reading habits of students.
- Mothers Meet: Mothers' meetings conducted every second Saturday in Utthan schools. 10,000+ mothers have participated.
- Vedic maths and Abacus

Highlights: Education



Abacus Mathematics



Eye Vision Care in Utthan School



Green School Initiative – plastic collection

Key programmatic accomplishments

Community Health

Education

Sustainable Livelihoods

Community Infrastructure

Stakeholder engagement

- ❖ **"CHETNA"** - initiative with gender diversity
 - Adani Foundation, in collaboration with Unnati Portal and Adani Solar, launched an initiative to provide equal opportunities for employment and self-development to women from Kutch.
 - Till Now 167 Female Joined Adani Solar @Pan India, 154 are from Kutch (92.21%)
- ❖ **Saheli Groups:** Form 82 Self Help Groups in coordination with National Rural Livelihood Mission (850+ Members). 16 SHG are on pathways of self-reliance their total Corpus Rs. 32,27,100 in 6 months.
- ❖ 3 women SHGs from Adani Foundation Mundra participated in the prestigious Sathwaro Mela in Ahmedabad, showcasing Mud Art, Bead Art, and Soof Art, along with two artisans specializing in Rabari and Doori work, achieving an impressive turnover of Rs.1,30,000/-

Key programmatic accomplishments

Community Health

Education

Sustainable Livelihoods

Community Infrastructure

Stakeholder engagement

Empowering Fisherfolk Community:

- Education Support: Vehicle transportation facilities to 86 fisherfolk students, Education kits Support to 77 students, Scholarship support of Rs. 3,58,765 to 34 students.
- Job Support: Facilitated job placements for 75 fisherfolk as RTG operators, in the HR department, professional painting roles and as supervisors in APSEZ companies.

Animal Husbandry:

- Fodder support to 25 villages, benefiting 15005 cattle, Dry Fodder Support - 10,90,875 Kg & Green Fodder Support - 27,64,920 Kg
- Launched a vaccination camp for **20,000 cattle**, in collaboration with the Animal Health Department of Bhuj. 6,200+ cattle have been successfully vaccinated,

Highlights: Sustainable Livelihood



Local women of Kutch confidently working in Adani Solar



SHGs participating in SATHWARO'24 Powering Art, Empowering Artisans



Educational and Job Support to Fisherfolk youth

Key programmatic accomplishments

Community Health

Education

Sustainable Livelihoods

Community Development

Stakeholder engagement

- ❖ Renovation of Zarpaar High School - benefit 450+ students/annually
- ❖ Construction of Madhav seva trust School at Zararpa - benefit 250+ students/annually
- ❖ Renovation of AVMB school - benefit 640+ students/annually



Key programmatic accomplishments

Community Health

Education

Sustainable Livelihoods

Community Infrastructure

Climate Action

❖ **Vruksh Se Vikas – Massive Drive**

- In the 6 months we establish 3 Adani Van, planting 22,460 trees in 9.5 acres area in N khakhar, Borana, and Dhruh village. Till Date 8 Adani Van 75,078 Trees @28 acres
- Prakrutik Rath: Empowering Communities Through Green Initiatives 7,136 saplings distributed and planted in 6 months.
- **Total 1.79 Lac tree plantation done till date.**

❖ **Mangrove Nursery Development with 10,000 seeds.**

- ❖ **Costal Clean up day:** At Kashivishvnath Beach, Mandvi, 200+ students and 80 Utthan Sahayaks cleaned a 1 km stretch, collecting significant plastic waste as part of a coastal cleanup and awareness drive.

- ❖ **Green Schools:** Eco-clubs in 77 Utthan Schools and 12000+ students participate in “No Plastic” activities.

Highlights: Vruksh Se Vikas



Vruksh Se Vikas – Massive Drive: Adani van & Prakrutik Rath

Costal cleanup Day

Adani skill development center

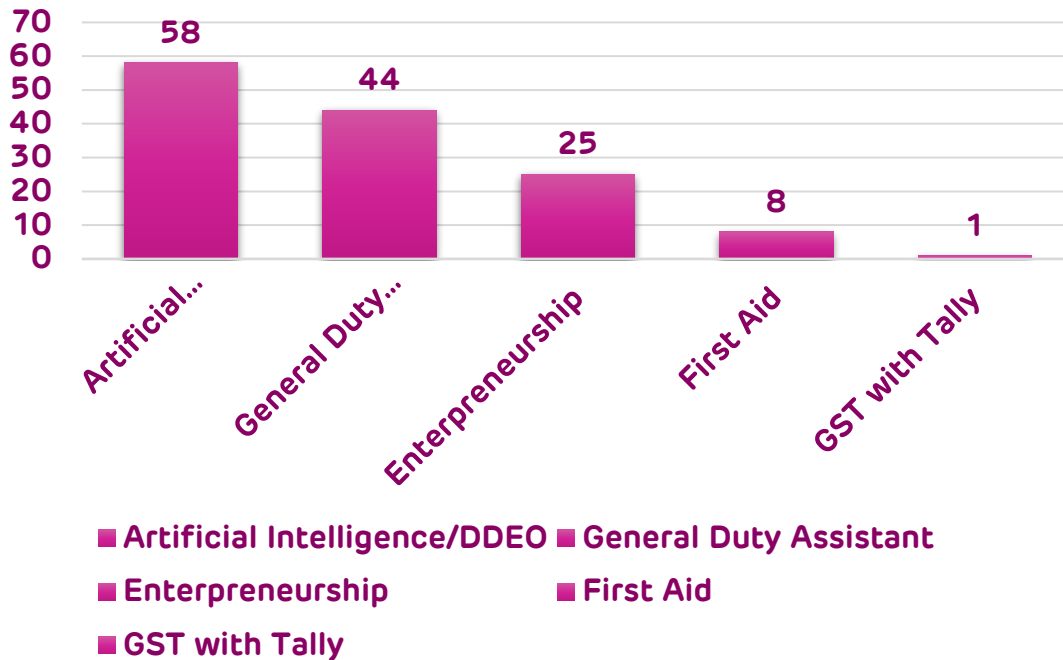


Adani Skill Development Centre (ASDC) plays a pivotal role in empowering individuals through skill enhancement. By offering a wide range of training programs, ASDC aims to bridge the gap between industry requirements and workforce capabilities. This initiative not only helps individuals stay adaptable in a rapidly evolving job market but also opens up opportunities for career advancement and higher productivity. In rural areas, many youth possess degrees but lack the practical skills needed for employment; ASDC addresses this gap by providing targeted training to enhance their employability. Through continuous learning and development, participants can achieve greater job satisfaction and personal fulfillment. On a broader scale, ASDC contributes to economic growth by fostering a skilled workforce that drives innovation and provides businesses with a competitive edge. Ultimately, the Adani Skill Development Centre is dedicated to building a future-ready workforce that supports the overall progress of society.

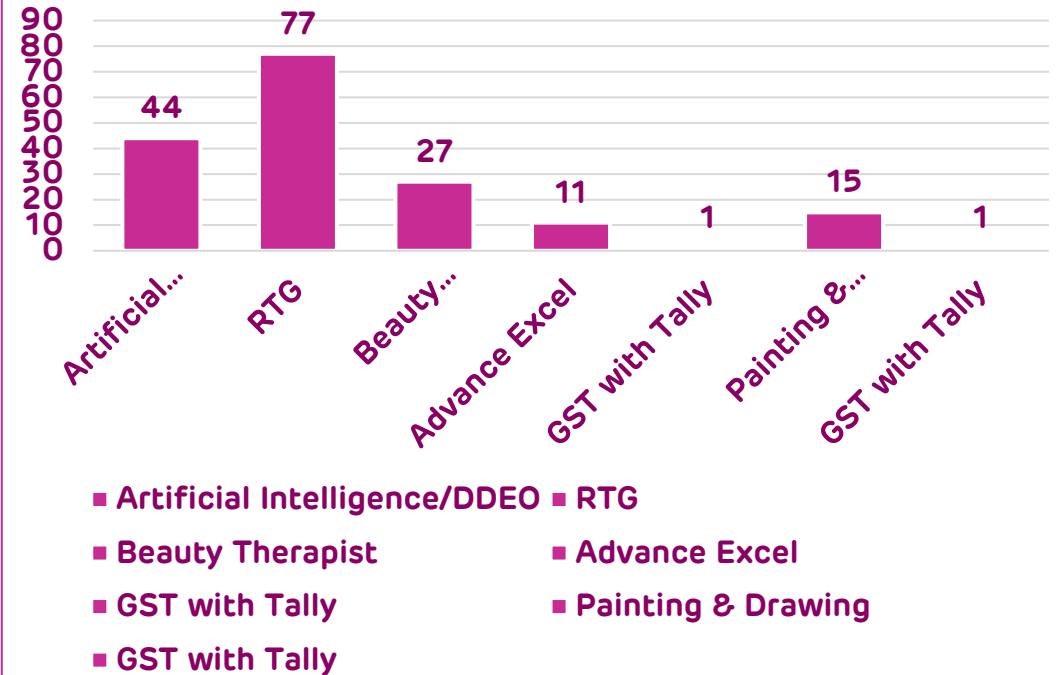
Empowering Youth : Impact of ASDC in Mundra and Bhuj Center

ASDC has significantly enhanced employability in Mundra and Mandvi. Training programs in digital literacy, RTG crane operation, beauty therapy, and advanced Excel have provided practical skills and certifications. Real-time exposure along with the Entrepreneurship Development Program (EDP), has further empowered youth. Successful placements have resulted in well-paying jobs, contributing to regional economic growth. Overall, ASDC's initiatives have transformed the lives of many individuals, fostering both personal and professional development.

Percentage of Students in course, Bhuj



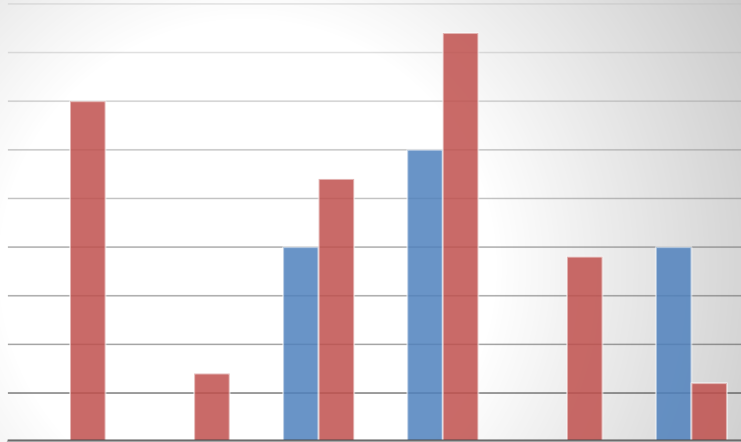
Percentage of Students in course, Mundra



Some glimpse of ASDC Mundra and Bhuj



Half Yearly Target Vs Achievement Bhuj



■ Target

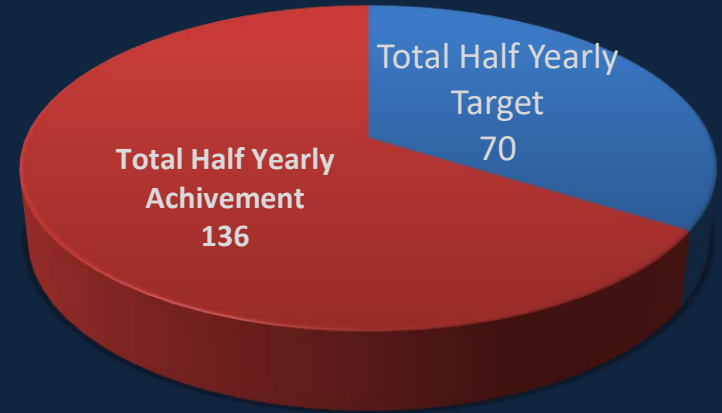
■ Achivement

Apr May Jun Jul Aug Sep

0 0 20 30 0 20

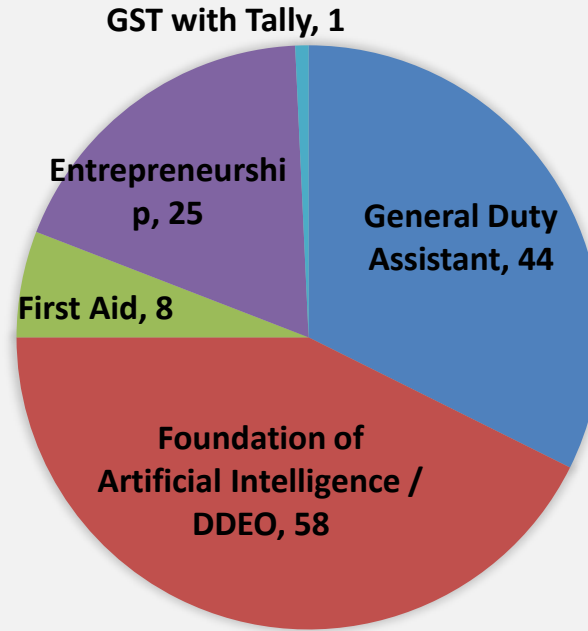
35 7 27 42 19 6

Half Yearly Target Vs Achievement



■ Total Half Yearly Target ■ Total Half Yearly Achievement

JOB ROLE WISE STUDENTS DETAILS, BHUJ



Total Students = 136

Revenue Generation Bhuj _Centre & Tie Up

Job Role	Student Paid	Tie Ups	Any other	Total Income
General Duty Assistant	284500	0	0	284500
Foundation of Artificial Intelligence / DDEO	177000	0	0	177000
First Aid	4792	0	0	4792
Tally with GST	8000	0	0	8000
Total	4,74,292	0	0	4,74,292

Bhuj Center Activities Photos



Bhuj Center Press Notes



અનુશાસનનું પાલન લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન

■ **કચ્છ આઈસીસ** | તુષ્ટ જીવન માટે આદર્શી રીતિ પ્રેરણા આપી શકે તેવા અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવા માટે કચ્છ આઈસીસના આયોજીત કાર્યક્રમમાં ભાગ લેનારા અધિકારીઓએ જણાવ્યું હતું. આ અનુશાસનને પાલન કરવાથી જ કચ્છના ગ્રામીણ સમાજમાં અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવામાં આવશે તેવું જણાવ્યું હતું. આ અનુશાસનને પાલન કરવાથી જ કચ્છના ગ્રામીણ સમાજમાં અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવામાં આવશે તેવું જણાવ્યું હતું.

■ **જીવન માટે આદર્શી રીતિ** પ્રેરણા આપી શકે તેવા અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવા માટે કચ્છ આઈસીસના આયોજીત કાર્યક્રમમાં ભાગ લેનારા અધિકારીઓએ જણાવ્યું હતું. આ અનુશાસનને પાલન કરવાથી જ કચ્છના ગ્રામીણ સમાજમાં અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવામાં આવશે તેવું જણાવ્યું હતું.

જવાનોની જીવનશૈલી અનુરૂપ રાંધણ કલા વિકાસ માટે ૨૪ બહેનોએ તાલીમ લીધી



■ **કચ્છ આઈસીસ** | તુષ્ટ જીવન માટે આદર્શી રીતિ પ્રેરણા આપી શકે તેવા અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવા માટે કચ્છ આઈસીસના આયોજીત કાર્યક્રમમાં ભાગ લેનારા અધિકારીઓએ જણાવ્યું હતું. આ અનુશાસનને પાલન કરવાથી જ કચ્છના ગ્રામીણ સમાજમાં અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવામાં આવશે તેવું જણાવ્યું હતું.

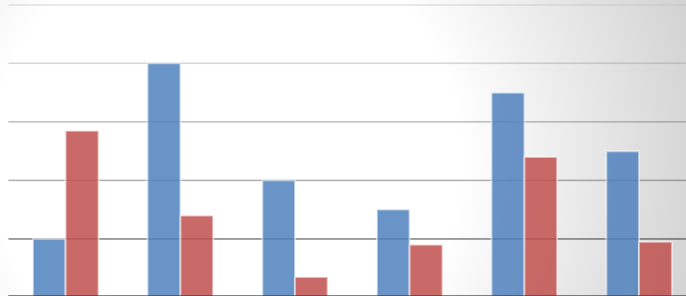
■ આમી મથક ખાતે આદર્શી રીતિ પ્રેરણા આપી શકે તેવા અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવા માટે કચ્છ આઈસીસના આયોજીત કાર્યક્રમમાં ભાગ લેનારા અધિકારીઓએ જણાવ્યું હતું. આ અનુશાસનને પાલન કરવાથી જ કચ્છના ગ્રામીણ સમાજમાં અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવામાં આવશે તેવું જણાવ્યું હતું.

કરતાં આમી વેલ્ફેર ઓર્ગેનાઈઝેશનના ચેરપર્સન શાલિની સિંહે જણાવ્યું કે, જવાનોની જીવનશૈલીને અનુરૂપ રાંધણ કલાનો વિકાસ કરવા અને જવાનોના સ્વાસ્થ્ય માટે આ તાલીમ પ્રાપ્ત કરી છે જે એક ઉત્તમ પગલું પુરવાર થશે. તેમણે સંસ્થાનાં પ્રકલ્પનો આભાર માન્યો હતો. તુષ્ટ જીવનિત્યા જીનિ. ઓફિસર ડૉ. પુર્વી ગોસ્વામીએ પ્રમાણપત્રો એનાયત કર્યા હતા. વ્યવસ્થા આમી વેલ્ફેરના સેક્રેટરી પ્રિયા સેલ્વમએ તથા સંચાલન માયધવી તુરવએ કર્યું હતું.

હેપ્પી મધર્સ ડે : માતૃત્વની વાસ્તવ્યમૂર્તિએ કૌશલ્ય ઉજાગર કરી ટીકરીને પગભર કરી

■ આમી મથક ખાતે આદર્શી રીતિ પ્રેરણા આપી શકે તેવા અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવા માટે કચ્છ આઈસીસના આયોજીત કાર્યક્રમમાં ભાગ લેનારા અધિકારીઓએ જણાવ્યું હતું. આ અનુશાસનને પાલન કરવાથી જ કચ્છના ગ્રામીણ સમાજમાં અનુશાસનના પાલનને લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન બનાવવામાં આવશે તેવું જણાવ્યું હતું.

Half Yearly Target Vs Achievement Mundra



■ Target

■ Achivement

Apr May Jun Jul Aug Sep

20 80 40 30 70 50

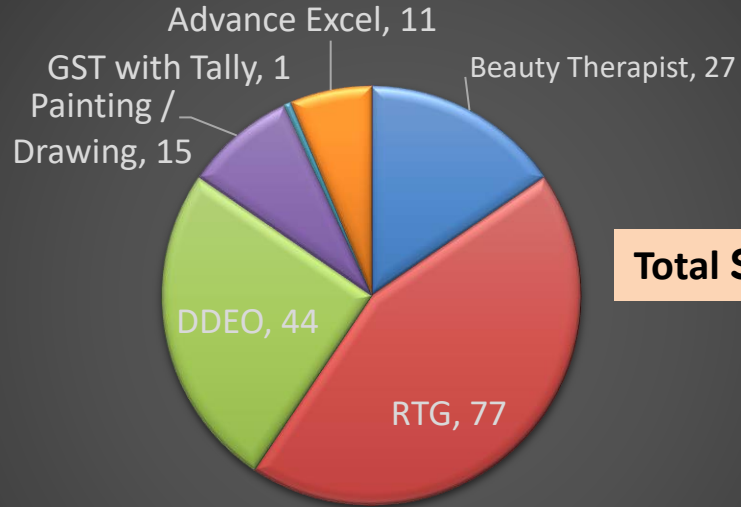
57 28 7 18 48 19

Yearly Target Vs Achievement Mundra



■ Total Half Yearly Target ■ Total Half Yearly Achivement

Job Role Wise Details Mundra



Total Students = 177

- Beauty Therapist
- RTG
- DDEO
- Painting / Drawing
- GST with Tally
- Advance Excel

Revenue Generation Mundra _Centre & Tie Up

Job Role	Student Paid	Tie Ups	Any other	Total Income
RTG	0	756000	0	756000
German Language Training	10000	0	0	10000
Beauty Therapist	54000	0	0	54000
DDEO	28000	0	0	28000
Tally with GST	3000	0	0	3000
Drawing/ Painting	18000	0	0	18000
Total	1,13,000	7,56,000	0	8,69,000

Mundra Center Activities Photos



Mundra Center Press note

મુન્દ્રામાં યુવાનો કેન ઓપરેટરની તાલીમ પ્રાપ્ત કરી રોજગાર મેળવવા બન્યા સુસજ્જ અદાણી કૌશલ્ય વિકાસ કેન્દ્ર દ્વારા સફળ તાલીમાર્થીને પ્રમાણપત્રનું કરાયું વિતરણ

ભાસ્કર ન્યૂઝ | મુન્દ્રા

તાજેતરમાં મુન્દ્રા ખાતે અદાણી સ્કીલ ડેવલોપમેન્ટ સેન્ટર દ્વારા નવી બેચના ઉદ્ઘાટન સાથે તાલીમાર્થીઓને આરટીકે કેન ઓપરેટર પ્રમાણપત્રો વિતરિત કરવામાં આવ્યા હતા. આમ સફળતા પૂર્વક તાલીમ પ્રાપ્ત કરનાર યુવાઓ હવે રોજગાર મેળવવા સુસજ્જ બન્યા છે.

એ સી ડી એસ યુવાઓને આત્મનિર્ભર બનાવવાના ઉદ્દેશ્ય સાથે ધોરણ દસ બાદ આઈટીઆઈ અથવા ધોરણ બાર ઉત્તીર્ણ વિદ્યાર્થીઓને તાલીમ આપી રોજગાર અર્થે સક્ષમ બનાવવામાં આવે છે. એસી ડી એસ દ્વારા છેલ્લા બે વર્ષમાં કેન ઓપરેશન ટ્રેડમાં 120 છાત્રોને સફળતાપૂર્વક ટ્રેનિંગ



અપાઈ છે. જેમાંથી 80 ઉમેદવારો અદાણી પોર્ટ પર જ નોકરી મેળવી આત્મનિર્ભર બન્યા છે. નવી બેચમાં 70 ટકા ઉમેદવારો કચ્છ જિલ્લાના અને અન્ય 30 ટકા વિવિધ જિલ્લાના લેવામાં આવશે. પ્રમાણપત્ર વિતરણ સમારંભ માં ઉપસ્થિત ખાસ મહેમાનોને પણ સન્માનિત કરવામાં આવ્યા હતા. મુખ્ય અતિથી તરીકે ઓપીસેકના એચ આર હેડ રનેહાશીષ ભટ્ટાચાર્યએ કેન ઓપરેટર ની ભૂમિકા અંગે વિસ્તૃત માહિતી આપી હતી અને તાલીમાર્થીઓને અદ્યતન ટેકનોલોજી સાથે અપડેટ રહેવા અને સતત નવું શીખતું રહેવા પ્રોત્સાહિત કર્યા હતા. રાષ્ટ્ર નિર્માણમાં યોગદાનના ઉદ્દેશ્ય થી ભારતના યુવાધન ને સક્ષમ બનાવવા અદાણી કૌશલ્ય વિકાસ કેન્દ્ર ની સ્થાપના 16 મેં 2016 ન રોજ કરવામાં આવી હતી અને હવે તે વર્ટિકલ ભવિષ્ય માટે તૈયાર વ્યાવસાયિકો અન્યાયુનિક ટેકનોલોજી નો ઉપયોગ કરી તાલીમ આપવાના મિશન ને સતત આગળ ધપાવી રહ્યું છે.

અદાણી કૌશલ્ય વિકાસ કેન્દ્ર દ્વારા સફળ તાલીમાર્થીઓને પ્રમાણપત્ર વિતરણ કરાયા એએસડીસી યુવાઓને આત્મનિર્ભર બનાવવાની દિશામાં અગ્રેસર

લોકમાન્ય મુન્દ્રા અદાણી કૌન્ટરેશન યુવા રોજગારીને પ્રાધન્ય આપતા અનેક કાર્યક્રમોમાં પ્રવૃત્ત છે. તાજેતરમાં અદાણી સ્કિલ ડેવલપમેન્ટ સેન્ટર મુન્દ્રા દ્વારા નવી બેચના ઉદ્ઘાટન સાથે તાલીમાર્થીઓને આરટીકે કેન ઓપરેટર પ્રમાણપત્રો વિતરિત કરવામાં આવ્યા હતા. કેન ઓપરેટરની તાલીમ સફળતાપૂર્વક પૂર્ણ કરનાર યુવાઓ આત્મનિર્ભર બની સમાજમાં તેમની આગવી ઓળખ ઉભી કરશે.



અદાણી સ્કીલ ડેવલપમેન્ટ સેન્ટરનું મુખ્ય પુરાવોને રોજગારમાં પ્રવિશ્લિષ્ટ આપી તેમની કૌશલ્ય વિકાસમાં

મુખ્ય આત્મનિર્ભર બન્યા છે. નવી બેચમાં 80 ટકા ઉમેદવારો કચ્છ જિલ્લાના અને અન્ય ૩૦ ટકા વિવિધ જિલ્લાઓની લેવામાં આવશે. સક્ષમ પ્રમાણપત્ર વિતરણ કાર્યક્રમમાં ઉપસ્થિત ખાસ મહેમાનોને પણ સન્માનિત કરવામાં આવ્યા હતા, જેમાં અદાણી કૌશલ્ય વિકાસ કેન્દ્રના સ્વરૂપ હેડ, અદાણી પોર્ટ પર અને સંવિધ્ય ડેવલપમેન્ટ ઝોન અને રવેલેસ કંપનીના ઉપચીફ ઓફીસરોનો સમાવેશ થાય છે. મુખ્ય અતિથિ તરીકે અદાણી પોર્ટ સેક્ટના એચઆર હેડ રનેહાશીષ ભટ્ટાચાર્યએ અદાણી પોર્ટ ખાતે આયોજીત કેન ઓપરેટરની ભૂમિકા વિશે સંવિધ્ય માહિતી આપી હતી. તેમણે તાલીમાર્થીઓને અદ્યતન ટેકનોલોજી સાથે અપડેટ રહેવા અને સતત નવું શીખતું રહેવા માટે પ્રોત્સાહિત કર્યા હતા. રાષ્ટ્રનિર્માણમાં યોગદાનના દિશાથી ભારતના યુવાધનને સક્ષમ બનાવવા અદાણી કૌશલ્ય વિકાસ કેન્દ્રની સ્થાપના 1૬ મે, ૨૦1૬ના રોજ કરવામાં આવી હતી. એએસડીસી વર્ટિકલ ભવિષ્ય માટે તૈયાર વ્યાવસાયિકોને અન્યાયુનિક ટેકનોલોજીનો ઉપયોગ કરી તાલીમ આપવાના મિશનને સતત આગળ ધપાવી રહ્યું છે.

અદાણી કૌશલ્ય વિકાસ કેન્દ્ર દ્વારા કેન ટ્રેડની ૧૨૦ ઉમેદવારને તાલીમ

મુન્દ્રા, તા. ૧૮ : અદાણી કૌન્ટરેશન યુવા રોજગારીને પ્રાધન્ય આપતા અનેક કાર્યક્રમોમાં પ્રવૃત્ત છે. તાજેતરમાં અદાણી સ્કિલ ડેવલપમેન્ટ સેન્ટર મુન્દ્રા દ્વારા નવી બેચના ઉદ્ઘાટન સાથે તાલીમાર્થીઓને આરટીકે કેન ઓપરેટર પ્રમાણપત્રો વિતરિત કરવામાં આવ્યા હતા. આ તાલીમ સફળતાપૂર્વક પૂર્ણ કરનાર યુવાઓ આત્મનિર્ભર બની સમાજમાં તેમની આગવી ઓળખ ઉભી કરશે. સેન્ટરનું મુખ્ય પુરાવોને રોજગારમાં પ્રવિશ્લિષ્ટ આપી તેમની કૌશલ્ય વિકાસમાં વધારો કરવામાં આવ્યો છે. ધોરણ ૧૦ બાદ આઈટીઆઈ અથવા ધોરણ ૧૨ ઉત્તીર્ણ કરનાર વિદ્યાર્થીઓને એએસડીસીમાં સફળ તાલીમ લઈ રોજગાર સક્ષમ બની શકે છે. કચ્છ કોષ્ટર લિમિટેડ ધોરણ ૧૨ ખાસ ઉમેદવારોને પ્રવિશ્લિષ્ટ કરવા માટે ભંડોળ ઉપલબ્ધ કરવાશે. એએસડીસી દ્વારા છેલ્લા ૨ વર્ષમાં એએસડીસી યુવાઓને આત્મનિર્ભર બનાવવાની દિશામાં અગ્રેસર ૮૦ને અદાણીમાં જ નોકરી

વર્ષમાં આરટીકે કેન ઓપરેશન ટ્રેડમાં ૧૨૦ ઉમેદવારોને સફળતાપૂર્વક તાલીમ આપવામાં આવી છે, જેમાંથી ૮૦ ઉમેદવારો અદાણી પોર્ટ પર જ નોકરીમાં મેળવી આત્મનિર્ભર બન્યા છે. નવી બેચમાં 80 ટકા ઉમેદવારો કચ્છ જિલ્લાના અને અન્ય ૩૦ ટકા વિવિધ જિલ્લાઓની લેવામાં આવશે. સક્ષમ પ્રમાણપત્ર વિતરણ કાર્યક્રમમાં ઉપસ્થિત ખાસ મહેમાનોને પણ સન્માનિત કરવામાં આવ્યા હતા, જેમાં અદાણી કૌશલ્ય વિકાસ કેન્દ્રના



અદાણી કૌશલ્ય વિકાસ કેન્દ્ર દ્વારા તાલીમાર્થીઓને પ્રમાણપત્ર વિતરણ કાર્યક્રમનું દર્શન.

Annexure – 3

AREA LEVEL POLLUTION RESPONSE TRAINING/EXERCISE- 2024 REPORT
02-03rd MAY 2024

Date: 02-03 May 2024	Exercise: Area Level PR Exercise
Name: Mr. Shashank Badola	Position: Radio Officer
Contact Number: 9825228673	Location: APSEZL, Mundra

Date: 02 May 2024: Final Planning and Tabletop Exercise

0930-1230 hrs: Tabletop Exercise carried out at Indian Coast Guard Station Mundra. Participants- APSEZ Mundra and HMEL.

Date: 03 May 2024- Mock OSR drill

Location- Near IOCL SPM (22° 41' N 069° 39.2' E)/APSEZL, Mundra

Drill Activity Timeline:

1000 hrs.: ICGS Informed regarding commencement of drill.

1005 hrs.: Tug Ocean Citrine immediately reported to Marine Control and Diving Supervisor that due to internal explosion observed two 6 inches hole in 1st Wing starboard tank but no injury, no casualty and no fire occurred. Maneuvering capability is intact. There are 33 crew on board, head count taken and all present.

1006 hrs.: Marine Control informed Marine HOD/HOS and all concerned departments.

1007 hrs.: Ocean Citrine team was asked to take the sounding of damaged tanks and all other tanks.

1009 hrs.: Ocean Citrine commenced boom deployment.

1010 hrs.: Commenced internal transferring of oil from damaged tank to 3rd Wing starboard tank.

1011 hrs.: Ocean Citrine informed her company DPA about the incident.

1011 hrs.: Marine Control informed all vessels at anchor regarding oil spill near IOCL SPM area. The control room requested all underway vessels to pass 5 miles from IOCL SPM. Unberthing operations suspended.

1012 hrs.: Ocean Citrine requested Marine Control for Barge BB-10, tug and additional boom standby in case more support required.

1013 hrs.: Dredging head informed for the deployment of BB10 and make ready.

1014 hrs.: Marine Control informed Tug Dol 17 & 18 to standby with OSD for spraying.

1015 hrs.: Informed commercial team (Mr. Jagdish Rabadia), environment cell (Mr. Radhe Shyam Singh) and Liquid Control Room by Mr. Sudhakar Singh about the drill/incident to be in immediate readiness.

1016 hrs.: Marine Control informed Barge BB-10 along with Tug Dol 10 to be stand by.

1017 hrs.: Security department were informed to allow entry of authorized persons, emergency vehicles without any delay and OHS/Adani hospital to be on alert.

1018 hrs.: Barge BB-10 underway with Tug Dol 10 to IOCL SPM.

1019 hrs.: Ocean Citrine informed internal transferring in progress and spillage rate getting reduced and hole came up to half meter above water level.

1020 hrs.: Ocean Citrine reported 150m boom deployed and continued to deploy the remaining 100 meters and reported wind speed 12-14 knots and direction westerly.

1021 hrs.: Capt. Girish Chandra informed Commandant Konark Sharma ICGS Mundra about the incident through phone.

1023 hrs.: Marine Control informed jetty team to be stand by with crew for mooring the Barge BB-10 at B-6 berth. Jetty supervisor also informed to deploy one hydra for loading/unloading of OSR equipment at SPM Store and jetty.

1025 hrs.: Ocean Citrine informed that spill is spread in an area of around 35-50 m².

1039 hrs.: Ocean Citrine reported 250 m boom deployment completed and commenced J-formation.

1040 hrs.: Mr. Mahendra Singh Solanki from Corporate affairs informed DM Bhuj office about the incident.

1041 hrs.: Initial intimation mail sent to GMB/MMD Kandla/Coast Guard Station/MRCC.

1050 hrs.: Ocean Citrine reported J-formation completed, and oil containment is in progress and commenced skimmer deployment. And this is HSD so it is volatile in nature, hence deploying resources to contain.

1052 hrs.: Barge BB-10 arrived at IOCL SPM with Tug Dol 10.

1053 hrs.: Skimmer lowered and commenced recovering of spilled oil to floating tank.

1054 hrs.: Barge BB-10 secured P/S of Ocean Citrine and commenced transferring of oil in barge BB-10.

1055 hrs.: Liquid team informed Marine Control that motor pump and other equipment is standby at berth B-6.

1056 hrs.: Liquid team informed Marine Control that 6 no. of Tanker/bowser arrived and standby at berth B-6.

1100 hrs.: Ocean Citrine reported approx. 1 T of recovered oil loaded in barge BB-10.

1105 hrs.: Recovery of spilled oil completed (1 T).

1118 hrs.: Drill called off and at the same time informed all concerns.

1119 hrs.: BB-10 cast off and proceed to B-6 berth for transfer of oil for disposal.

1120 hrs.: Boom recovery started.

1125 hrs.: Area assessed by diving team for recovered oil and confirmed all clear.

1128 hrs.: Informed environment team for water sampling of spillage area.

1145 hrs.: Environment team informed that area is clear of oil and no harm for sea.

1147 hrs.: BB-10 arrived at B-6 berth.

1155 hrs.: Liquid team started loading oil from BB-10 to tankers for disposal.

1210 hrs.: Tanker loaded with oil departed from B-6 for disposal of oil at Oil Water Separator unit.

1235 hrs.: Tanker reached Oil Water Separator unit.

1240 hrs.: Recovered oil transfer from tanker to OWS unit completed.

1255 hrs.: Environment team informed that GPCB approved recycler has executed disposal.

1315 – 1330 hrs.: De-briefing carried out at Adani House in presence of Capt. Santosh Kumar Darokar, Principal Officer MMD Kandla.

Personnel & Boats Participated in Drill

Off Shore

1. Capt. Hemant Dhruv-APSEZL
2. Capt. Sonu Yadav-APSEZL
3. Capt. Lalji Meena - Harbor Master DPA
4. Mr. Vikram Pratap Singh-APSEZL
5. Mr. Ashok Tiwari - HMEL
6. Mr. MP Choudhary, APSEZL
7. Mr. Shashikant Padave-APSEZL
8. Mr Ayush Jha, APSEZL Mundra
9. Mr. Narayan -APSEZL
10. Mr. Dharamveer Yadav-APSEZL
11. Members from M/s Sea Care – 04
12. Crew of Tug Ocean Citrine
13. Crew of Tug KB 48
14. Tug Dol 10 and BB10
15. ICGS Mundra – 02

16. Mr. Abhishek -APSEZL/Environment

Onshore:

1. Capt. Girish Chandra
2. Sudhakar Singh
3. Mr. Shashank Badola
4. Mr. Rajeev Kumar
5. Mr. Om Prakash Yadav

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 Ocean citrine.
2.	Time taken for Tug cast off from time information given.	NA
3.	Time taken from tug cast off to Reach at Location.	NA
4.	Time taken for deploying 250-meter boom and skimmer after reaching at site.	30 min.
5	Time taken for J/U formation and deployment of skimmer.	11 min.

Observations:

SR. NO	POINTS	ACTION TAKEN	TARGET DATE	RESPONSIBILITY	REMARKS
1	Internal communication on tug should be streamlined specially between deck and bridge.	Point discussed during de-brief	10.05.2024	HMEL	
2	There should be pads on the roller to avoid chafing against metal at aft end of deck where lowering of boom deployment is done.	Point discussed during de-brief	31.07.2024	HMEL	
3	Bow thruster must be made readily available immediately in such emergencies.	Point discussed during de-brief	04.05.2024	HMEL	

Tabletop Exercise- 02 May 2024

Drill Scenario presented by ICG



Table top Discussion with the participants



PR Drill snap – 03 May 2024

Area Level Pollution Response Exercise at IOCL SPM

Boom laying from Tug Ocean Citrine



J formation making in progress



Skimmer Operations



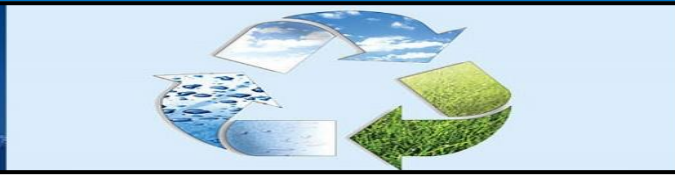
Area Level Pollution Response Team on Tug Ocean Citrine



De-briefing at Adani House



Annexure – 4



“Half Yearly Environmental Monitoring Reports “

For,
adani
Ports and
Logistics

M/S.ADANI PORTS & SPECIAL ECONOMIC ZONE LTD.

PLOT NO. 169/P, AT - NAVINAL ISLAND, TAL. - MUNDRA, DIST. - KUTCH - 370421.

Monitoring Period: April - 2024 to September - 2024

Submitted By



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	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1.	pH	--	8.11	7.94	7.96	7.81	8.05	7.89	7.98	7.74	7.91	7.82	8.12	7.94	IS 3025 (Part 11):2022
2.	Temperature	°C	29.9	29.8	30.5	30.4	30.7	30.6	30.1	30	30	29.9	29.9	29.8	IS 3025 (Part 9):2023
3.	Total Suspended Solids	mg/L	138	118	144	120	132	118	98	82	142	126	128	102	APHA 24th Ed., 2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL(MDL :1.0)	3.1	BDL(MDL :1.0)	2.9	BDL(MDL :1.0)	3.1	BDL(MDL :1.0)	2.6	BDL(MDL :1.0)	2.8	BDL(MDL :1.0)	IS 3025 (Part 44):2023
5.	Dissolved Oxygen	mg/L	6.12	5.92	6.02	5.77	5.93	5.68	6.42	6.22	6.59	6.3	6.69	6.4	APHA 24th Ed.2023,4500 -O, B
6.	Salinity	ppt	35.86	37.11	35.92	37.28	38.82	37.15	36.12	36.88	35.78	36.71	35.87	36.64	By Calculation
7.	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)	BDL(MDL :2.0)	BDL(MDL :2.0)	BDL(MDL :2.0)	BDL(MDL :2.0)	BDL(MDL :2.0)	BDL(MDL :2.0)	IS 3025 (Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.39	3.06	3.55	3.23	3.71	3.39	3.55	3.39	1.94	1.61	2.32	1.72	APHA 24th Ed. 2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.543	0.478	0.609	0.565	0.565	0.522	0.456	0.435	0.174	0.13	0.379	0.312	APHA 24th Ed.2023,4500 NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.22	4.11	4.48	4.37	4.43	4.37	3.8	3.69	3.954	3.85	2.59	2.16	APHA 24th Ed. 2023,4500-NH3 B
11.	Phosphates as PO ₄	µmol/L	1.68	1.58	1.9	1.68	1.16	1.05	1.05	BDL(MDL :0.4)	1.37	1.16	1.47	1.26	APHA 24th Ed.2023,4500 -P, D

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

12.	Total Nitrogen	µmol/L	8.153	7.648	8.639	8.165	8.705	8.282	7.806	7.515	6.068	5.59	5.289	4.192	APHA 24th Ed. 2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,552 OF
14.	Total Dissolved Solids	mg/L	36410	37180	36550	37210	36480	37180	36120	36980	34970	35960	34740	35830	IS 3025(Part 16):2023
15.	COD	mg/L	23.9	7.9	28.17	12.07	23.9	8	16.1	4	20	8	24.1	12	IS 3025(Part 58):2023

Continue...

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

SR. NO	TEST PARAMETER S	UNIT	April-24		May-24		June-24		July-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A															
Phytoplankton															
1.	Chlorophyll	mg/m ³	3.05	3.25	3.06	3.24	3.08	3.26	3.07	3.27	3.08	3.26	3.07	3.07	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	2	1.56	3	1.59	4	1.56	3	1.55	4	1.57	6	6	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	109	90	110	92	114	91	112	92	114	93	112	112	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Coscinodiscus</i>	<i>Odentella</i>	<i>Nitzschia</i>	<i>Biddulphia</i>	<i>Nitzschia</i>	<i>Biddulphia</i>	<i>Thalassiothrix</i>	<i>Dinophysis</i>	<i>Thalassiothrix</i>	<i>Dinophysis</i>	<i>Thalassiothrix</i>	<i>Dinophysis</i>	APHA (24th Ed. 2023)10200A-G
			<i>Diploneis</i>	<i>Rhizosolenia</i>	<i>Diploneis</i>	<i>Rhizosolenia</i>	<i>Pinnularia</i>	<i>Rhizosolenia</i>	<i>Surirella</i>	<i>Pinnularia</i>	<i>Surirella</i>	<i>Pinnularia</i>	<i>Biddulphia</i>	<i>Pinnularia</i>	
			<i>Rhizosolenia</i>	<i>Coscinodiscus</i>	<i>Rhizosolenia</i>	<i>Coscinodiscus</i>	<i>Rhizosolenia</i>	<i>Coscinodiscus</i>	<i>Navicula</i>	<i>Thalassiothrix</i>	<i>Navicula</i>	<i>Thalassiothrix</i>	<i>Navicula</i>	<i>Thalassiothrix</i>	
			<i>Dinophysis</i>	<i>Grammatophora</i>	<i>Dinophysis</i>	<i>Grammatophora</i>	<i>Dinophysis</i>	<i>Grammatophora</i>	<i>Thalassiosira</i>	<i>Grammatophora</i>	<i>Nitzschia</i>	<i>Grammatophora</i>	<i>Nitzschia</i>	<i>Grammatophora</i>	
			<i>Thalassionema</i>	<i>Thalassiosira</i>	<i>Biddulphia</i>	<i>Navicula</i>	<i>Biddulphia</i>	<i>Navicula</i>	<i>Skeletonema</i>	<i>Ceratium</i>	<i>Skeletonema</i>	<i>Ceratium</i>	<i>Skeletonema</i>	<i>Ceratium</i>	

B															
Zooplankton															
1	Abundance(Population)	noX10 ³ /100 m ³	66		65		64		66		68		67		APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Crustacean Larvae</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		<i>Egg(Fish and Shrimps)</i>		<i>Egg(Fish and Shrimps)</i>		<i>Egg(Fish and Shrimps)</i>		
			<i>Egg(Fish and Shrimps)</i>		<i>Pinnularia</i>		<i>Pinnularia</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		
			<i>Copepods</i>		<i>Copepods</i>		<i>Copepods</i>		<i>Copepods nauplii</i>		<i>Copepods nauplii</i>		<i>Copepods nauplii</i>		
			<i>Crustacean</i>		<i>Copepods nauplii</i>		<i>Copepods nauplii</i>		<i>Crustacean</i>		<i>Crustacean</i>		<i>Crustacean</i>		
			<i>Bivalve Larvae</i>		<i>Thalassionema</i>		<i>Thalassionema</i>		<i>Bivalve Larvae</i>		<i>Bivalve Larvae</i>		<i>Bivalve Larvae</i>		
3	Total Biomass	ml/100 m ³	13.64		13.65		13.64		13.66		13.67		13.67		

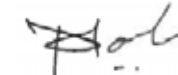
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RESULTS OF MARINE WATER [M1 LEFT SIDE OF BOCHA CREEK - N 22°45'183" E 069°43'241"]

SR. NO	TEST PARAMETERS	UNIT	April-24		May-24		June-24		July-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
Microbiological															
1	Total Bacterial Count	CFU/ml	100		102		104		106		108		110		APHA 24 th Ed.2023,9215-C
2	Total Coliform	/100ml	12		10		11		12		14		13		APHA 24 th Ed.2023,9 222-B
3	Ecoli	/100ml	10		12		9		8		7		8		IS :15185:2016
4	Enterococcus	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		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 24 th Ed.2023,9 260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976



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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	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.43	0.46	0.44	0.48	0.41	0.44	IS: 2720 (Part 22):1972
2.	Phosphorus as P	µg/g	558.4	551.2	558.6	542.2	510.5	524.2	IS: 10158 :1982, 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 24th Ed.2023,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	4.09	4.05	4.08	3.98	3.82	3.88	IS3025(Part 55):2003
5.2	Total Chromium as Cr+3	µg/g	138.4	132.2	136.4	144.2	120.8	128.7	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.3	Manganese as Mn	µg/g	594.6	580.4	574.2	550.6	610.2	624.3	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.4	Iron as Fe	%	4.12	4.08	3.98	3.86	3.94	3.86	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.5	Nickel as Ni	µg/g	42.06	41.25	41.36	42.35	48.65	44.62	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.6	Copper as Cu	µg/g	42.86	41.94	42.28	43.25	51.25	48.96	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.7	Zinc as Zn	µg/g	122.4	120.2	120.84	116.5	124.6	120.3	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.8	Lead as Pb	µg/g	2.41	2.36	2.48	2.41	2.31	2.22	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.9	Mercury as Hg	µg/g	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	EPA 7471B (Extraction &Analytical Method):2007

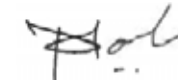
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RESULTS OF SEDIMENT ANALYSIS [M1 LEFT SIDE OF BOCHA CREEK - N 22°45'183" E 069°43'241"]

SR. NO.	TEST PARAMETERS	UNIT	Apr-24 SEDIMENT	May-24 SEDIMENT	Jun-24 SEDIMENT	Jul-24 SEDIMENT	Aug-24 SEDIMENT	Sep-24 SEDIMENT	TEST METHOD
D	Benthic Organisms								
1	Macrobenthos	--	<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	APHA (24th Ed. 2023)10500
			<i>Polychates</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	
			<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Amphipods</i>	<i>Gastropods</i>	<i>Gastropods</i>	
			<i>Amphipods</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Polychates</i>	
2	MeioBenthos	--	<i>Herpectacoids</i>	<i>Gastropods</i>	<i>Herpectacoids</i>	<i>Turbellarians</i>	<i>Turbellarians</i>	<i>Turbellarians</i>	
			<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	
3	Population	no/m ²	364	366	368	367	368	367	



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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 PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.18	7.98	8.06	7.86	8.12	7.94	8.05	7.86	7.96	7.84	8.06	7.94	IS 3025(Part 11):2022
2.	Temperature	°C	29.8	29.7	30.4	30.3	30.5	30.4	30.2	30.1	30.1	30	29.8	29.7	IS 3025(Part 9):2023
3.	Total Suspended Solids	mg/L	142	118	136	104	142	122	118	96	94	76	114	88	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL(M DL:1.0)	3.2	BDL(M DL:1.0)	2.8	BDL(M DL:1.0)	2.5	BDL(M DL:1.0)	2.6	BDL(M DL:1.0)	2.8	BDL(M DL:1.0)	IS 3025(Part 44):2023
5.	Dissolved Oxygen	mg/L	6.12	5.82	6.02	5.67	5.93	5.58	6.22	6.03	6.4	6.1	6.49	6.2	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	36.38	37.13	36.44	37.42	36.35	37.36	35.94	36.84	35.69	36.72	35.59	36.78	By Calculation
7.	Oil & Grease	mg/L	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	IS 3025(Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.39	3.23	3.71	3.55	3.87	3.55	3.39	3.23	2.42	2.1	2.49	2.15	APHA 24th Ed.2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.5	0.478	0.543	0.522	0.5	0.456	0.478	0.435	0.239	0.196	0.259	0.13	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.27	4.16	4.48	4.43	4.32	4.27	3.74	3.69	4.11	4.014	2.28	1.81	APHA 24th Ed.2023,4500-NH3 B
11.	Phosphates as PO ₄	µmol/L	1.68	1.47	1.47	1.37	1.26	1.16	1.16	1.05	1.05	BDL(M DL:0.4)	1.16	1.05	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	8.16	7.868	8.733	8.502	8.69	8.276	7.608	7.355	6.769	6.31	5.029	4.09	APHA 24th Ed.2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36240	37310	36280	37340	36110	37140	35860	36920	35810	36860	35860	36740	IS 3025(Part 16):2023
15.	COD	mg/L	19.9	7.9	32.19	16.1	27.9	12	20.1	8	24	12	28.1	16.1	IS 3025(Part 58):2023

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

SR. NO.	TEST PARAMETERS	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A Phytoplankton															
1.	Chlorophyll	mg/m ³	2.98	2.69	2.97	2.64	2.96	2.63	2.95	2.66	2.98	2.67	2.99	2.68	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	2.09	2.06	2.08	2.07	2.05	2.05	2.06	2.06	2.08	2.05	2.06	2.04	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	95	147	97	146	94	148	95	147	93	148	94	147	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Thalassiothrix</i>	<i>Pinnularia</i>	<i>Thalassiothrix</i>	<i>Pinnularia</i>	<i>Dinophysis</i>	<i>Pinnularia</i>	<i>Navicula</i>	<i>Thalassiothrix</i>	<i>Surirella</i>	<i>Thalassiothrix</i>	<i>Surirella</i>	<i>Thalassiothrix</i>	APHA (24th Ed. 2023)10200A-G
			<i>Surirella</i>	<i>Biddulphia</i>	<i>Surirella</i>	<i>Biddulphia</i>	<i>Surirella</i>	<i>Biddulphia</i>	<i>Skeletonema</i>	<i>Surirella</i>	<i>Pinnularia</i>	<i>Surirella</i>	<i>Pinnularia</i>	<i>Surirella</i>	
			<i>Navicula</i>	<i>Navicula</i>	<i>Navicula</i>	<i>Navicula</i>	<i>Nitzschia</i>	<i>Navicula</i>	<i>Rhizosolenia</i>	<i>Navicula</i>	<i>Rhizosolenia</i>	<i>Navicula</i>	<i>Melosira</i>	<i>Navicula</i>	
			<i>Thalassiosira</i>	<i>Rhizosolenia</i>	<i>Cyclotella</i>	<i>Rhizosolenia</i>	<i>Cyclotella</i>	<i>Rhizosolenia</i>	<i>Dinophysis</i>	<i>Thalassiosira</i>	<i>Dinophysis</i>	<i>Thalassiosira</i>	<i>Dinophysis</i>	<i>Thalassiosira</i>	
			<i>Skeletonema</i>	<i>Skeletonema</i>	<i>Skeletonema</i>	<i>Thalassiosira</i>	<i>Skeletonema</i>	<i>Thalassiosira</i>	<i>Thalassionema</i>	<i>Skeletonema</i>	<i>Thalassionema</i>	<i>Skeletonema</i>	<i>Thalassionema</i>	<i>Skeletonema</i>	

B Zooplankton															
1	Abundance (Population)	noX10 ³ / 100 m ³	42	44	43	42	43	42	43	42	43	42	43	42	APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	
			<i>Copepods</i>	<i>Oikoplura</i>	<i>Nitzschia</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>					
			<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods</i>	<i>Copepods</i>	<i>Copepods</i>	<i>Copepods</i>	<i>Copepods</i>					
			<i>Crustacean</i>	<i>Crustacean</i>	<i>Pinnularia</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Copepods nauplii</i>						
3	Total Biomass	ml/100 m ³	15.74	15.7	15.25	15.5	15.3	15.5	15.3	15.3	15.3	15.3	15.3		

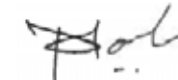
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RESULTS OF MARINE WATER [M2 MOUTH OF BOCHA & NAVINAL CREEK - N 22°44'239" E 069°43'757"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	110		114		116		118		120		122		APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	32		34		33		34		35		36		APHA 24 th Ed.2023, 9222-B
3	E.coli	/100ml	13		16		14		13		14		12		IS :15185:2016
4	Enterococcus	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		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 24 th Ed.2023, 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	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.48	0.44	0.49	0.46	0.52	0.48	IS: 2720 (Part 22):1972
2.	Phosphorus as P	µg/g	574.2	564.8	562.2	550.2	590.5	582.1	IS: 10158 :1982, 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 24th Ed.2023,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	4.12	4.06	4.11	4.02	3.83	3.84	IS3025(Part 55):2003
5.2	Total Chromium as Cr+3	µg/g	151.4	154.2	148.9	135.4	146.2	152.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.3	Manganese as Mn	µg/g	659	668	672.2	640.5	710.2	685.4	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.4	Iron as Fe	%	4.09	4.02	4.11	4.02	4.16	4.02	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.5	Nickel as Ni	µg/g	43.21	44.13	44.28	39.82	42.44	44.31	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.6	Copper as Cu	µg/g	43.05	42.64	42.86	41.25	48.95	46.36	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.7	Zinc as Zn	µg/g	155.4	146.5	145.6	136.4	142.4	135.4	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.8	Lead as Pb	µg/g	2.33	2.13	1.96	2.05	2.11	2.04	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.9	Mercury as Hg	µg/g	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	EPA 7471B (Extraction &Analytical Method) :2007

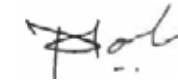
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RESULTS OF SEDIMENT ANALYSIS [M2 MOUTH OF BOCHA & NAVINAL CREEK - N 22°44'239" E 069°43'757"]

SR. NO.	TEST PARAMETERS	UNIT	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D			Benthic Organisms						
1	Macrobenthos	--	<i>Decapods Larvae</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	APHA (24th Ed. 2023)10500
			<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Gastropods</i>	<i>Gastropods</i>	<i>Gastropods</i>	
			<i>Amphipods</i>	<i>Amphipods</i>	<i>Gastropods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	
			<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Amphipods</i>	<i>Amphipods</i>	
2	MeioBenthos	--	<i>Foraminiferan</i>	<i>Foraminiferan</i>	<i>Decapods Larvae</i>	<i>Herpectacoids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	
			<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Polychates</i>	
3	Population	no/m ²	305	296	307	306	303	301	



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

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.22	8.1	8.14	8.06	8.18	8.08	8.07	7.91	8.11	7.89	8.14	7.93	IS 3025(Part 11):2022
2.	Temperature	°C	29.9	29.8	30.5	30.4	30.4	30.3	30.2	30.1	30.1	30	29.9	29.8	IS 3025(Part 9):2023
3.	Total Suspended Solids	mg/L	136	112	142	116	136	116	128	118	112	94	106	82	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	3	BDL(MD L:1.0)	2.8	BDL(MD L:1.0)	2.9	BDL(MD L:1.0)	2.4	BDL(MD L:1.0)	2.8	BDL(MD L:1.0)	3.1	BDL(MD L:1.0)	IS 3025(Part 44):2023
5.	Dissolved Oxygen	mg/L	5.92	5.72	5.82	5.57	5.73	5.48	6.32	6.22	6.49	6.3	6.59	6.4	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	36.58	37.28	36.64	37.44	36.55	37.38	36.24	37.21	35.96	36.88	35.88	36.74	By Calculation
7.	Oil & Grease	mg/L	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	IS 3025(Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.23	2.9	3.87	3.55	3.23	2.9	3.06	2.9	2.26	1.94	3.23	2.59	APHA 24th Ed.2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.435	0.413	0.478	0.456	0.522	0.5	0.435	0.413	0.304	0.261	0.413	0.379	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.37	4.22	4.498	4.32	4.22	4.16	3.64	3.59	3.95	3.85	3.66	2.93	APHA 24th Ed.2023,4500-NH3 B
11.	Phosphates as PO ₄	µmol/L	1.37	1.16	1.26	1.05	1.37	1.26	1.26	1.05	1.37	1.16	1.05	BDL(MD L:0.4)	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	8.035	7.533	8.846	8.326	7.972	7.56	7.135	6.903	6.514	6.051	7.303	5.899	APHA 24th Ed.2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36246	37250	36270	37310	36190	37240	35560	36770	35090	36680	35120	36550	IS 3025(Part 16):2023
15.	COD	mg/L	15.9	7.9	28.17	16.1	23.9	12	12	BDL(MD L:2.0)	16	4	20.1	8	IS 3025(Part 58):2023

Continue...

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

SR. NO.	TEST PARAMETERS	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m ³	2.47	2.47	2.44	2.48	2.42	2.44	2.43	2.46	2.42	2.47	2.41	2.46	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	1.66	1.47	1.65	1.42	1.67	1.43	1.68	1.44	1.67	1.42	1.68	1.41	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	140	98	142	97	146	96	148	97	150	98	154	99	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Pinnularia</i>	<i>Coscino discus</i>	<i>Pinnularia</i>	<i>Coscino discus</i>	<i>Pinnularia</i>	<i>Coscino discus</i>	<i>Melosira</i>	<i>Cyclotella</i>	<i>Melosira</i>	<i>Cyclotella</i>	<i>Melosira</i>	<i>Cyclotella</i>	APHA (24th Ed. 2023)10200A-G
			<i>Biddulphia</i>	<i>Pinnularia</i>	<i>Biddulphia</i>	<i>Pinnularia</i>	<i>Biddulphia</i>	<i>Pinnularia</i>	<i>Pinnularia</i>	<i>Pinnularia</i>	<i>Pinnularia</i>	<i>Pinnularia</i>	<i>Pinnularia</i>	<i>Pinnularia</i>	
			<i>Navicula</i>	<i>Rhizosolenia</i>	<i>Navicula</i>	<i>Rhizosolenia</i>	<i>Navicula</i>	<i>Rhizosolenia</i>	<i>Skeletonema</i>	<i>Skeletonema</i>	<i>Rhizosolenia</i>	<i>Skeletonema</i>	<i>Rhizosolenia</i>	<i>Skeletonema</i>	
			<i>Thalassiosira</i>	<i>Dinophysis</i>	<i>Thalassiosira</i>	<i>Dinophysis</i>	<i>Thalassiosira</i>	<i>Dinophysis</i>	<i>Thalassiosira</i>	<i>Thalassiosira</i>	<i>Thalassiosira</i>	<i>Thalassiosira</i>	<i>Thalassiosira</i>	<i>Thalassiosira</i>	
			<i>Skeletonema</i>	<i>Thalassionema</i>	<i>Skeletonema</i>	<i>Thalassionema</i>	<i>Skeletonema</i>	<i>Thalassionema</i>	<i>Thalassionema</i>	<i>Thalassionema</i>	<i>Thalassionema</i>	<i>Thalassionema</i>	<i>Thalassionema</i>	<i>Thalassionema</i>	

B			Zooplankton										TEST METHOD		
1	Abundance (Population)	noX10 ³ / 100 m ³	40	41	40	43	45	44							APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Copepods</i>	<i>Copepods</i>	<i>Rhizosolenia</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>							
			<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Crustacean Larvae</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>							
			<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>							
			<i>Crustacean</i>	<i>Pinnularia</i>	<i>Oikoplura</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Egg(Fish and Shrimps)</i>							
3	Total Biomass	ml/100 m ³	14.48	15.5	15.4	15.6	15.5	15.5							

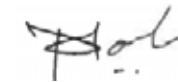
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RESULTS OF MARINE WATER [M3 EAST OF BOCHAISLANOT DETECTED - N 22°46'530" E 069°41'690"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM			
C			Microbiological												
1	Total Bacterial Count	CFU/ml	126		128		130		132		130		132		APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	28		27		29		30		31		30		APHA 24thEd.2023, 9222-B
3	E.coli	/100ml	24		23		22		21		22		21		IS :15185:2016
4	Enterococcus	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		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 24thEd.2023, 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	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.42	0.46	0.42	0.48	0.52	0.46	IS: 2720 (Part 22):1972
2.	Phosphorus as P	µg/g	618.2	620.5	611.8	618.6	632.4	610.2	IS: 10158 :1982, 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 24th Ed.2023,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	4.14	4.36	4.09	4.12	3.94	3.88	IS3025(Part 55):2003
5.2	Total Chromium as Cr+3	µg/g	146.2	154.1	146.5	138.5	124.5	132.4	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.3	Manganese as Mn	µg/g	618.9	620.2	608.5	619.2	520.6	538.4	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.4	Iron as Fe	%	4.09	4.11	4.06	3.98	4.09	4.14	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.5	Nickel as Ni	µg/g	44.6	42.5	44.8	41.62	36.8	35.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.6	Copper as Cu	µg/g	42.05	43.11	43.82	45.08	40.95	36.8	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.7	Zinc as Zn	µg/g	134.6	142.2	143.8	146.7	124.9	115.8	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.8	Lead as Pb	µg/g	2.33	2.16	2.22	2.15	1.96	2.05	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.9	Mercury as Hg	µg/g	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	EPA 7471B (Extraction &Analytical Method) :2007

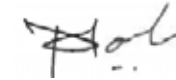
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RESULTS OF SEDIMENT ANALYSIS [M3 EAST OF BOCHASLANOT DETECTED - N 22°46'530" E 069°41'690"]

SR. NO.	TEST PARAMETERS	UNIT	Apr-24 SEDIMENT	May-24 SEDIMENT	Jun-24 SEDIMENT	Jul-24 SEDIMENT	Aug-24 SEDIMENT	Sep-24 SEDIMENT	TEST METHOD
D	Benthic Organisms								
1	Macrobenthos	--	Polychates	<i>Polychates</i>	<i>Amphipods</i>	<i>Gastropods</i>	<i>Gastropods</i>	<i>Decapods Larvae</i>	APHA (24th Ed. 2023)10500
			<i>Gastropods</i>	<i>Gastropods</i>	<i>Gastropods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	
			<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Amphipods</i>	<i>Amphipods</i>	<i>Amphipods</i>	
			<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	
2	MeioBenthos	--	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Foraminiferan</i>	
			<i>Polychates</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	
3	Population	no/m ²	298	296	298	297	295	294	



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

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.19	8.01	8.14	8.04	8.17	8.01	8.12	7.99	8.05	7.92	8.16	7.98	IS 3025(Part 11):2022
2.	Temperature	°C	29.8	29.7	30.4	30.3	30.6	30.5	30.1	30	30	29.9	29.9	29.8	IS 3025(Part 9):2023
3.	Total Suspended Solids	mg/L	138	122	142	128	144	132	132	114	124	108	132	102	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.8	BDL(MD L:1.0)	3.1	BDL(MD L:1.0)	3.2	BDL(MD L:1.0)	2.6	BDL(MD L:1.0)	2.9	BDL(MD L:1.0)	2.5	BDL(MD L:1.0)	IS 3025(Part 44):2023
5.	Dissolved Oxygen	mg/L	6.22	6.12	6.12	5.97	6.03	5.88	6.42	6.32	6.59	6.4	6.69	6.49	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	35.94	36.97	36.15	37.22	36.18	37.24	35.84	36.92	35.66	36.78	35.74	36.82	By Calculation
7.	Oil & Grease	mg/L	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	IS 3025(Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.39	3.23	3.55	3.39	3.23	2.9	3.06	2.9	2.1	1.77	2.37	2.16	APHA 24th Ed.2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.435	0.391	0.478	0.5	0.543	0.522	0.391	0.37	0.239	0.174	0.207	0.189	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.27	4.16	4.22	4.16	4.32	4.27	3.53	3.48	4.01	3.9	2.75	2.62	APHA 24th Ed.2023,4500- NH3 B
11.	Phosphates as PO ₄	µmol/L	1.79	1.68	1.16	1.05	1.26	1.16	1.05	BDL(MD L:0.4)	1.26	1.05	1.16	BDL(MD L:0.4)	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	8.095	7.781	8.248	8.05	8.093	7.692	6.981	6.75	6.349	5.844	5.327	4.969	APHA 24th Ed.2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36380	37320	36410	37360	36320	37180	35730	36810	35650	36780	35710	36790	IS 3025(Part 16):2023
15.	COD	mg/L	23.9	7.9	32.19	20.12	27.9	16	16.1	4	20	8	24.1	12	IS 3025(Part 58):2023

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RESULTS OF MARINE WATER [M4 JUNA BANOT DETECTEDAR N 22°47'57" E 069°43'620"]

SR. NO.	TEST PARAMETERS	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD	
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M		
A Phytoplankton																
1.	Chlorophyll	mg/m ³	2.36	3.14	2.38	3.17	2.37	3.19	2.35	3.2	2.36	3.1	2.37	3.2	APHA (24th Ed. 2023)10200A-G	
2.	Phaeophytin	mg/m ³	2.69	2	2.66	3	2.59	4	2.6	5	2.7	4	2.5	6	APHA (24th Ed. 2023)10200A-G	
3.	Cell Count	No. x 10 ³ /L	154	88	156	86	154	84	155	88	152	89	156	88	APHA (24th Ed. 2023)10200A-G	
4	Name of Group Number and name of group species of each group	--	<i>Coscino discus</i>	<i>Surirella</i>	<i>Surirella</i>	<i>Surirella</i>	<i>Coscino discus</i>	<i>Surirella</i>	<i>Thalassiosira</i>	<i>Coscino discus</i>	<i>Thalassiosira</i>	<i>Coscino discus</i>	<i>Thalassiosira</i>	<i>Coscino discus</i>	APHA (24th Ed. 2023)10200A-G	
			<i>Diploneis</i>	<i>Biddulphia</i>	<i>Diploneis</i>	<i>Biddulphia</i>	<i>Diploneis</i>	<i>Biddulphia</i>	<i>Melosira</i>	<i>Diploneis</i>	<i>Melosira</i>	<i>Diploneis</i>	<i>Melosira</i>	<i>Diploneis</i>		
			<i>Rhizosolenia</i>	<i>Navicula</i>	<i>Thalassiothrix</i>	<i>Coscino discus</i>	<i>Skeletonema</i>	<i>Coscino discus</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>		<i>Rhizosolenia</i>
			<i>Dinophysis</i>	<i>Thalassiosira</i>	<i>Navicula</i>	<i>Thalassiosira</i>	<i>Navicula</i>	<i>Thalassiosira</i>	<i>Rhizosolenia</i>	<i>Dinophysis</i>	<i>Rhizosolenia</i>	<i>Dinophysis</i>	<i>Rhizosolenia</i>	<i>Dinophysis</i>		<i>Rhizosolenia</i>
			<i>Thalassionema</i>	<i>Skeletonema</i>	<i>Thalassionema</i>	<i>Skeletonema</i>	<i>Thalassionema</i>	<i>Skeletonema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>		

B Zooplankton															
1	Abundance (Population)	noX10 ³ /100 m ³	37		36		37		36		37		38		APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Oikoplura</i>		<i>Oikoplura</i>		<i>Copepods nauplii</i>		<i>Copepods nauplii</i>		<i>Copepods nauplii</i>		<i>Copepods nauplii</i>		
			<i>Copepods nauplii</i>		<i>Rhizosolenia</i>		<i>Rhizosolenia</i>		<i>Crustacean Larvae</i>		<i>Crustacean Larvae</i>		<i>Egg(Fish and Shrimps)</i>		
			<i>Crustacean Larvae</i>		<i>Crustacean Larvae</i>		<i>Egg(Fish and Shrimps)</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		
			<i>Crustacean</i>		<i>Crustacean</i>		<i>Crustacean</i>		<i>Bivalve Larvae</i>		<i>Bivalve Larvae</i>		<i>Copepods nauplii</i>		
			<i>Bivalve Larvae</i>		<i>Bivalve Larvae</i>		<i>Bivalve Larvae</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		
3	Total Biomass	ml/100 m ³	14.22		14.24		14.23		14.26		14.27		14.27		

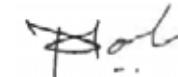
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RESULTS OF MARINE WATER [M4 JUNA BANOT DETECTEDAR N 22°47'57" E 069°43'620"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	100		92		94		96		98		100		APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	44		42		44		43		42		44		APHA 24thEd.2023, 9222-B
3	E.coli	/100ml	12		11		10		11		10		12		IS :15185:2016
4	Enterococcus	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		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 24thEd.2023, 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	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.51	0.52	0.49	0.41	0.49	0.44	IS: 2720 (Part 22):1972
2.	Phosphorus as P	µg/g	619.4	621.4	624.2	612.5	580	560.8	IS: 10158 :1982, 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 24th Ed.2023,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	4.14	4.06	3.98	3.88	3.92	3.99	IS3025(Part 55):2003
5.2	Total Chromium as Cr+3	µg/g	144.4	138.9	142.2	132.6	122.6	132.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.3	Manganese as Mn	µg/g	611.5	602.5	610.4	589.2	554.6	540.3	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.4	Iron as Fe	%	4.06	4.11	4.08	4.11	4.18	4.06	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.5	Nickel as Ni	µg/g	51.24	52.2	53.1	55.6	48.6	48.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.6	Copper as Cu	µg/g	48.62	48.44	49.02	52.1	46.9	45.3	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.7	Zinc as Zn	µg/g	134.2	136.2	138.4	148.6	138	144.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.8	Lead as Pb	µg/g	2.24	2.22	2.31	2.24	2.11	2.16	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.9	Mercury as Hg	µg/g	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	EPA 7471B (Extraction &Analytical Method) :2007

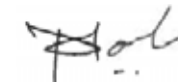
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RESULTS OF SEDIMENT ANALYSIS [M4 JUNA BANOT DETECTEDAR N 22°47'577" E 069°43'620"]

SR. NO.	TEST PARAMETERS	UNIT	Apr-24 SEDIMENT	May-24 SEDIMENT	Jun-24 SEDIMENT	Jul-24 SEDIMENT	Aug-24 SEDIMENT	Sep-24 SEDIMENT	TEST METHOD
D	Benthic Organisms								
1	Macrobenthos	--	<i>Foraminiferan</i>	<i>Amphipods</i>	<i>Amphipods</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	APHA (24th Ed. 2023)10500
			<i>Gastropods</i>	<i>Gastropods</i>	<i>Gastropods</i>	<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	
			<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Polychates</i>	
			<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Turbellarians</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Foraminiferan</i>	
2	MeioBenthos	--	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Turbellarians</i>	<i>Gastropods</i>	<i>Gastropods</i>	
			<i>Polychates</i>	<i>Turbellarians</i>	<i>Decapods Larvae</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	
3	Population	no/m ²	322	341	288	304	308	300	



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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 PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.16	8.06	8.18	8.11	8.21	8.09	8.14	8.04	8.07	7.88	8.18	8.02	IS 3025(Part 11):2022
2.	Temperature	°C	29.8	29.7	30.5	30.4	30.6	30.5	30.2	30.1	30.1	30	30	29.9	IS 3025(Part 9):2023
3.	Total Suspended Solids	mg/L	134	114	128	112	130	108	138	114	132	108	122	104	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	3.1	BDL(MD L:1.0)	3.3	BDL(MD L:1.0)	3.1	BDL(MD L:1.0)	2.7	BDL(MD L:1.0)	2.8	BDL(MD L:1.0)	2.7	BDL(MD L:1.0)	IS 3025(Part 44):2023
5.	Dissolved Oxygen	mg/L	6.22	6.02	6.12	5.87	6.03	5.78	6.22	6.13	6.4	6.2	6.49	6.3	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	36.54	37.1	36.62	37.26	36.55	37.33	35.55	36.28	35.42	36.34	35.31	36.41	By Calculation
7.	Oil & Grease	mg/L	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	IS 3025(Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.87	3.55	4.03	3.87	3.71	3.39	2.9	2.74	2.1	1.94	2.8	2.37	APHA 24th Ed.2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.456	0.413	0.522	0.5	0.478	0.456	0.435	0.413	0.391	0.348	0.259	0.189	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	3.95	3.8	4.16	4.11	4.11	4.06	3.64	3.59	3.48	3.42	4.05	3.83	APHA 24th Ed.2023,4500- NH3 B
11.	Phosphates as PO ₄	µmol/L	1.9	1.68	1.37	1.26	1.16	1.05	1.05	BDL(MD L:0.4)	1.16	BDL(MD L:0.4)	1.26	1.16	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	8.276	7.763	8.712	8.48	8.298	7.906	6.975	6.743	5.971	5.708	7.109	6.389	APHA 24th Ed.2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36210	37300	36250	37340	36190	37240	35640	36930	34680	35880	34720	35910	IS 3025(Part 16):2023
15.	COD	mg/L	23.9	11.9	24.14	20.12	19.9	16	4	BDL(MD L:2.0)	8	4	12	8	IS 3025(Part 58):2023

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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	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m ³	3.17	3.15	3.14	3.17	3.11	3.15	3.13	3.16	3.14	3.18	3.12	3.17	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	2.4	1.25	2.3	1.24	2.2	1.23	2.3	1.24	2.4	1.23	2.3	1.22	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	115	105	118	107	120	106	122	108	123	109	122	110	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Diploneis</i>	<i>Navicula</i>	<i>Diploneis</i>	<i>Navicula</i>	<i>Navicula</i>	<i>Navicula</i>	<i>Navicula</i>	<i>Pinnularia</i>	<i>Navicula</i>	<i>Pinnularia</i>	<i>Navicula</i>	<i>Pinnularia</i>	APHA (24th Ed. 2023)10200A-G
			<i>Rhizosolenia</i>	<i>Skeletonema</i>	<i>Rhizosolenia</i>	<i>Skeletonema</i>	<i>Biddulphia</i>	<i>Skeletonema</i>	<i>Biddulphia</i>	<i>Biddulphia</i>	<i>Biddulphia</i>	<i>Biddulphia</i>	<i>Biddulphia</i>	<i>Rhizosolenia</i>	
			<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>	<i>Navicula</i>	<i>Nitzschia</i>	<i>Navicula</i>	<i>Odentella</i>	<i>Dinophysis</i>	
			<i>Cyclotella</i>	<i>Dinophysis</i>	<i>Cyclotella</i>	<i>Biddulphia</i>	<i>Cyclotella</i>	<i>Biddulphia</i>	<i>Cyclotella</i>	<i>Thalassiosira</i>	<i>Cyclotella</i>	<i>Thalassiosira</i>	<i>Cyclotella</i>	<i>Coscinodiscus</i>	
			<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Skeletonema</i>	<i>Pleurosigma</i>	<i>Skeletonema</i>	<i>Pleurosigma</i>	<i>Skeletonema</i>	

B			Zooplankton												
1	Abundance (Population)	noX10 ³ /100 m ³	48	49	48	50	52	51							APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Copepods nauplii</i>	<i>Nitzschia</i>	<i>Nitzschia</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>							
			<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>							
			<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Copepods</i>	<i>Copepods</i>	<i>Copepods nauplii</i>							
			<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>							
			<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>							
3	Total Biomass	ml/100 m ³	14.17	14.15	14.12	14.13	14.12	14.12							

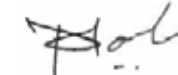
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RESULTS OF MARINE WATER [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	130		134		134		136		140		144		APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	27		30		31		32		33		31		APHA 24 th Ed.2023, 9222-B
3	E.coli	/100ml	15		16		18		17		18		17		IS :15185:2016
4	Enterococcus	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		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 24 th Ed.2023, 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	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.48	0.49	0.46	0.42	0.53	0.48	IS: 2720 (Part 22):1972
2.	Phosphorus as P	µg/g	728.4	710.5	698.5	650.9	612.1	590.8	IS: 10158 :1982, 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 24th Ed.2023,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	4.06	4.08	4.12	3.91	3.88	3.92	IS3025(Part 55):2003
5.2	Total Chromium as Cr+3	µg/g	142.2	162.4	166.2	156.4	142.3	136.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.3	Manganese as Mn	µg/g	598.4	602.4	609.8	617.2	570.9	560.4	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.4	Iron as Fe	%	4.06	4.14	4.09	4.16	4.19	4.11	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.5	Nickel as Ni	µg/g	44.36	43.36	43.12	42.19	44.36	45.68	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.6	Copper as Cu	µg/g	45.91	45.28	45.11	45.86	41.25	48.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.7	Zinc as Zn	µg/g	121.4	124.4	122.2	120.8	111.6	116.5	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.8	Lead as Pb	µg/g	2.09	1.89	1.94	2.08	1.92	2.11	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.9	Mercury as Hg	µg/g	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	EPA 7471B (Extraction &Analytical Method) :2007

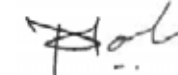
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RESULTS OF SEDIMENT ANALYSIS [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

SR. NO.	TEST PARAMETERS	UNIT	Apr-24 SEDIMENT	May-24 SEDIMENT	Jun-24 SEDIMENT	Jul-24 SEDIMENT	Aug-24 SEDIMENT	Sep-24 SEDIMENT	TEST METHOD
D			Benthic Organisms						
1	Macrobenthos	--	<i>Amphipods</i>	<i>Amphipods</i>	<i>Amphipods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	APHA (24th Ed. 2023)10500
			<i>Polychates</i>	<i>Sipunculids</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Gastropods</i>	
			<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	
			<i>Gastropods</i>	<i>Gastropods</i>	<i>Gastropods</i>	<i>Amphipods</i>	<i>Amphipods</i>	<i>Amphipods</i>	
2	MeioBenthos	--	Decapods Larvae	Decapods Larvae	Foraminiferan	Polychates	Herpectacoids	<i>Herpectacoids</i>	
			<i>Herpectacoids</i>	<i>Gastropods</i>	<i>Herpectacoids</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	<i>Polychates</i>	
3	Population	no/m ²	306	305	304	305	307	305	



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

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.18	7.98	8.15	8.04	8.19	8.06	8.04	7.88	8.15	7.98	8.16	8.04	IS 3025(Part 11):2022
2.	Temperature	°C	29.9	29.8	30.5	30.4	30.7	30.6	30.2	30.1	30.1	30	29.8	29.7	IS 3025(Part 9):2023
3.	Total Suspended Solids	mg/L	118	96	124	106	120	108	134	116	122	106	104	78	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	3.1	BDL(MD L:1.0)	3.4	BDL(MD L:1.0)	2.8	BDL(MD L:1.0)	2.5	BDL(MD L:1.0)	3.1	BDL(MD L:1.0)	2.5	BDL(MD L:1.0)	IS 3025(Part 44):2023
5.	Dissolved Oxygen	mg/L	6.02	5.92	5.92	5.77	5.83	5.68	6.42	6.22	6.59	6.3	6.69	6.4	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	36.52	37.35	36.58	37.48	36.42	37.21	36.14	36.97	35.97	36.77	35.81	36.58	By Calculation
7.	Oil & Grease	mg/L	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	IS 3025(Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.39	3.23	4.19	4.03	4.03	3.71	3.39	3.23	2.42	2.1	3.66	3.44	APHA 24th Ed.2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.5	0.456	0.565	0.522	0.564	0.543	0.37	0.348	0.196	0.13	0.413	0.379	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.06	3.9	4.16	4.11	4.27	4.22	3.69	3.59	4.22	4.06	3.96	3.62	APHA 24th Ed.2023,4500- NH3 B
11.	Phosphates as PO ₄	µmol/L	2.21	2	2.11	1.9	1.9	1.68	1.37	1.26	1.47	1.37	1.58	1.47	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	7.95	7.586	8.915	8.662	8.864	8.473	7.45	7.168	6.836	6.29	8.033	7.439	APHA 24th Ed.2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36290	37340	36320	37110	36260	37180	35860	36720	35780	36690	35690	36480	IS 3025(Part 16):2023
15.	COD	mg/L	19.9	7.9	36.22	24.14	31.9	19.9	8	4	12	8	16.1	12	IS 3025(Part 58):2023

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

SR. NO.	TEST PARAMETERS	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
A			Phytoplankton												
1.	Chlorophyll	mg/m ³	3.04	2.3	3.06	2.6	3.08	2.5	3.07	2.4	3.08	2.6	3.07	2.6	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	2.6	1.77	2.7	1.78	2.5	1.77	2.6	1.78	2.7	1.77	2.6	1.78	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	88	122	89	124	87	123	89	122	91	123	92	122	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Nitzschia</i>	<i>Thalassiothrix</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Diploneis</i>	<i>Coscinodiscus</i>	<i>Diploneis</i>	<i>Coscinodiscus</i>	<i>Diploneis</i>	<i>Coscinodiscus</i>	APHA (24th Ed. 2023)10200A-G
			<i>Pinnularia</i>	<i>Surirella</i>	<i>Pinnularia</i>	<i>Surirella</i>	<i>Odontella</i>	<i>Surirella</i>	<i>Rhizosolenia</i>	<i>Diploneis</i>	<i>Rhizosolenia</i>	<i>Diploneis</i>	<i>Rhizosolenia</i>	<i>Diploneis</i>	
			<i>Odontella</i>	<i>Navicula</i>	<i>Dinophysis</i>	<i>Navicula</i>	<i>Dinophysis</i>	<i>Navicula</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	<i>Nitzschia</i>	<i>Rhizosolenia</i>	
			<i>Dinophysis</i>	<i>Thalassiosira</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Thalassiothrix</i>	<i>Dinophysis</i>	<i>Thalassiothrix</i>	<i>Dinophysis</i>	<i>Thalassiothrix</i>	<i>Dinophysis</i>	
			<i>Surirella</i>	<i>Skeletonema</i>	<i>Surirella</i>	<i>Skeletonema</i>	<i>Cyclotella</i>	<i>Skeletonema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Thalassionema</i>	

B			Zooplankton												
1	Abundance (Population)	noX10 ³ /100 m ³	41	42	42	43	42	43	42	43	42	43	42	43	APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Nitzschia</i>	<i>Nitzschia</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	
			<i>Pinnularia</i>	<i>Pinnularia</i>	<i>Coscinodiscus</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	
			<i>Odontella</i>	<i>Odontella</i>	<i>Odontella</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	
			<i>Dinophysis</i>	<i>Dinophysis</i>	<i>Dinophysis</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>	
			<i>Surirella</i>	<i>Surirella</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>		
3	Total Biomass	ml/100 m ³	16.54	16.55	16.57	16.58	16.59	16.59	16.59	16.59	16.59	16.59	16.59		

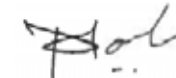
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RESULTS OF MARINE WATER [M7 EAST PORT N 22°47'120" E 069°47'110"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	90		94		94		92		94		92		APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	29		27		25		26		27		26		APHA 24 th Ed.2023, 9222-B
3	E.coli	/100ml	11		13		12		13		14		12		IS :15185:2016
4	Enterococcus	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		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 24 th Ed.2023, 9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976



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Mr. Nitin Tandel
Technical Manager

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

SR. NO.	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.14	7.94	8.24	8.11	8.18	8.02	8.1	7.94	8.21	8.06	8.15	8.01	IS 3025(Part 11):2022
2.	Temperature	°C	29.9	29.8	30.5	30.4	30.7	30.6	30.2	30.1	30.1	30	29.9	29.8	IS 3025(Part 9):2023
3.	Total Suspended Solids	mg/L	114	92	118	104	122	110	108	88	124	98	122	94	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL(MD L:1.0)	2.8	BDL(MD L:1.0)	2.9	BDL(MD L:1.0)	2.4	BDL(MD L:1.0)	2.8	BDL(MD L:1.0)	3.2	BDL(MD L:1.0)	IS 3025(Part 44):2023
5.	Dissolved Oxygen	mg/L	6.02	5.82	5.92	5.67	5.83	5.58	6.42	6.32	6.59	6.4	6.69	6.49	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	36.42	37.24	35.44	37.37	35.39	37.28	35.44	37.05	35.48	36.82	35.64	36.71	By Calculation
7.	Oil & Grease	mg/L	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	IS 3025(Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.71	3.23	4.03	3.71	4.19	3.87	3.55	3.23	2.74	2.42	3.45	3.02	APHA 24th Ed.2023,4500 NO3-
9.	Nitrite as NO ₂	µmol/L	0.522	0.478	0.565	0.522	0.609	0.543	0.478	0.456	0.239	0.174	0.379	0.328	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.16	4.11	4.11	4.06	4.32	4.27	3.59	3.48	4.37	4.22	3.84	3.62	APHA 24th Ed.2023,4500- NH3
11.	Phosphates as PO ₄	µmol/L	2.21	2	1.9	1.79	1.68	1.58	1.26	1.05	1.26	BDL(MD L:0.4)	BDL(MD L:0.4)	BDL(MD L:0.4)	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	8.392	7.818	8.705	8.292	9.119	8.683	7.618	7.166	7.349	6.814	7.669	6.968	APHA 24th Ed.2023,4500 NH3 -
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36540	37610	36410	37480	36220	37340	35760	36520	35110	36460	35260	36180	IS 3025(Part 16):2023
15.	COD	mg/L	23.9	15.9	32.19	28.17	23.9	19.9	8	BDL(MD L:2.0)	12	4	16.1	8	IS 3025(Part 58):2023

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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	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
A			Phytoplankton												
1.	Chlorophyll	mg/m ³	3.1	3.17	3.2	3.14	3.1	3.12	3.2	3.11	3.3	3.12	3.2	3.11	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	1.8	1.34	1.4	1.38	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.7	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	109	107	112	109	114	107	116	108	117	109	116	108	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Odontella</i>	<i>Cyclotella</i>	<i>Odontella</i>	<i>Cyclotella</i>	<i>Odontella</i>	<i>Cyclotella</i>	<i>Nitzschia</i>	<i>Diploneis</i>	<i>Nitzschia</i>	<i>Diploneis</i>	<i>Nitzschia</i>	<i>Diploneis</i>	APHA (24th Ed. 2023)10200A-G
			<i>Rhizosolenia</i>	<i>Pinnularia</i>	<i>Rhizosolenia</i>	<i>Pinnularia</i>	<i>Rhizosolenia</i>	<i>Pinnularia</i>	<i>Grammatophora</i>	<i>Rhizosolenia</i>	<i>Grammatophora</i>	<i>Rhizosolenia</i>	<i>Grammatophora</i>	<i>Rhizosolenia</i>	
			<i>Coscinodiscus</i>	<i>Skeletonema</i>	<i>Coscinodiscus</i>	<i>Skeletonema</i>	<i>Coscinodiscus</i>	<i>Skeletonema</i>	<i>Diploneis</i>	<i>Nitzschia</i>	<i>Diploneis</i>	<i>Nitzschia</i>	<i>Diploneis</i>	<i>Nitzschia</i>	
			<i>Grammatophora</i>	<i>Thalassiosira</i>	<i>Grammatophora</i>	<i>Thalassiosira</i>	<i>Grammatophora</i>	<i>Thalassiosira</i>	<i>Thalassiothrix</i>	<i>Cyclotella</i>	<i>Thalassiothrix</i>	<i>Cyclotella</i>	<i>Thalassiothrix</i>	<i>Grammatophora</i>	
			<i>Thalassiosira</i>	<i>Thalassionema</i>	<i>Thalassiosira</i>	<i>Thalassionema</i>	<i>Thalassiosira</i>	<i>Thalassionema</i>	<i>Pleurosigma</i>	<i>Pleurosigma</i>	<i>Pleurosigma</i>	<i>Pleurosigma</i>	<i>Pleurosigma</i>	<i>Pleurosigma</i>	
B			Zooplankton												
1	Abundance (Population)	noX10 ³ / 100 m ³	34	33	31	32	33	31							APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Coscinodiscus</i>	<i>Coscinodiscus</i>	<i>Odontella</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>							
			<i>Diploneis</i>	<i>Egg(Fish and Shrimps)</i>	<i>Egg(Fish and Shrimps)</i>	<i>Copepods nauplii</i>	<i>Copepods nauplii</i>	<i>Egg(Fish and Shrimps)</i>							
			<i>Rhizosolenia</i>	<i>Rhizosolenia</i>	<i>Rhizosolenia</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>							
			<i>Dinophysis</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Crustacean</i>							
			<i>Thalassionema</i>	<i>Thalassionema</i>	<i>Thalassionema</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>	<i>Bivalve Larvae</i>							
3	Total Biomass	ml/100 m ³	14.78	14.77	14.78	14.77	14.78	14.78							

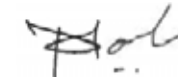
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RESULTS OF MARINE WATER [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	96		98		96		94		98		90		APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	14		16		15		14		12		11		APHA 24thEd.2023, 9222-B
3	E.coli	/100ml	13		14		11		10		11		13		IS :15185:2016
4	Enterococcus	/100ml	8		7		9		8		6		7		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 24thEd.2023, 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	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1.	Organic Matter	%	0.49	0.42	0.41	0.49	0.53	0.45	IS: 2720 (Part 22):1972
2.	Phosphorus as P	µg/g	602	596	602.4	610.5	564.8	574.2	IS: 10158 :1982, 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 24th Ed.2023,5520 F
5.0	Heavy Metals								
5.1	Aluminum as Al	%	3.98	3.94	3.98	4.05	4.19	4.06	IS3025(Part 55):2003
5.2	Total Chromium as Cr+3	µg/g	122.4	128.6	132.2	134.4	142.3	134.2	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.3	Manganese as Mn	µg/g	618.3	606	608.4	612.6	580.5	590.4	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.4	Iron as Fe	%	4.11	4.02	4.06	4.11	4.09	4.12	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.5	Nickel as Ni	µg/g	42.31	43.22	43.84	44.69	39.55	40.85	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.6	Copper as Cu	µg/g	44.86	44.685	44.23	42.36	51.31	52.31	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.7	Zinc as Zn	µg/g	121.2	120.4	122.5	114.6	128.4	122	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.8	Lead as Pb	µg/g	2.44	2.52	2.43	2.31	2.06	1.92	EPA 3050B/7000B (Extraction &Analytical Method):2007
5.9	Mercury as Hg	µg/g	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	EPA 7471B (Extraction &Analytical Method) :2007

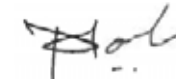
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RESULTS OF SEDIMENT ANALYSIS [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO.	TEST PARAMETERS	UNIT	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
D			Benthic Organisms						
1	Macrobenthos	--	<i>Polychates</i>	<i>Gastropods</i>	<i>Gastropods</i>	<i>Polychates</i>	<i>Polychates</i>	<i>Polychates</i>	APHA (24th Ed. 2023)10500
			<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	<i>Decapods Larvae</i>	<i>Amphipods</i>	<i>Amphipods</i>	<i>Amphipods</i>	
			<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Isopods</i>	<i>Sipunculids</i>	
			<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Sipunculids</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	
2	MeioBenthos	--	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Herpectacoids</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	<i>Foraminiferan</i>	
			<i>Turbellarians</i>	<i>Turbellarians</i>	<i>Turbellarians</i>	<i>Turbellarians</i>	<i>Turbellarians</i>	<i>Turbellarians</i>	
3	Population	no/m ²	368	367	365	366	367	368	



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

SR. NO.	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.21	8.06	8.24	8.16	8.17	8	8.09	7.89	8.02	7.84	8.11	7.91	IS 3025 (Part 11):2022
2.	Temperature	°C	29.8	29.7	30.5	30.4	30.7	30.6	30.2	30.1	30.1	30	29.8	29.7	IS 3025 (Part 9):2023
3.	Total Suspended Solids	mg/L	132	108	124	112	130	118	122	104	138	116	142	128	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	2.9	BDL(MD L:1.0)	3.4	BDL(MD L:1.0)	3.1	BDL(MD L:1.0)	2.8	BDL(MD L:1.0)	2.2	BDL(MD L:1.0)	3.4	BDL(MD L:1.0)	IS 3025 (Part 44):2023
5.	Dissolved Oxygen	mg/L	6.02	5.92	5.92	5.77	5.83	5.68	6.32	6.22	6.49	6.3	6.59	6.4	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	36.34	37.33	36.42	37.51	36.34	37.39	35.82	37.08	35.73	37.12	35.84	36.98	By Calculation
7.	Oil & Grease	mg/L	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	BDL(MD L:2.0)	IS 3025 (Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.06	2.74	3.39	3.23	3.55	3.39	3.06	2.74	2.42	2.26	3.02	2.59	APHA 24th Ed. 2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.565	0.543	0.652	0.609	0.543	0.522	0.5	0.456	0.413	0.37	0.276	0.215	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.22	4.06	4.32	4.22	4.37	4.27	3.48	3.42	4.43	4.27	3.79	3.36	APHA 24th Ed. 2023,4500- NH3 B
11.	Phosphates as PO ₄	µmol/L	1.9	1.68	1.79	1.68	1.47	1.37	1.16	1.05	1.16	1.05	BDL(MD L:0.4)	BDL(MD L:0.4)	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	7.845	7.343	8.362	8.059	8.463	8.182	7.04	6.616	7.263	6.9	7.086	6.165	APHA 24th Ed. 2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36280	37190	36240	37230	36230	37140	36110	36940	35280	36860	35310	36520	IS 3025(Part 16):2023
15.	COD	mg/L	19.9	11.9	28.17	24.14	19.9	16	8	4	12	8	16.1	12	IS 3025(Part 58):2023

Continue...

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

SR. NO.	TEST PARAMETERS	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
A			Phytoplankton												
1.	Chlorophyll	mg/m ³	2.9	2.8	2.7	2.6	2.6	2.7	2.7	2.8	2.6	2.9	2.9	2.8	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	2.7	1.6	2.6	1.7	2.7	1.5	2.9	1.6	2.8	1.5	2.7	1.6	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	132	117	129	115	128	116	130	117	133	118	132	117	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Dinophysis</i>	<i>Navicula</i>	<i>Odontella</i>	<i>Cyclotella</i>	<i>Cyclotella</i>	<i>Surirella</i>	<i>Odontella</i>	<i>Nitzschia</i>	<i>Odontella</i>	<i>Nitzschia</i>	<i>Odontella</i>	<i>Nitzschia</i>	APHA (24th Ed. 2023)10200A-G
			<i>Pinnularia</i>	<i>Skeletonema</i>	<i>Rhizosolenia</i>	<i>Pinnularia</i>	<i>Pinnularia</i>	<i>Skeletonema</i>	<i>Rhizosolenia</i>	<i>Pinnularia</i>	<i>Rhizosolenia</i>	<i>Pinnularia</i>	<i>Rhizosolenia</i>	<i>Pinnularia</i>	
			<i>Thalassiothrix</i>	<i>Rhizosolenia</i>	<i>Coscinodiscus</i>	<i>Skeletonema</i>	<i>Thalassiothrix</i>	<i>Rhizosolenia</i>	<i>Coscinodiscus</i>	<i>Odontella</i>	<i>Coscinodiscus</i>	<i>Odontella</i>	<i>Coscinodiscus</i>	<i>Odontella</i>	
			<i>Grammatophora</i>	<i>Dinophysis</i>	<i>Grammatophora</i>	<i>Thalassiosira</i>	<i>Rhizosolenia</i>	<i>Cyclotella</i>	<i>Grammatophora</i>	<i>Dinophysis</i>	<i>Grammatophora</i>	<i>Dinophysis</i>	<i>Pleurosigma</i>	<i>Dinophysis</i>	
			<i>Ceratium</i>	<i>Thalassionema</i>	<i>Thalassiosira</i>	<i>Thalassionema</i>	<i>Ceratium</i>	<i>Thalassionema</i>	<i>Thalassiosira</i>	<i>Surirella</i>	<i>Thalassiosira</i>	<i>Surirella</i>	<i>Thalassiosira</i>	<i>Surirella</i>	

B		Zooplankton										TEST METHOD
SR. NO.	TEST PARAMETERS	UNIT	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	TEST METHOD			
1	Abundance (Population)	noX10 ³ / 100 m ³	31	36	35	34	35	36	APHA (24rd Ed. 2023)10200 G			
2	Name of Group Number and name of group species of each group		<i>Diploneis</i>	<i>Diploneis</i>	<i>Diploneis</i>	<i>Decapoda</i>	<i>Decapoda</i>	<i>Decapoda</i>				
			<i>Rhizosolenia</i>	<i>Rhizosolenia</i>	<i>Rhizosolenia</i>	<i>Copepods</i>	<i>Copepods</i>	<i>Oikoplura</i>				
			<i>Nitzschia</i>	<i>Nitzschia</i>	<i>Nitzschia</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>	<i>Crustacean Larvae</i>				
			<i>Thalassiothrix</i>	<i>Coscinodiscus</i>	<i>Coscinodiscus</i>	<i>Crustacean</i>	<i>Crustacean</i>	<i>Bivalve Larvae</i>				
			<i>Pleurosigma</i>	<i>Pleurosigma</i>	<i>Pleurosigma</i>	<i>Oikoplura</i>	<i>Oikoplura</i>	<i>Oikoplura</i>				
3	Total Biomass	ml/100 m ³	15.23	15.22	15.23	15.23	15.23	15.25				

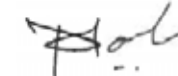
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RESULTS OF MARINE WATER [M11 MPT T1 JETTY N 22°42'278" E 069°43'450"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24	TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM		
C			Microbiological											
1	Total Bacterial Count	CFU/ml	224	230	230	234	230	232						APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	42	40	40	43	44	43						APHA 24 th Ed.2023, 9222-B
3	E.coli	/100ml	32	33	33	33	32	31						IS :15185:2016
4	Enterococcus	/100ml	18	15	15	12	14	13						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 24 th Ed.2023, 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 PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
1.	pH	--	8.18	8.03	8.12	7.94	8.15	8.04	8.07	7.94	8.12	7.88	8.16	7.96	IS 3025 (Part 11):2022
2.	Temperature	°C	29.8	29.7	30.4	30.3	30.6	30.5	30.3	30.2	30.2	30.1	29.9	29.8	IS 3025 (Part 9):2023
3.	Total Suspended Solids	mg/L	142	122	130	104	132	112	120	102	110	92	124	88	APHA 24th Ed.,2023,2540- D
4.	BOD (3 Days @ 27°C)	mg/L	3.1	BDL(M DL:1.0)	3.3	BDL(M DL:1.0)	3.1	BDL(M DL:1.0)	2.2	BDL(M DL:1.0)	2.8	BDL(M DL:1.0)	3.4	BDL(M DL:1.0)	IS 3025 (Part 44):2023
5.	Dissolved Oxygen	mg/L	5.92	5.82	5.82	5.67	5.73	5.58	6.42	6.32	6.59	6.4	6.69	6.49	APHA 24th Ed.2023,4500-O, B
6.	Salinity	ppt	36.39	37.44	36.42	37.54	36.12	37.28	35.74	36.91	35.81	36.87	35.67	26.76	By Calculation
7.	Oil & Grease	mg/L	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	BDL(M DL:2.0)	IS 3025 (Part 39):2021
8.	Nitrate as NO ₃	µmol/L	3.06	2.74	3.23	3.06	3.39	3.23	3.23	2.9	2.1	1.77	2.67	2.54	APHA 24th Ed. 2023,4500 NO3-B
9.	Nitrite as NO ₂	µmol/L	0.543	0.5	0.652	0.565	0.609	0.565	0.522	0.478	0.435	0.371	0.414	0.362	APHA 24th Ed.2023,4500NO ₂ B
10.	Ammonical Nitrogen as NH ₃	µmol/L	4.43	4.22	4.37	4.27	4.43	4.32	3.74	3.64	4.16	3.95	3.4	3.32	APHA 24th Ed. 2023,4500- NH3 B
11.	Phosphates as PO ₄	µmol/L	2	1.79	2.11	1.9	1.9	1.68	1.37	1.26	1.26	1.16	1.16	1.05	APHA 24th Ed.2023,4500-P, D
12.	Total Nitrogen	µmol/L	8.033	7.46	8.252	7.895	8.429	8.115	7.492	7.018	6.695	6.091	6.484	6.222	APHA 24th Ed. 2023,4500 NH3 - B
13.	Petroleum Hydrocarbon	µg/L	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	ND	ND	ND	ND	ND	ND	APHA 24th ED.2023,5520 F
14.	Total Dissolved Solids	mg/L	36370	37410	36230	37140	36190	37110	35720	36410	34680	35370	34410	35420	IS 3025(Part 16):2023
15.	COD	mg/L	11.9	7.9	24.14	20.123	16	12	12	8	16	12	20.1	16.1	IS 3025(Part 58):2023

Continue...

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

SR. NO.	TEST PARAMETERS	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	SURFAC E	BOTTO M	
A			Phytoplankton												
1.	Chlorophyll	mg/m ³	2.7	2.8	2.6	2.7	2.5	2.5	2.3	2.6	2.2	2.5	2.1	2.4	APHA (24th Ed. 2023)10200A-G
2.	Phaeophytin	mg/m ³	1.16	1.45	1.17	1.47	1.18	1.48	1.17	1.46	1.18	1.47	1.17	1.46	APHA (24th Ed. 2023)10200A-G
3.	Cell Count	No. x 10 ³ /L	75	122	77	126	75	127	77	130	78	133	77	132	APHA (24th Ed. 2023)10200A-G
4	Name of Group Number and name of group species of each group	--	<i>Ceratium</i>	<i>Melosira</i>	<i>Ceratium</i>	<i>Rhizosolenia</i>	<i>Surirella</i>	<i>Rhizosolenia</i>	<i>Skeletonema</i>	<i>Odontella</i>	<i>Skeletonema</i>	<i>Odontella</i>	<i>Skeletonema</i>	<i>Odontella</i>	APHA (24th Ed. 2023)10200A-G
			<i>Pinnularia</i>	<i>Dinophysis</i>	<i>Pinnularia</i>	<i>Dinophysis</i>	<i>Pinnularia</i>	<i>Dinophysis</i>	<i>Grammatophora</i>	<i>Rhizosolenia</i>	<i>Grammatophora</i>	<i>Rhizosolenia</i>	<i>Grammatophora</i>	<i>Rhizosolenia</i>	
			<i>Odontella</i>	<i>Skeletonema</i>	<i>Odontella</i>	<i>Skeletonema</i>	<i>Grammatophora</i>	<i>Skeletonema</i>	<i>Nitzschia</i>	<i>Coscinodiscus</i>	<i>Nitzschia</i>	<i>Coscinodiscus</i>	<i>Nitzschia</i>	<i>Coscinodiscus</i>	
			<i>Thalassiothrix</i>	<i>Thalassiosira</i>	<i>Thalassiothrix</i>	<i>Thalassiosira</i>	<i>Thalassiothrix</i>	<i>Thalassiosira</i>	<i>Thalassiothrix</i>	<i>Grammatophora</i>	<i>Thalassiothrix</i>	<i>Grammatophora</i>	<i>Coscinodiscus</i>	<i>Pinnularia</i>	
			<i>Thalassiosira</i>	<i>Thalassionema</i>	<i>Thalassiosira</i>	<i>Melosira</i>	<i>Rhizosolenia</i>	<i>Melosira</i>	<i>Pleurosigma</i>	<i>Thalassiosira</i>	<i>Pleurosigma</i>	<i>Thalassiosira</i>	<i>Pleurosigma</i>	<i>Thalassiosira</i>	
B			Zooplankton												
1	Abundance (Population)	noX10 ³ /100 m ³	66		37		68		67		67		70		APHA (24rd Ed. 2023)10200 G
2	Name of Group Number and name of group species of each group		<i>Nitzschia</i>		<i>Nitzschia</i>		<i>Nitzschia</i>		<i>Copepods</i>		<i>Copepods</i>		<i>Copepods</i>		
			<i>Grammatophora</i>		<i>Grammatophora</i>		<i>Grammatophora</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		<i>Oikoplura</i>		
			<i>Diploneis</i>		<i>Diploneis</i>		<i>Egg(Fish and Shrimps)</i>		<i>Crustacean Larvae</i>		<i>Crustacean Larvae</i>		<i>Crustacean Larvae</i>		
			<i>Thalassiothrix</i>		<i>Thalassiothrix</i>		<i>Thalassiothrix</i>		<i>Crustacean</i>		<i>Crustacean</i>		<i>Crustacean</i>		
3	Total Biomass	ml/100 m ³	14.56		14.55		14.54		14.57		14.54		14.57		

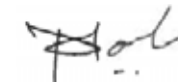
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RESULTS OF MARINE WATER [M12 SPM N 22°40'938" E 069°39'191"]

SR. NO	TEST PARAMETER S	UNIT	Apr-24		May-24		Jun-24		Jul-24		Aug-24		Sep-24		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
C			Microbiological												
1	Total Bacterial Count	CFU/ml	248		250		254		256		250		254		APHA 24 th Ed.2023,9215 -C
2	Total Coliform	/100ml	50		52		50		52		51		50		APHA 24 th Ed.2023, 9222-B
3	E.coli	/100ml	40		41		44		43		45		44		IS :15185:2016
4	Enterococcus	/100ml	31		30		32		31		32		30		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 24 th Ed.2023, 9260-E
7	Vibrio	/100ml	Absent		Absent		Absent		Absent		Absent		Absent		IS: 5887 (Part V):1976



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RESULTS OF ETP OUTLET WATER

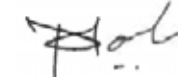
SR.NO.	TEST PARAMETERS	UNIT	LIQUID TERMINAL						GPCB Limit	TEST METHOD
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24		
			27-04-2024	25-05-2024	27-06-2024	24-07-2024	06-08-2024	20-09-2024		
1.	Colour	Pt. Co. Scale	40	40	40	60	50	50	100	IS 3025(Part 4):2021
2.	pH @ 27 ° C	--	7.35	6.97	7.11	6.96	6.87	7.51	6.5 to 8.5	IS 3025(Part 11):2022
3.	Temperature	°C	30.5	31.5	31	30	29.5	30	40	IS 3025(Part 9):2023
4.	Total Suspended Solid	mg/L	34	28	22	24	32	46	100	APHA 24th Ed.2023,2540 –D
5.	Total Dissolved Solids	mg/L	1242	1318	940	720	636	629	2100	APHA 24th Ed.2023,2540- C
6.	COD	mg/L	86	88	92	86.2	82.1	91.2	100	IS 3025(Part 58):2023
7.	BOD (3 days at 27 °C)	mg/L	24.9	27	25.3	24	24	27	30	IS 3025(Part 44):2023
8.	Chloride (as Cl) -	mg/L	486	502.4	437.1	400	234	247.7	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(Part 39):2021
10.	Sulphate (as SO ₄)	mg/L	42	48	44	42	36.8	34	1000	IS 3025(Part 24):2022
11.	Ammonical Nitrogen	mg/L	30.2	34.4	32.5	30.2	15.8	28.5	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):2022
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):1992
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 24th Ed.2023,3111-B

Continue...

SR.NO.	TEST PARAMETERS	UNIT	LIQUID TERMINAL						GPCB Limit	TEST METHOD
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24		
			27-04-2024	25-05-2024	27-06-2024	24-07-2024	06-08-2024	20-09-2024		
15.	Sulphide as S	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)	2	APHA 24th Ed.2023,4500 S ² F
16.	Cadmium as Cd	mg/L	BDL(MDL:0.003)	BDL(MDL:0.003)	BDL(MDL:0.003)	0.04	0.017	BDL(MDL:0.003)	2	APHA 24th Ed.2023,3111-B
17.	Fluoride as F	mg/L	1.8	1.64	1.58	1.74	1.88	1.84	2	APHA 24th Ed.2023,4500 F, D
18.	Residual Chlorine	mg/L	0.66	0.74	0.68	0.74	0.68	BDL(MDL:0.1)	0.5 Min.	APHA 24th Ed.2023,4500-Cl-G
19.	Percent Sodium	%	46.77	47.38	47.39	47.64	47.25	46.91	60	By Calculation
20.	Sodium Absorption ratio	--	3.06	3.3	3.4	3.3	2.5	3.1	26	By Calculation



Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

Results of Ambient Air Quality Monitoring

Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
1.	01-04-2024	79.75	31.28	27.86	31.25	1.1	--	NOT DETECTED
2.	04-04-2024	77.45	30.83	26.91	30.26	1.12	5.59	NOT DETECTED
3.	08-04-2024	81.36	33.46	29.75	32.37	1.16	5.62	NOT DETECTED
4.	11-04-2024	84.91	36.13	32.32	35.92	1.19	5.85	NOT DETECTED
5.	15-04-2024	82.37	32.86	29.4	32.53	1.15	5.76	NOT DETECTED
6.	18-04-2024	80.95	31.81	27.65	31.27	1.12	5.54	NOT DETECTED
7.	22-04-2024	82.52	33.37	30.48	34.64	1.14	5.68	NOT DETECTED
8.	25-04-2024	85.1	35.05	31.11	35.63	1.17	5.81	NOT DETECTED
9.	29-04-2024	83.26	33.49	30.64	34.13	1.12	5.7	NOT DETECTED
10.	02-05-2024	82.37	34.10	29.42	33.19	1.14	5.82	NOT DETECTED
11.	06-05-2024	84.13	36.72	31.64	35.32	1.15	5.89	NOT DETECTED
12.	09-05-2024	80.84	33.87	28.93	31.78	1.12	5.73	NOT DETECTED
13.	13-05-2024	78.46	32.87	29.98	33.52	1.10	5.61	NOT DETECTED
14.	16-05-2024	81.25	35.38	32.31	36.74	1.13	5.73	NOT DETECTED
15.	20-05-2024	79.63	33.89	30.13	34.62	1.12	5.56	NOT DETECTED

Continue...

Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
16.	23-05-2024	76.47	31.32	27.53	31.29	1.10	5.46	NOT DETECTED
17.	27-05-2024	78.52	34.54	28.41	32.48	1.13	5.37	NOT DETECTED
18.	30-05-2024	81.13	35.81	30.37	34.35	1.15	5.52	NOT DETECTED
19.	03-06-2024	80.62	33.35	28.84	31.98	1.12	5.57	NOT DETECTED
20.	06-06-2024	78.63	31.29	26.54	30.28	1.13	5.41	NOT DETECTED
21.	10-06-2024	81.12	33.27	29.17	32.48	1.16	5.69	NOT DETECTED
22.	13-06-2024	78.92	30.71	27.24	31.63	1.14	5.45	NOT DETECTED
23.	17-06-2024	74.39	28.16	26.19	30.84	1.1	5.32	NOT DETECTED
24.	20-06-2024	76.26	29.43	28.83	31.35	1.13	5.25	NOT DETECTED
25.	24-06-2024	63.37	26.71	25.69	28.14	1	4.74	NOT DETECTED
26.	27-06-2024	58.42	24.84	23.96	26.84	0.87	4.55	NOT DETECTED
27.	01-07-2024	60.75	26.86	24.62	27.46	1	--	NOT DETECTED
28.	04-07-2024	57.48	25.62	22.75	25.37	0.95	4.68	NOT DETECTED
29.	08-07-2024	63.48	27.19	24.59	28.11	1.02	4.78	NOT DETECTED
30.	11-07-2024	67.51	29.38	26.42	29.64	1.07	4.65	NOT DETECTED
31.	15-07-2024	64.38	26.51	24.96	27.15	1.03	4.73	NOT DETECTED

Continue...

Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
32.	18-07-2024	68.73	29.31	26.18	28.97	1.1	4.86	NOT DETECTED
33.	22-07-2024	65.41	27.54	25.38	28.26	1.12	4.79	NOT DETECTED
34.	25-07-2024	63.27	25.48	23.64	26.48	1.08	4.72	NOT DETECTED
35.	29-07-2024	59.83	24.28	22.69	25.13	1.02	4.61	NOT DETECTED
36.	01-08-2024	57.27	24.84	22.16	25.53	0.98	4.24	NOT DETECTED
37.	05-08-2024	61.29	26.58	23.81	26.48	1.04	4.41	NOT DETECTED
38.	08-08-2024	63.18	29.63	25.11	28.37	1.1	4.58	NOT DETECTED
39.	12-08-2024	60.72	27.37	22.84	25.42	1.06	4.38	NOT DETECTED
40.	15-08-2024	62.39	28.15	23.21	26.84	1.08	4.49	NOT DETECTED
41.	19-08-2024	64.15	29.52	25.37	28.15	1.12	4.64	NOT DETECTED
42.	22-08-2024	62.19	28.31	23.68	26.49	1.1	4.73	NOT DETECTED
43.	26-08-2024	58.37	25.48	22.57	25.16	1.05	4.51	NOT DETECTED
44.	29-08-2024	61.29	26.38	24.63	27.35	1.08	4.62	NOT DETECTED
45.	02-09-2024	60.17	25.52	21.92	24.63	1.02	4.42	NOT DETECTED
46.	05-09-2024	62.38	26.19	22.74	25.16	1.05	4.6	NOT DETECTED
47.	09-09-2024	65.13	28.36	24.82	27.48	1.08	4.66	NOT DETECTED

Continue...

Name of Location		CT3 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
48.	12-09-2024	63.29	25.91	23.69	26.41	1.04	4.56	NOT DETECTED
49.	16-09-2024	65.49	27.47	25.12	28.74	1.10	4.62	NOT DETECTED
50.	19-09-2024	68.42	29.3	25.81	27.98	1.14	4.71	NOT DETECTED
51.	23-09-2024	66.1	27.85	24.39	27.63	1.11	4.64	NOT DETECTED
52.	26-09-2024	62.37	24.41	22.35	25.68	1.06	4.49	NOT DETECTED
53.	30-09-2024	65.18	25.37	23.7	26.45	1.1	4.58	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)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
1.	01-04-2024	79.67	30.14	26.39	30.11	0.82	--	NOT DETECTED
2.	04-04-2024	81.38	32.74	29.51	33.46	0.88	3.74	NOT DETECTED
3.	08-04-2024	77.49	30.13	25.38	30.27	0.85	3.68	NOT DETECTED
4.	11-04-2024	79.13	31.82	27.91	32.47	0.82	3.53	NOT DETECTED
5.	15-04-2024	75.37	27.42	24.89	30.11	0.77	3.38	NOT DETECTED
6.	18-04-2024	77.91	29.73	25.52	29.28	0.86	3.49	NOT DETECTED
7.	22-04-2024	80.15	32.49	29.73	33.42	0.83	3.71	NOT DETECTED
8.	25-04-2024	75.24	28.47	26.93	30.17	0.79	3.56	NOT DETECTED
9.	29-04-2024	78.42	29.85	28.12	32.73	0.78	3.67	NOT DETECTED
10.	02-05-2024	78.72	28.84	25.91	29.18	0.78	3.58	NOT DETECTED
11.	06-05-2024	75.92	26.79	24.43	28.73	0.75	3.49	NOT DETECTED
12.	09-05-2024	79.63	29.26	26.8	30.02	0.85	3.66	NOT DETECTED
13.	13-05-2024	81.27	31.36	28.75	31.97	0.84	3.81	NOT DETECTED
14.	16-05-2024	78.64	29.74	27.45	31.12	0.78	3.61	NOT DETECTED
15.	20-05-2024	75.64	27.46	25.61	29.53	0.75	3.58	NOT DETECTED

Continue...

Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
16.	23-05-2024	73.4	26.99	24.94	27.88	0.73	3.51	NOT DETECTED
17.	27-05-2024	76.62	29.17	27.32	31.42	0.80	3.67	NOT DETECTED
18.	30-05-2024	74.96	27.84	25.63	29.85	0.83	3.57	NOT DETECTED
19.	03-06-2024	79.14	29.73	25.94	28.13	0.71	3.62	NOT DETECTED
20.	06-06-2024	77.38	26.85	24.58	27.63	0.69	3.54	NOT DETECTED
21.	10-06-2024	80.62	29.16	25.72	28.11	0.73	3.6	NOT DETECTED
22.	13-06-2024	76.37	27.48	24.94	27.27	0.75	3.43	NOT DETECTED
23.	17-06-2024	73.29	25.85	23.84	26.05	0.68	3.35	NOT DETECTED
24.	20-06-2024	69.52	24.87	22.58	25.71	0.73	3.27	NOT DETECTED
25.	24-06-2024	48.42	20.73	18.68	22.31	ND	2.67	NOT DETECTED
26.	27-06-2024	42.83	18.65	17.12	20.64	ND	2.42	NOT DETECTED
27.	01-07-2024	45.38	17.69	15.44	18.61	0.31	--	NOT DETECTED
28.	04-07-2024	48.63	19.47	17.15	20.57	0.37	2.65	NOT DETECTED
29.	08-07-2024	55.14	22.72	19.46	23.1	0.45	2.71	NOT DETECTED
30.	11-07-2024	58.27	24.15	20.84	23.79	0.51	2.77	NOT DETECTED
31.	15-07-2024	53.84	21.29	17.35	20.45	0.46	2.85	NOT DETECTED

Continue...

Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
32.	18-07-2024	60.15	24.59	19.72	22.31	0.55	2.71	NOT DETECTED
33.	22-07-2024	57.51	23.43	17.1	20.84	0.49	2.65	NOT DETECTED
34.	25-07-2024	54.19	20.81	14.89	17.57	0.42	2.59	NOT DETECTED
35.	29-07-2024	48.76	18.93	13.47	16.39	0.28	2.55	NOT DETECTED
36.	01-08-2024	49.81	19.1	14.82	18.31	0.4	2.51	NOT DETECTED
37.	05-08-2024	52.37	19.86	15.71	19.53	0.45	2.58	NOT DETECTED
38.	08-08-2024	55.71	20.42	16.29	20.81	0.42	2.64	NOT DETECTED
39.	12-08-2024	58.74	21.79	17.63	22.1	0.48	2.76	NOT DETECTED
40.	15-08-2024	53.29	20.63	15.24	19.21	0.41	2.61	NOT DETECTED
41.	19-08-2024	56.48	21.24	16.1	20.64	0.45	2.65	NOT DETECTED
42.	22-08-2024	59.63	22.14	17.71	22.15	0.48	2.72	NOT DETECTED
43.	26-08-2024	57.14	21.28	16.32	20.61	0.46	2.67	NOT DETECTED
44.	29-08-2024	54.59	20.81	15.39	19.3	0.43	2.59	NOT DETECTED
45.	02-09-2024	47.15	18.84	14.13	18.26	0.42	2.56	NOT DETECTED
46.	05-09-2024	50.18	19.24	15.25	19.42	0.45	2.63	NOT DETECTED
47.	09-09-2024	48.74	18.92	14.73	18.68	0.43	2.66	NOT DETECTED

Continue...

Name of Location		Near Fire Station						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
48.	12-09-2024	52.38	19.65	15.69	19.36	0.48	2.59	NOT DETECTED
49.	16-09-2024	55.38	20.14	15.89	20.05	0.5	2.67	NOT DETECTED
50.	19-09-2024	57.28	21.75	16.29	21.14	0.51	2.72	NOT DETECTED
51.	23-09-2024	54.39	20.43	15.36	19.74	0.48	2.60	NOT DETECTED
52.	26-09-2024	50.82	19.53	14.48	18.63	0.44	2.54	NOT DETECTED
53.	30-09-2024	53.37	20.42	15.1	18.86	0.47	2.59	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)




Jaivik S. Tandel
(Manager - Operations)

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/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
1.	01-04-2024	85.53	36.13	33.57	38.91	1.15	--	NOT DETECTED
2.	04-04-2024	82.38	34.62	30.98	35.64	1.12	4.71	NOT DETECTED
3.	08-04-2024	80.93	32.48	29.18	33.45	1.14	4.53	NOT DETECTED
4.	11-04-2024	83.47	35.63	33.45	37.61	1.17	4.69	NOT DETECTED
5.	15-04-2024	78.39	30.16	30.74	35.2	1.10	4.47	NOT DETECTED
6.	18-04-2024	80.63	32.7	28.46	33.29	1.13	4.61	NOT DETECTED
7.	22-04-2024	76.36	29.95	31.29	35.42	1.12	4.5	NOT DETECTED
8.	25-04-2024	82.35	31.56	33.71	38.81	1.15	4.73	NOT DETECTED
9.	29-04-2024	79.24	33.72	30.37	34.78	1.11	4.57	NOT DETECTED
10.	02-05-2024	80.26	32.91	30.18	34.51	1.12	4.48	NOT DETECTED
11.	06-05-2024	82.75	34.2	32.1	36.27	1.14	4.61	NOT DETECTED
12.	09-05-2024	79.64	30.73	29.38	32.63	1.15	4.42	NOT DETECTED
13.	13-05-2024	76.39	28.98	28.61	31.85	1.13	4.36	NOT DETECTED
14.	16-05-2024	78.63	30.73	29.86	33.41	1.12	4.45	NOT DETECTED
15.	20-05-2024	81.24	33.17	31.28	34.62	1.13	4.59	NOT DETECTED

Continue...

Name of Location		ADANI PORT – TUG Berth 600 KL Pupm House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
16.	23-05-2024	79.84	30.82	28.41	32.55	1.11	4.41	NOT DETECTED
17.	27-05-2024	76.54	29.71	27.94	31.28	1.1	4.29	NOT DETECTED
18.	30-05-2024	78.16	30.47	29.74	33.46	1.14	4.38	NOT DETECTED
19.	03-06-2024	78.72	30.25	27.64	31.38	1.11	4.39	NOT DETECTED
20.	06-06-2024	80.16	31.28	28.73	32.17	1.13	4.53	NOT DETECTED
21.	10-06-2024	76.39	28.63	26.37	30.62	1.1	4.42	NOT DETECTED
22.	13-06-2024	79.93	30.12	28.19	32.85	1.12	4.36	NOT DETECTED
23.	17-06-2024	75.59	28.83	25.48	29.16	1.11	4.27	NOT DETECTED
24.	20-06-2024	73.43	27.19	24.81	28.36	1.08	4.1	NOT DETECTED
25.	24-06-2024	56.32	24.75	22.59	25.42	0.74	3.38	NOT DETECTED
26.	27-06-2024	48.64	21.29	20.11	24.05	0.51	3.13	NOT DETECTED
27.	01-07-2024	54.38	23.51	20.83	23.49	0.67	--	NOT DETECTED
28.	04-07-2024	57.69	24.35	23.47	27.15	0.79	3.56	NOT DETECTED
29.	08-07-2024	63.48	26.61	24.06	27.39	0.83	3.61	NOT DETECTED
30.	11-07-2024	66.17	27.42	25.11	28.13	0.89	3.7	NOT DETECTED
31.	15-07-2024	65.49	25.15	24.63	26.96	0.81	3.76	NOT DETECTED

Continue...

Name of Location		ADANI PORT – TUG Berth 600 KL Pupm House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
32.	18-07-2024	68.58	28.35	25.21	28.74	0.87	3.68	NOT DETECTED
33.	22-07-2024	62.49	24.12	23.47	26.55	0.79	3.59	NOT DETECTED
34.	25-07-2024	58.57	22.75	20.91	24.1	0.74	3.54	NOT DETECTED
35.	29-07-2024	55.69	21.27	18.75	22.46	0.71	3.47	NOT DETECTED
36.	01-08-2024	55.14	22.63	20.45	24.21	0.72	3.41	NOT DETECTED
37.	05-08-2024	60.53	25.17	22.53	26.81	0.75	3.52	NOT DETECTED
38.	08-08-2024	58.28	23.48	21.53	25.48	0.73	3.45	NOT DETECTED
39.	12-08-2024	63.48	25.37	23.1	26.93	0.8	3.62	NOT DETECTED
40.	15-08-2024	65.12	26.91	24.36	28.13	0.85	3.71	NOT DETECTED
41.	19-08-2024	61.29	24.38	22.86	26.42	0.81	3.63	NOT DETECTED
42.	22-08-2024	63.45	25.18	23.41	27.36	0.77	3.69	NOT DETECTED
43.	26-08-2024	59.83	23.15	21.79	25.22	0.74	3.48	NOT DETECTED
44.	29-08-2024	61.27	24.61	23.24	27.46	0.79	3.57	NOT DETECTED
45.	02-09-2024	58.26	23.75	21.38	24.87	0.69	3.6	NOT DETECTED
46.	05-09-2024	55.93	22.59	20.88	24.56	0.64	3.54	NOT DETECTED
47.	09-09-2024	57.94	23.15	21.27	24.98	0.67	3.63	NOT DETECTED

Continue...

Name of Location		ADANI PORT – TUG Berth 600 KL Pupm House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
48.	12-09-2024	60.38	25.47	22.63	26.14	0.71	3.68	NOT DETECTED
49.	16-09-2024	63.38	25.96	22.78	26.69	0.74	3.74	NOT DETECTED
50.	19-09-2024	66.26	26.75	23.57	27.42	0.76	3.82	NOT DETECTED
51.	23-09-2024	64.39	25.14	22.63	26.46	0.73	3.71	NOT DETECTED
52.	26-09-2024	60.42	22.84	20.74	24.35	0.67	3.64	NOT DETECTED
53.	30-09-2024	62.54	23.67	21.81	24.63	0.71	3.68	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)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
1.	01-04-2024	72.38	29.81	23.13	26.79	0.71	--	NOT DETECTED
2.	04-04-2024	70.76	27.54	20.84	24.51	0.63	2.64	NOT DETECTED
3.	08-04-2024	65.24	30.12	21.25	22.94	0.68	2.56	NOT DETECTED
4.	11-04-2024	63.71	28.15	20.86	24.63	0.64	2.39	NOT DETECTED
5.	15-04-2024	68.12	27.36	21.74	23.46	0.67	2.48	NOT DETECTED
6.	18-04-2024	73.31	31.98	23.47	26.48	0.70	2.67	NOT DETECTED
7.	22-04-2024	69.53	29.78	21.47	25.10	0.65	2.55	NOT DETECTED
8.	25-04-2024	75.82	30.85	24.19	27.15	0.62	2.74	NOT DETECTED
9.	29-04-2024	72.46	31.82	21.86	24.35	0.68	2.61	NOT DETECTED
10.	02-05-2024	70.72	30.15	20.77	23.82	0.64	2.52	NOT DETECTED
11.	06-05-2024	73.14	32.10	22.49	25.37	0.69	2.67	NOT DETECTED
12.	09-05-2024	68.47	29.84	20.16	23.47	0.61	2.55	NOT DETECTED
13.	13-05-2024	65.48	27.46	21.73	23.91	0.60	2.46	NOT DETECTED
14.	16-05-2024	67.53	28.61	20.85	23.42	0.67	2.53	NOT DETECTED
15.	20-05-2024	64.29	26.83	19.27	22.11	0.63	2.42	NOT DETECTED

Continue...

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
16.	23-05-2024	68.42	28.23	21.44	23.40	0.70	2.79	NOT DETECTED
17.	27-05-2024	70.42	31.14	22.91	25.32	0.65	2.58	NOT DETECTED
18.	30-05-2024	72.34	31.93	20.82	23.84	0.68	2.63	NOT DETECTED
19.	03-06-2024	73.27	29.31	20.87	22.48	0.63	2.62	NOT DETECTED
20.	06-06-2024	68.53	27.15	19.74	22.02	0.59	2.55	NOT DETECTED
21.	10-06-2024	72.48	28.16	20.77	23.09	0.63	2.48	NOT DETECTED
22.	13-06-2024	70.12	25.74	19.35	21.28	0.60	2.53	NOT DETECTED
23.	17-06-2024	61.92	24.64	17.79	20.11	0.55	2.40	NOT DETECTED
24.	20-06-2024	63.78	26.13	18.53	20.85	0.63	2.49	NOT DETECTED
25.	24-06-2024	39.26	22.54	15.83	18.42	NOT DETECTED	1.87	NOT DETECTED
26.	27-06-2024	37.91	20.75	13.97	16.20	NOT DETECTED	1.64	NOT DETECTED
27.	01-07-2024	36.49	18.63	12.84	15.36	0.26	--	NOT DETECTED
28.	04-07-2024	40.28	19.87	14.11	17.63	0.29	1.57	NOT DETECTED
29.	08-07-2024	45.81	22.36	16.74	19.25	0.35	1.63	NOT DETECTED
30.	11-07-2024	48.73	24.15	17.59	20.74	0.41	1.82	NOT DETECTED
31.	15-07-2024	43.94	21.82	15.37	18.21	0.39	1.75	NOT DETECTED

Continue...

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
32.	18-07-2024	52.62	24.03	16.13	19.42	0.44	1.79	NOT DETECTED
33.	22-07-2024	47.49	23.13	14.59	17.84	0.40	1.68	NOT DETECTED
34.	25-07-2024	43.28	20.85	12.71	15.49	0.32	1.62	NOT DETECTED
35.	29-07-2024	39.51	16.94	10.87	13.66	0.24	1.55	NOT DETECTED
36.	01-08-2024	41.11	18.93	13.28	16.42	0.32	1.51	NOT DETECTED
37.	05-08-2024	43.29	19.35	13.74	16.49	0.34	1.58	NOT DETECTED
38.	08-08-2024	41.73	18.83	12.93	15.37	0.31	1.61	NOT DETECTED
39.	12-08-2024	47.52	21.37	14.16	17.10	0.34	1.68	NOT DETECTED
40.	15-08-2024	49.69	22.45	15.26	18.22	0.37	1.72	NOT DETECTED
41.	19-08-2024	47.14	21.43	14.32	17.25	0.35	1.63	NOT DETECTED
42.	22-08-2024	45.28	20.67	13.82	16.74	0.33	1.58	NOT DETECTED
43.	26-08-2024	43.74	20.11	13.32	16.14	0.32	1.49	NOT DETECTED
44.	29-08-2024	47.15	22.32	14.35	17.49	0.35	1.54	NOT DETECTED
45.	02-09-2024	44.39	19.74	14.10	17.35	0.36	1.6	NOT DETECTED
46.	05-09-2024	40.83	18.81	12.94	15.81	0.32	1.53	NOT DETECTED
47.	09-09-2024	42.91	19.46	13.32	16.26	0.33	1.57	NOT DETECTED

Continue...

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
48.	12-09-2024	44.48	20.31	13.84	16.52	0.36	1.63	NOT DETECTED
49.	16-09-2024	47.30	22.29	14.75	17.47	0.38	1.69	NOT DETECTED
50.	19-09-2024	44.10	21.16	13.68	16.42	0.35	1.75	NOT DETECTED
51.	23-09-2024	46.75	22.36	14.53	17.38	0.37	1.62	NOT DETECTED
52.	26-09-2024	43.47	21.73	12.64	15.16	0.32	1.67	NOT DETECTED
53.	30-09-2024	45.83	22.08	13.75	16.54	0.34	1.71	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)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		CT-4 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
1.	01-04-2024	85.13	30.82	27.35	30.15	0.81	--	NOT DETECTED
2.	04-04-2024	82.39	29.25	25.72	29.13	0.78	4.74	NOT DETECTED
3.	08-04-2024	80.18	27.31	24.86	27.35	0.73	4.61	NOT DETECTED
4.	11-04-2024	77.49	29.16	23.12	26.83	0.75	4.53	NOT DETECTED
5.	15-04-2024	81.93	28.38	24.64	28.02	0.86	4.86	NOT DETECTED
6.	18-04-2024	84.13	29.48	25.81	28.37	0.80	4.93	NOT DETECTED
7.	22-04-2024	87.39	32.15	27.68	30.64	0.85	4.75	NOT DETECTED
8.	25-04-2024	83.57	30.57	24.82	27.91	0.78	4.67	NOT DETECTED
9.	29-04-2024	86.12	32.81	27.14	31.25	0.83	4.81	NOT DETECTED
10.	02-05-2024	83.74	29.83	25.24	29.15	0.79	4.75	NOT DETECTED
11.	06-05-2024	85.19	32.53	27.81	31.11	0.85	4.88	NOT DETECTED
12.	09-05-2024	82.37	30.88	25.37	29.42	0.75	4.81	NOT DETECTED
13.	13-05-2024	79.36	28.64	24.93	28.64	0.73	4.73	NOT DETECTED
14.	16-05-2024	82.38	31.27	26.45	29.71	0.83	4.61	NOT DETECTED
15.	20-05-2024	80.91	30.15	25.19	29.37	0.79	4.70	NOT DETECTED

Continue...

Name of Location		CT-4 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
16.	23-05-2024	77.37	28.53	23.75	26.89	0.75	4.63	NOT DETECTED
17.	27-05-2024	79.52	29.75	25.29	28.74	0.81	4.68	NOT DETECTED
18.	30-05-2024	81.27	31.43	28.31	31.74	0.84	4.61	NOT DETECTED
19.	03-06-2024	81.84	30.14	24.26	28.74	0.80	4.67	NOT DETECTED
20.	06-06-2024	78.63	28.58	22.19	26.54	0.77	4.58	NOT DETECTED
21.	10-06-2024	80.27	29.18	22.97	27.15	0.72	4.63	NOT DETECTED
22.	13-06-2024	82.36	30.47	23.65	27.14	0.81	4.75	NOT DETECTED
23.	17-06-2024	76.21	27.63	22.10	26.74	0.70	4.67	NOT DETECTED
24.	20-06-2024	74.39	26.84	21.62	25.36	0.68	4.52	NOT DETECTED
25.	24-06-2024	60.67	23.71	18.64	22.37	0.24	3.65	NOT DETECTED
26.	27-06-2024	56.52	20.85	16.39	19.96	0.16	3.32	NOT DETECTED
27.	01-07-2024	58.28	22.31	17.53	20.47	0.38	--	NOT DETECTED
28.	04-07-2024	55.91	21.85	16.48	18.95	0.45	3.64	NOT DETECTED
29.	08-07-2024	61.38	24.62	18.25	22.17	0.49	3.78	NOT DETECTED
30.	11-07-2024	66.38	26.82	19.69	23.53	0.54	3.83	NOT DETECTED
31.	15-07-2024	63.73	25.21	18.14	22.16	0.46	3.71	NOT DETECTED

Continue...

Name of Location		CT-4 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
32.	18-07-2024	70.16	27.13	21.36	24.64	0.52	3.77	NOT DETECTED
33.	22-07-2024	67.52	24.31	18.77	21.38	0.47	3.63	NOT DETECTED
34.	25-07-2024	63.10	21.96	16.35	19.13	0.41	3.69	NOT DETECTED
35.	29-07-2024	59.47	20.58	15.19	18.57	0.36	3.59	NOT DETECTED
36.	01-08-2024	61.42	21.86	16.58	20.81	0.52	3.61	NOT DETECTED
37.	05-08-2024	59.47	21.28	15.87	19.38	0.51	3.56	NOT DETECTED
38.	08-08-2024	63.71	22.64	16.95	20.15	0.55	3.68	NOT DETECTED
39.	12-08-2024	67.39	24.47	17.12	21.63	0.51	3.73	NOT DETECTED
40.	15-08-2024	65.28	23.19	16.56	20.06	0.56	3.70	NOT DETECTED
41.	19-08-2024	69.63	25.38	18.19	22.31	0.58	3.76	NOT DETECTED
42.	22-08-2024	63.29	24.37	17.42	21.35	0.57	3.73	NOT DETECTED
43.	26-08-2024	62.11	23.42	16.36	20.81	0.52	3.67	NOT DETECTED
44.	29-08-2024	65.38	24.88	17.15	21.37	0.58	3.71	NOT DETECTED
45.	02-09-2024	64.19	22.47	16.93	21.16	0.55	3.65	NOT DETECTED
46.	05-09-2024	67.28	23.81	17.24	21.72	0.58	3.72	NOT DETECTED
47.	09-09-2024	65.38	22.74	16.69	20.48	0.54	3.62	NOT DETECTED

Continue...

Name of Location		CT-4 RMU-2						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	HC µg/m ³	Benzene µg/m ³
48.	12-09-2024	63.29	22.53	16.24	21.15	0.50	3.66	NOT DETECTED
49.	16-09-2024	67.63	23.96	17.48	21.95	0.57	3.69	NOT DETECTED
50.	19-09-2024	70.16	25.91	18.37	22.28	0.60	3.74	NOT DETECTED
51.	23-09-2024	68.47	24.63	17.86	21.42	0.57	3.71	NOT DETECTED
52.	26-09-2024	65.28	22.85	16.43	20.57	0.53	3.63	NOT DETECTED
53.	30-09-2024	67.83	23.47	17.12	21.63	0.56	3.59	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)




Jaivik S. Tandel
(Manager - Operations)

Results of Noise Level Monitoring

Location Name		CT3 RMU-2					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		11-04-2024	13-05-2024	13-06-2024	11-07-2024	12-08-2024	12-09-2024
1	06:00 to 07:00	64.7	63.7	64.1	62.7	62.3	62.8
2	07:00 to 08:00	66.2	64.6	63.7	61.9	62.5	63.2
3	08:00 to 09:00	65.4	63.8	65.4	63.6	65.1	63.7
4	09:00 to 10:00	66.6	65.2	67.8	64.3	65.4	64.5
5	10:00 to 11:00	66.4	63.8	66.2	64.9	63.8	65.3
6	11:00 to 12:00	65.3	64.7	65.4	67.4	65.7	65.4
7	12:00 to 13:00	64.5	65.4	66.3	65.1	66.7	65.6
8	13:00 to 14:00	63.8	66.8	67.2	66.3	65.4	64.2
9	14:00 to 15:00	66.8	65.2	66.9	65.9	67.3	66.6
10	15:00 to 16:00	65.3	64.8	65.1	64.3	66.4	65.7
11	16:00 to 17:00	67.8	64.7	62.4	64.3	65.2	64.3
12	17:00 to 18:00	65.4	66.1	64.8	65.9	64.3	63.1
13	18:00 to 19:00	63.1	64.8	64.2	63.4	64.7	63.5
14	19:00 to 20:00	64.3	65.2	63.4	65.1	63.2	64.6
15	20:00 to 21:00	62.6	64.3	66.2	63.8	63.4	64.2
16	21:00 to 22:00	62.3	63.2	64.1	62.2	62.5	62.4
Day Time		<75 dB (A)					

Continue...

Location Name		CT3 RMU-2					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		11-04-2024	13-05-2024	13-06-2024	11-07-2024	12-08-2024	12-09-2024
1	22:00 to 23:00	63.2	63.5	63.3	62.7	61.8	61.3
2	23:00 to 24:00	63.4	62.4	63.8	62.4	62.3	62.6
3	24:00 to 01:00	61.9	63.5	62.7	63.9	62.8	63.5
4	01:00 to 02:00	63.5	63.8	63.2	63.1	62.5	61.5
5	02:00 to 03:00	62.6	62.3	61.7	63.4	63.2	63.5
6	03:00 to 04:00	61.1	60.6	62.3	61.7	60.7	62.1
7	04:00 to 05:00	61.7	62.3	60.4	61.1	61.3	60.7
8	05:00 to 06:00	61.3	61.6	61.6	60.2	59.4	59.2
Night Time		<70 dB (A)					

Test Method	IS: 9989 : 1981
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Nikunj D. Patel
(Chemist)




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					
		04-04-2024	06-05-2024	06-06-2024	04-07-2024	05-08-2024	05-09-2024
1	06:00 to 07:00	64.8	62.9	63.2	62.4	61.8	62.1
2	07:00 to 08:00	64.2	65.1	64.3	63.7	63.5	63.3
3	08:00 to 09:00	65.3	64.7	65.7	63.2	64.6	63.8
4	09:00 to 10:00	66.9	65.4	64.2	66.4	65.3	64.5
5	10:00 to 11:00	65.4	66.8	66.1	65.2	65.2	66.2
6	11:00 to 12:00	66.8	65.4	65.8	61.3	63.7	65.4
7	12:00 to 13:00	68.4	67.2	66.7	63.8	64.2	66.6
8	13:00 to 14:00	66.2	65.8	66.3	64.5	65.7	64.9
9	14:00 to 15:00	65.8	68.1	67.5	66.4	64.8	66.5
10	15:00 to 16:00	65.8	66.2	68.3	65.8	66.1	65.3
11	16:00 to 17:00	65.4	65.1	66.8	67.2	66.7	65.8
12	17:00 to 18:00	65.8	63.4	65.4	64.2	65.4	64.3
13	18:00 to 19:00	63.4	64.7	65.1	62.8	63.8	63.6
14	19:00 to 20:00	65.2	62.9	63.4	64.7	64.1	65.2
15	20:00 to 21:00	64.3	64.2	65.1	63.3	62.8	64.1
16	21:00 to 22:00	62.8	63.6	63.1	62.7	62.1	62.5
Day Time		<75 dB (A)					

Continue...

Location Name		Near Fire Station					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Night Time					
		04-04-2024	06-05-2024	06-06-2024	04-07-2024	05-08-2024	05-09-2024
1	22:00 to 23:00	61.4	62.3	63.1	63.5	62.5	62.7
2	23:00 to 24:00	62.5	62.9	62.4	63.8	63.4	63.1
3	24:00 to 01:00	60.4	61.6	62.7	61.7	62.7	62.4
4	01:00 to 02:00	63.5	63.2	63.2	63.2	62.8	63.6
5	02:00 to 03:00	62.3	62.8	62.6	62.8	63.2	63.3
6	03:00 to 04:00	59.7	62.2	62.5	61.7	62.5	62.1
7	04:00 to 05:00	60.3	61.5	60.3	60.1	61.2	60.6
8	05:00 to 06:00	59.6	60.1	59.7	60.2	60.7	59.7
Night Time		<70 dB (A)					

Test Method	IS: 9989 : 1981
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Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

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					
		08-04-2024	09-05-2024	10-06-2024	08-07-2024	08-08-2024	09-09-2024
1	06:00 to 07:00	62.4	64.2	62.8	61.8	60.5	61.3
2	07:00 to 08:00	63.7	62.8	63.4	64.1	61.8	60.7
3	08:00 to 09:00	63.8	65.4	63.9	62.8	63.3	61.5
4	09:00 to 10:00	64.3	64.9	66.1	64.5	63.8	63.4
5	10:00 to 11:00	64.2	65.4	64.8	65.8	64.6	62.8
6	11:00 to 12:00	65.1	66.3	67.3	64.7	66.1	64.5
7	12:00 to 13:00	66.5	67.3	65.4	67.3	65.4	67.2
8	13:00 to 14:00	67.9	67.1	68.4	65.2	67.3	65.4
9	14:00 to 15:00	65.4	66.4	65.3	64.8	66.2	65.8
10	15:00 to 16:00	63.6	65.3	67.2	66.3	65.7	66.3
11	16:00 to 17:00	65.1	63.8	64.7	65.7	64.3	65.2
12	17:00 to 18:00	63.6	64.7	67.2	66.3	66.8	65.7
13	18:00 to 19:00	65.3	64.3	65.3	64.6	65.2	64.3
14	19:00 to 20:00	63.6	66.1	64.7	62.8	64.3	61.7
15	20:00 to 21:00	62.7	63.4	64.5	65.1	64	63.4
16	21:00 to 22:00	60.5	62.7	63.8	63.5	61.9	61.7
Day Time		<75 dB (A)					

Continue...

Location Name		ADANI PORT – TUG Berth 600 KL Pump House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Night Time					
		08-04-2024	09-05-2024	10-06-2024	08-07-2024	08-08-2024	09-09-2024
1	22:00 to 23:00	60.8	61.7	61.5	60.3	60.1	58.5
2	23:00 to 24:00	58.8	60.3	59.8	61.5	62.8	59.9
3	24:00 to 01:00	61.3	62.7	60.4	63.2	63.2	62.5
4	01:00 to 02:00	62.8	61.3	62.7	62.6	63.6	62.5
5	02:00 to 03:00	61.7	63.4	62.9	61.2	61.9	62.8
6	03:00 to 04:00	63.3	61.8	61.3	60.5	62.3	63.4
7	04:00 to 05:00	62.3	61.6	61.8	58.7	60.5	62.3
8	05:00 to 06:00	60.1	59.8	60.3	59.5	58.6	61.1
Day Time		<70 dB (A)					

Test Method	IS: 9989 : 1981
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Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Noise Level Monitoring

Location Name		PUB/Adani House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		01-04-2024	02-05-2024	03-06-2024	01-07-2024	01-08-2024	02-09-2024
1	06:00 to 07:00	63.5	61.8	60.4	58.3	59.1	59.6
2	07:00 to 08:00	65.8	63.6	62.8	61.2	60.3	59.8
3	08:00 to 09:00	67.2	65.4	66.1	64.8	62.8	62.3
4	09:00 to 10:00	65.5	66.8	65.3	65.7	64.7	63.6
5	10:00 to 11:00	64.8	65.3	65.9	64.4	65.4	64.8
6	11:00 to 12:00	64.2	65.9	67.1	66.8	66.2	65.2
7	12:00 to 13:00	65.5	64.6	66.3	64.2	65.7	64.8
8	13:00 to 14:00	63.1	65.2	64.7	65.4	64.8	65.4
9	14:00 to 15:00	64.3	66.5	65.1	64.8	63.7	64.8
10	15:00 to 16:00	64.8	65.3	65.5	65.2	64.5	64.3
11	16:00 to 17:00	63.2	64.8	64.6	63.9	64.8	64.9
12	17:00 to 18:00	65.7	63.4	64.1	65.5	66.2	65.7
13	18:00 to 19:00	64.1	62.2	62.3	63.2	64.5	65.4
14	19:00 to 20:00	62.7	64.5	63.8	62.9	63.8	64.8
15	20:00 to 21:00	62.9	63.7	64.1	63.5	64.1	63.5
16	21:00 to 22:00	61.3	60.4	61.2	60.4	61.3	61.9
Day Time		<75 dB (A)					

Continue...

Location Name		PUB/Adani House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Night Time					
		01-04-2024	02-05-2024	03-06-2024	01-07-2024	01-08-2024	02-09-2024
1	22:00 to 23:00	59.7	60.1	60.3	61.2	59.7	58.5
2	23:00 to 24:00	58.4	59.4	60.8	59.6	60.1	60.4
3	24:00 to 01:00	59.7	60.3	61.4	62.5	62.3	61.7
4	01:00 to 02:00	60.2	62.3	62.1	62.8	63.6	62.5
5	02:00 to 03:00	63.1	62.6	61.8	61.1	62.4	61.4
6	03:00 to 04:00	60.3	61.2	61.6	60.4	61.7	63.2
7	04:00 to 05:00	58.3	59.7	60.4	58.4	59.7	58.7
8	05:00 to 06:00	57.8	58.3	59.2	58.7	59.3	58.5
Day Time		<70 dB (A)					

Test Method	IS: 9989 : 1981
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Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Noise Level Monitoring

Location Name		CT-4 RMU-2				
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time				
		20-04-2024	25-05-2024	22-06-2024	27-07-2024	24-08-2024
1	06:00 to 07:00	61.3	61.6	61.4	59.8	61.3
2	07:00 to 08:00	63.6	62.8	63.5	61.3	63.7
3	08:00 to 09:00	64.8	65.2	63.7	65.5	62.8
4	09:00 to 10:00	65.2	65.7	64.1	64.2	64.5
5	10:00 to 11:00	68.7	66.8	65.4	66.1	65.7
6	11:00 to 12:00	66.1	68.2	66.5	64.7	64.3
7	12:00 to 13:00	66.7	66.4	65.8	64.9	67.5
8	13:00 to 14:00	64.7	65.9	64.7	63.6	65.8
9	14:00 to 15:00	68.9	67.3	65.3	64.2	65.2
10	15:00 to 16:00	65.4	68.3	67.4	66.8	66.7
11	16:00 to 17:00	67.3	66.4	65.9	64.7	63.8
12	17:00 to 18:00	65.4	65.9	66.3	65.3	64.5
13	18:00 to 19:00	63.6	64.2	63.8	63.9	63.5
14	19:00 to 20:00	62.7	63.5	65.2	60.8	61.3
15	20:00 to 21:00	65.4	64.3	64.2	62.4	61.5
16	21:00 to 22:00	63.4	62.8	62.3	61.6	60.8
Day Time		<75 dB (A)				

Continue...

Location Name		CT-4 RMU-2				
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Night Time				
		20-04-2024	25-05-2024	22-06-2024	27-07-2024	24-08-2024
1	22:00 to 23:00	62.2	61.8	61.3	61.5	60.2
2	23:00 to 24:00	61.7	63.4	62.7	63.7	61.8
3	24:00 to 01:00	63.2	64.8	61.3	62.6	62.5
4	01:00 to 02:00	61.7	63.7	62.8	63.8	62.8
5	02:00 to 03:00	63.5	63.1	62.7	61.5	63.2
6	03:00 to 04:00	61.2	62.3	61.6	62.3	61.8
7	04:00 to 05:00	62.4	61.8	60.4	61.1	59.8
8	05:00 to 06:00	60.8	61.3	60.8	60.3	60.5
Day Time		<70 dB (A)				

Test Method	IS: 9989 : 1981
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Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(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
Apr-24								
1	Particulate Matter	mg/Nm ³	23.07	20.75	22.48	20.94	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	7.89	6.98	8.53	8.11	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	21.68	21.63	20.84	20.83	50	IS 11255 (Part - 7)
May-24								
1	Particulate Matter	mg/Nm ³	22.78	21.11	21.85	20.10	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	7.53	7.15	8.13	7.92	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	20.85	22.24	19.95	20.22	50	IS 11255 (Part - 7)
Jun-24								
1	Particulate Matter	mg/Nm ³	20.54	20.13	20.46	19.27	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	6.93	6.63	7.57	7.38	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	18.79	20.74	17.83	19.85	50	IS 11255 (Part - 7)
Jul-24								
1	Particulate Matter	mg/Nm ³	19.47	18.37	18.93	17.59	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	6.59	6.14	7.12	6.85	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	18.11	19.12	17.31	17.74	50	IS 11255 (Part - 7)

Continue...

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
Aug-24								
1	Particulate Matter	mg/Nm ³	19.13	18.63	19.15	17.31	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	7.09	6.51	7.47	6.69	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	19.12	19.48	18.82	17.38	50	IS 11255 (Part - 7)
Sep-24								
1	Particulate Matter	mg/Nm ³	20.86	19.06	19.84	19.23	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	7.38	6.89	7.79	7.35	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	19.74	20.17	19.46	17.96	50	IS 11255 (Part - 7)



Nikunj D. Patel
(Chemist)




Jaivik S. Tandell
(Manager - Operations)

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)	GPC B LIMI T	Method of Test
			Aug-24					
			16-08-2024	16-08-2024	16-08-2024	16-08-2024		
1	Particulate Matter	mg/Nm ³	22.14	16.11	18.63	18.26	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	8.68	14.36	14.98	13.85	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	17.39	24.93	26.39	20.38	50	IS 11255 (Part - 7)
4	Carbon Monoxide	mg/Nm ³	3.55	3.6	3.3	3.1	--	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	GPC B LIMI T	Method of Test
			Aug-24					
			12-08-2024	12-08-2024	12-08-2024	11-08-2024		
1	Particulate Matter	mg/Nm ³	21.38	25.48	19.86	21.48	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	8.17	9.1	8.87	8.14	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	18.64	21.37	18.42	27.19	50	IS 11255 (Part - 7)
4	Carbon Monoxide	mg/Nm ³	3.1	4.61	3.7	2.97	--	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	GPC B LIMIT	Method of Test
			Aug-24					
			11-08-2024	11-08-2024	11-08-2024	11-08-2024		
1	Particulate Matter	mg/Nm ³	25.47	21.91	26.83	20.86	150	IS 11255 (Part - 1)
2	Sulphur Dioxide as SO ₂	ppm	7.12	9.32	8.79	8.11	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	28.73	27.68	28.13	25.37	50	IS 11255 (Part - 7)
4	Carbon Monoxide	mg/Nm ³	3.28	4.25	4.31	3.19	--	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)



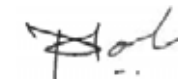

Jaivik S. Tandel
(Manager - Operations)

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
			14-06-2024	14-06-2024	14-06-2024	14-06-2024	14-06-2024	
1.	pH @ 25 ° C	--	8.12	7.13	8.17	7.83	8.11	IS 3025(Part 11):2022
2.	Salinity	ppt	3.3	0.9	1.2	1.1	1.2	APHA 24th Ed.,2023,2520 B
3.	Oil & Grease	mg/L	BDL(MDL:5.0)	BDL(MDL:5.0)	BDL(MDL:5.0)	BDL(MDL:5.0)	BDL(MDL:5.0)	IS 3025(Part 39):2021
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)	0.012	BDL(MDL:0.01)	0.013	0.024	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 24th Ed.,2023,3114-C
7.	Nickel as Ni	mg/L	0.097	0.098	0.093	0.098	0.089	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	0.047	0.042	0.042	0.026	0.045	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 24th Ed.,2023, 3112-B
11.	Zinc as Zn	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 49) 1994
12.	Copper as Cu	mg/L	0.075	0.079	0.095	0.096	0.104	IS 3025 (PART 42) 1992
13.	Iron as Fe	mg/L	BDL(MDL:0.1)	0.331	0.435	0.606	0.119	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	1.95	2.15	2	2.25	2.15	--



Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

Minimum Detection Limit

Ambient Air Quality Monitoring

Sr. No.	Test Parameter	Unit	MDL
1	Particulate Matter (PM10)	µg/m ³	5 µg/m ³
2	Particulate Matter (PM2.5)	µg/m ³	5 µg/m ³
3	Sulphur Dioxide (SO ₂)	µg/m ³	4 µg/m ³
4	Nitrogen Dioxide (NO ₂)	µg/m ³	5 µg/m ³
5	Carbon Monoxide (CO)	mg/m ³	0.01 mg/m ³
6	Ammonia (NH ₃)	µg/m ³	5 µg/m ³
7	Ozone (O ₃)	µg/m ³	5 µg/m ³
8	Lead (Pb)	µg/m ³	0.5 µg/m ³
9	Nickle (Ni)	ng/m ³	1 ng/m ³
10	Arsenic (As)	ng/m ³	1 ng/m ³
11	Benzene	µg/m ³	1µg/m ³
12	Benzo(o)Pyrene	ng/m ³	0.1 ng/m ³
14	Hydro Carbon	µg/m ³	1 µg/m ³

Stack Emission Monitoring

Sr. No.	Test Parameter	Unit	MDL
1	Suspended particulate matter	mg/Nm ³	2 mg/Nm ³
2	Sulphur Dioxide SO _X	mg/Nm ³	4 mg/Nm ³
3	Oxides of Nitrogen NO _X	mg/Nm ³	5 mg/Nm ³

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	--	--

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

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

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	--

Annexure – 5

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED
MOCK DRILL REPORT

Date	:	28.05.2024
Time	:	22:40 hr
Location	:	00 line (In front of FCC)
Type/Text of the Scenario	:	Isolation of Wagon due to fire catch on wagon during PY Gas Unloading at "00" Line.

INTRODUCTION:

On the day of unloading Pyrolysis Gasoline on track number "0" in front of FCC, the field officer, Mr. Bhavik Maheswari, was conducting his field round when he noticed leakage of Pygas from wagon number 40089660233. Unfortunately, an unknown ignition source caused the leaked oil to catch fire. The fire spread quickly and caught the attention of Mr. Bhavik Maheswari, who immediately informed Mr. Mahendra Gadhvi, also present on-site. After verifying the incident, Mr. Mahendra Gadhvi informed the Control Room Shift in charge and declared an emergency. As a result, the ISCR, OHC, Fire, and Railway services were immediately informed, and the relevant departments were subsequently notified via message/call.

LOCATION (WITH PHOTOGRAPH):



SEQUENCE OF EVENTS WITH PHOTOGRAPHS:

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

<p>INCIDENT CONTROLLER IN ACTION</p>	<p>FIRE TEAM REACH AT LOCATION AND ACTIVATING FIRE WATER NETWORK</p>
 <p>A photograph showing an incident controller wearing a white hard hat, a high-visibility yellow vest, and dark trousers. He is holding a mobile phone to his ear, appearing to be in communication. The background is dark and industrial, with some lights visible.</p>	 <p>A photograph of a red fire truck with its emergency lights flashing. The truck is parked on a paved area at night. A person in a red uniform is standing near the truck. The scene is illuminated by the truck's lights and some ambient light.</p>
<p>FIREMAN ACTIVATING FIRE HYDRENT SYSTEM</p>	<p>FIRE FydRENT SYSTEM ACTIVATED AND COOLING OF ADJUCENT WAGONS</p>
 <p>A photograph of a fireman in a blue uniform and yellow helmet. He is standing next to a red fire hydrant system, which includes a control panel and various pipes. The scene is dimly lit, with some light coming from the hydrant system.</p>	 <p>A photograph showing a fire team in blue uniforms and yellow helmets. They are using high-pressure water hoses to spray water onto a large, dark-colored wagon. The scene is at night, with the water spray creating a misty atmosphere.</p>
<p>IC- Closely Monitoring Responders Action & communicating with LT-controll room</p>	<p>Fire team engaged in cooling nearby wogon at "0' line</p>

**ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED
MOCK DRILL REPORT**

	
<p>Security DSO and IC interacting about the Emergency</p>	<p>IC updating the status of incident to LT-Shift incharge</p>
	
<p>Observers are an action and closely monitoring responders action</p>	<p>OBSERVER AN ACTION, OBSERVATIONS NOTICING</p>

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT



Discussion in between IC & Fire services manager



Temperature monitoring of effected wagons checked by fire team



Wagon De-attachment work started by Railway services



Wagon De-attachment & rail rack isolation work started by Railway services



INCIDENT BRIEFING AT ASSEMBLY POINT



INCIDENT BRIEFING AT ASSEMBLY POINT

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED
MOCK DRILL REPORT



RESPONSE TIME:

#	Description	Exact Time
1.	First responder informed to LT control room regarding emergency scenario	: 22:39
2.	Incident controller comes on site	: 22:40
3.	Declaration of Emergency	: 22:40
4.	Stand by fire tender reached on the incident location	: 22:42
5.	Fire Team from Fire station reaching time at incident Point	: 22:44
6.	Security team reaching time at incident point	: 22: 46
7.	Safety Shift in-charge reaching time at incident point	: 22: 46
8.	Maintenance team reached at site	: 22:46
9.	Hose disconnection from wagon started	: 22:47
10.	Locomotive reach at the location	: 22:48
11.	Ambulance reaching time at incident Point	: 22:49
12.	Wagon De-attachment work started by Railway services	: 22:51
13.	Wagon separation done by Loco	: 22:58



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED
MOCK DRILL REPORT

14.	Trolley with Spill kit reached at incident location	:	22:59
15.	Train departed and reached approximately 120 meters away from location	:	23:00
16.	Termination of Emergency and All clear siren		23:00

COMMUNICATION & ACTIONS:

Action By	Information To / Action By	Remarks
First Responder	Information given to incident controller about situation / scenario Operated VHF	Good Response, Immediately informed to LT- Jetty In charge at site.
Site Incident Controller	Assess the site and declare on-site emergency.	
Concern Department/ Area In-charge	Inform to ISCR, Security, Fire, Medical, Safety etc.	
Railway Services	Railway team reached the site immediately after declaration of emergency	
Corporate Affairs	NA	
HR/ Admin	Respond on call and ready for any type of HR/Admin related help	
Safety Team	Reached at site on time.	
OHC	OHC team response was quick. Ambulance reached on site	
Security Control Room	Barricade the incident area and ensure vehicle movement restriction inside terminal.	
Fire Control Room Inform	Fire tender reached at site in quick time and started cooling the nearby 4wagons.	

COMMUNICATION TO MUTUAL AID GROUP

(IF REQUIRED, AS AND WHEN MUTUAL AID IS CALLED) – Not Required.

To	By Whom/ Media	Standard	Performance
IOCL		2 min. after receiving information to Emergency Control Room	
HPCL			
JINDAL SAW			
ADANI POWER			
CGPL			
HMEL			

RESPONSE TIME PERFORMANCE OF ACTION



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED
MOCK DRILL REPORT

Agency	Standard Time	Performance	Rating (Max. 9/ Block)	
			+VE Marks	-VE Marks
Ambulance	4-5 Min	4 Min	9	
Safety	4-5 Min	4 Min	9	
Fire Services	1-2 Min	3 Min	9	

A. PERFORMANCE OF OHS & F SERVICES & RESCUE SERVICES

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Turn out/ response time of Fire Team	Fire team reached at site within benchmark of response time.	3	
Turn out/ response time of OHC Team	OHC team & Ambulance reached at site within benchmark of response time.	3	
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	
Firefighting at the site	Reported to incident Controller and standby at location till declaration of all clear.	3	
Medical attention at the site	Reported to incident Controller and ensure no causality.	3	
Rescue of person	NA		

B. PERFORMANCE OF MAINTENANCE DEPARTMENT

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Power shut down/ cut off	Maintenance team reached on time, but power shut off will not ensured.	2	1
Immediate arrangements at the site	All arrangement were mobilised.	3	



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MOCK DRILL REPORT

Mobilizing of personnel and resources	Maintenance team reached at site with tool kit. Appropriate PPEs used.	3	
Maintenance activities being carried out at the site	Necessary maintenance to stop the leakage	3	
Clearing debris	Spill containment within dyke wall after clearance from incident controller was done.	3	
Other arrangement at required to meet emergency	Emergency Lights for night hours is not arrange.	2	1

C. PERFORMANCE OF SECURITY SERVICES

Performance	Performance Rating	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Turnout of Security	Security Team reached on time. Area barricading done.	3	
Performance of security guards	Vehicle were only allowed inside Liquid Terminal with spark arrestor by security guards from the LT gate.	3	
Security officer's command & control	Security officers took charge and restricted the entry of unauthorized persons / also ensure that vehicles do not enter the incident site.	3	
Area cordoned off	There was area barricading nearby incident spot by security team. But gate number 5 was not barricaded	2	1
Prevent unwanted/ unauthorized entry into this area	Security officers restrict the entry of unauthorized persons / also ensure that vehicles do not enter the gate also co-ordinate properly with incident controller. Security personal not stand by across all entry points of incident location.	2	1



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MOCK DRILL REPORT

Closer of gates	Vehicle & man movement entry gates were not closed. And no security personal stand by on all entry gates.	2	1
Providing security coverage at main gate and directing concern person to the site.	Instead of security personal Liquid staff directing the way to emergency response department.	2	1

D. PERFORMANCE OF OPERATION/ CONCERN DEPARTMENT

Performance	Performance Rating	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Immediately pass the communication message through VHF / other available media to subordinates & emergency response team.	Communication / Information on emergency conveyed to all concern by incident controller. (Nearby MCP was not operate)	3	
Stopping of operation / like critical operations first & on priority basis	All operations stopped by incident controller.	3	
Emergency response of particular department at site	Response time of concern department found adequate. LT Person deputed for guided to emergency vehicle for scene.	3	
Support for evacuation of people at site and head count along with HR/ Admin	Evacuation and head count done by Operation team.	3	
Availability and response of emergency kit / equipment / Other.	Emergency spill kit was immediately mobilized at the incident spot.	3	
Audibility of the scenario on PA System by Persons	PA System was not clearly audible at incident location and all areas of LT for evacuation of people.	3	



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

Observer – Mr. Kandarp Pandya and Santhosh Arunachalam

Good Observations:

1. The standby fire tender arrived at the site within 2 minutes of the incident, indicating a swift emergency response.
2. Cooling operations of the adjacent wagon began from the fixed line within 4 minutes of the incident, demonstrating quick action to prevent further escalation.
3. The deployment of the 2nd and 3rd fixed hoses for cooling operations of the adjoining wagon occurred within 5 minutes of the incident, showcasing effective resource management.
4. The disconnection of hoses for 5 wagons was completed within 6 minutes of the incident, indicating efficient coordination and quick execution of safety measures.
5. The fire was successfully extinguished at the 11-minute mark from the time of the incident, reflecting the effectiveness of the emergency response and firefighting efforts.

Observations / Area of Improvement:

1. The sound of the mobile/hand-operated siren was not audible across the length of "00" Line.
2. Emergency exit route / gate was not clearly visible during dark hour.
3. Currently, the way to the assembly point signage is not available. Proper installation will assist in safe and fast gathering of FCC and nearby workers during emergencies.
4. There may be a risk of Electrical Splashes during firefighting due to nearby Electrical panels.
5. The windsock fixed on top of the lighting tower on TLF-09 was not visible during dark hours.
6. The illumination level at the rail sliding is low during dark hour.
7. Its observed Visibility / Identification of incident controller is difficult during dark hour due to small sicker on his helmet.

Overall rating - 87

Marks from 96 to 100 - Excellent

Marks from 91 to 95 - Very Good

Marks below 90 - Needs Improvement

VOTE OF THANKS: -

SUPPORTING STAFF:

Drill Organized By : Gaurang Chudasama and Baiju Abraha
Drill guided By : Rama Rao and Rana Bambhaniya
Exercise Performance Assessor : Kandarp Pandya and Santhosh Arunachalam
Site incident controller : Mahendra Gadhvi
Report prepared By : Abhishek Panda

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

Date	24.09.2024
Time	15:03 Hrs
Location	2L20B1 container AICTPL
Type/Text of the Scenario	Scenario was leakage observed in container MEDU4000038 (IMDG class 08, UN 1760) placed at 2L20B1, yard supervisor informed to duty superintendent by means of VHF and Duty superintendent informed to Tower control of AICTPL. Tower control informed to Fire services, OHC, Security, ERT, Terminal head, POC, department regarding emergency

INTRODUCTION:

Mock drill was decided, and advance information given Operation team, Fire team, OHC, Safety, Security, ERT, Terminal head, POC, admin team regarding emergency. Scenario and execution plan was decided as per scenario.

Pre-meeting and informed about roles and responsibility



Pre-meeting and informed about roles and responsibility

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MOCK DRILL REPORT

LOCATION (WITH PHOTOGRAPH):



Yard 2L, AICTPL

SEQUENCE OF EVENTS WITH PHOTOGRAPHS:



Fire team reached at location with fire tender

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MOCK DRILL REPORT



Ambulance & Security team reached at location



Sharing of Observations by Observers and Incident Controller & Brief about importance of mock drill to strengthen emergency response during emergency



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MOCK DRILL REPORT

SEQUENCE OF EVENTS:

- Leakage was observed Class-08 cargo container placed at yard 2L20B1.
- Yard supervisor informed through VHF & to shift superintendent.
- Shift Superintendent immediate informed to tower control regarding emergency.
- Shift superintendent reached at location and taken responsibility as Incident Controller.
- Tower control informed to shift superintendent, Engineering, Fire services, OHC, Safety, Security, ERT, Terminal head, POC, admin department regarding emergency.
- Security team came at location and barricaded area.
- Fire team reached at location with fire tender and started extinguished the fire.
- Fire team checked nearest area using thermal imaging camera and declared normal.
- Shift Superintendent call off the emergency.

TEAM RESPONSE TIME

Sr No.	Particulars	Information provided
1	Yard supervisor and shift superintendent copied the message	15:02 Hrs



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MOCK DRILL REPORT

2	Duty superintendent informed to tower control copied the message	15:03 Hrs
3	Tower control informed to shift superintendent, Engineering, Fire services, OHC, Safety, Security, ERT, Terminal head, POC, admin department regarding emergency	15:03 Hrs

SERVICES RESPONSE TIME:

Description	Information Provided time	Service received
Yard Supervisor	15:02	He was at site
Shift Superintendent	15:02 Hrs	Reached at location @ 15:03 Hrs
Engineering team		Tower did not inform to engineering
Safety team		Tower did not inform to Safety
Security team	15:05 Hrs	Reached at location @ 15:15 Hrs
Ambulance / OHC team	15:04 Hrs	Reached at location @ 15:14 Hrs
Fire team	15:03 Hrs	Reached at location @ 15:13 Hrs
Security team barricaded area		15:17 Hrs
Fire team checked the leakage		15:18 Hrs
Fire team checked nearby area with thermal imaging camera and declared normal		15:18 Hrs
Fire and safety team informed to shift superintendent regarding emergency clear		15:22 Hrs



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

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

To	By Whom/ Media	Standard	Performance
IOCL		Not Required	
HPCL			
JINDAL SAW			
ADANI POWER			
CGPL			
HMEL			

RESPONSE TIME PERFORMANCE OF ACTION

Agency	Standard Time	Performance	Rating (Max. 9/ Block)	
			+VE Marks	-VE Marks
Operation team	Response was good and they reached within 1 minutes	Good	5	2
Safety team	Response was good and they reached within 2 minutes	Good	8	1
Security team	Response was good and they reached within minutes	Good	8	1
OHC team	Response was good and they reached within 10 minutes	Good	7	2
Fire team	Response was good and they reached within 10 minutes	Good	8	1



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

A. PERFORMANCE OF OHS & F SERVICES & RESCUE SERVICES

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
OHS team reached at location and collecting information regarding emergency	Good	3	
Fire team reached at location within short time, checked container and nearby area using thermal imaging camera and declared normal	Good	3	
Medical team reached at location within short time	Good	3	

B. PERFORMANCE OF OPERATION/ CONCERN DEPARTMENT

Performance	Performance Rating	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Operation team immediate passed message to all concern departments regarding emergency, shifted nearby RTGC, Checked nearby stacked hazardous container, bring reach stacker and required resources.	Good	2	<u>2</u>
Security team reached at location and barricaded area	Good	3	

Observer – I (Mr. Vinod Rajput)

- Emergency siren not available to declared emergency



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

- Windsock not available to know the wind direction
- RTG which were working at vicinity area not informed regarding leakage and shift equipment out of danger radius
- Head count not done at site

Observer – II (Mr. Abdul Halim Khan)

- Message interpretation by tower controller was wrong
- MSDS of chemical did not provide at location
- Tower control did not inform Safety department

Observer – III (Mr. Vijay Chavda)

- Leak cart was not available to shift leakage container
- ISCR did not inform safety department
- Incident controller did not provide direction to services regarding wind direction
- Security team fail to provide safe access to services to reach the location

Overall rating

Marks from 85 to 100 - Good

Marks from 90 to 95 - Very Good

Marks below 90 - Needs Improvement



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

COMPLIANCE REPORT FOR MOCK DRILL

VOTE OF THANKS:

Vote of thanks by Mr. Vinod Rajput (Safety) and Mr. Nitin Prajapati (operation), Mr. Ratna dip Trivedi (Fire). Yashvant Zala (Security Services) and given to the special thanks to all team members of mock drill participants.

Drill Participation Staff:

Operation Team	Mr. Nitin Prajapati, Mr. Inder, Mr. Jaypalsinh Jadeja, Mr. Jaswant Sinh Rathod, Mr. Bhavesh,
Engineering Team	Mr. Naveendu Kumar, Mr. Tushar Chauhan, Mr. Mithul Patel, Mr. Harshil Patel, Mr. Goutam Prajapati
QHSE Team	Mr. Vinod Rajput, Mr. Abdul Halim Khan, Mr. Vijay Chavda, Mr. Hariprasanth, Mr. Thejus, Mr. Mayuraj Sinh
Fire team	Mr. Ratnadip Trivedi, Mr. Bhavin, Mr. Sachin Joshi, Mr. Harpal Sinh Zala
Security Team	Mr. Yashvant Sinh Zala, Ravindra Kumar Singh, Mr. Ravidas
OHC Team	Dr. Jeet, Mr. Gulam Ali, Mr. Ramesh



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

SUPPORTING STAFF:

Drill Organized By	:	Mr. Vinod Rajput, Mr. Vijay Chavda & Mr. Abdul Halim Khan
Drill guided By	:	Mr. Vijay Patel
Exercise Performance Assessor	:	Mr. Vinod Rajput, Mr. Abdul Halim Khan, Mr. Vijay Chavda
Site incident controller	:	Mr. Nitin Prajapati (Superintendent-AICTPL)
Report prepared By	:	Mr Vijay Chavda & Mr Abdul Halim Khan

MLTPL LPG TERMINAL - Mock Drill Report

1.	Date and Time of Mock Drill	24 th September 2024, 1140, Hrs.
2.	Location	FB-01 refrigerated storage tank, Mundra LPG Terminal Pvt Ltd. PO Box No 1, Mundra, Kutch 370 421, Gujrat, India.
3.	Details of Emergency Scenario	While monitoring the DCS at CCR, CCR operator recognize that Gas Detector #202, activates which resulted in alarm on DCS screen, CCR operator informs shift in charge and asked him to evaluate the situation, where shift in charge confirmed about the leak, CCR immediately informed all the stakeholders and further emergency declared by site incidence controller, fire team started precautionary water spraying by using water monitors further leak was arrested by mechanical team and ensured zero % LEL by safety team along with all the stakeholders. All clear message declared, and emergency scenario communicated to all the employees at assembly point.
4.	Details of initiation/ activation of emergency	Emergency was identified by CCR Operator through gas detector #202 and he immediately declared as emergency by activation siren.
5.	<p>Description of the Mock drill (the narrative of the situation, all actions) including response of emergency team and mitigation actions</p> <p>At Incident point: 1142: At FB01 propane leak identified from pump discharge by shift in charge. 1142: Incidence controller reached at site informed CCR operator for siren activation. 1143: Fire team reached at site and operates the hydrant, Mayur curtain and monitor, Fire tender with fire crew reached & stand by at location for instructions. 1145: Maintenance team reached at site, ensures zero LEL & started leak arrest job. 1200: Maintenance team arrested the identified leak & ensures zero LEL from source. 1200: Ambulance reached for standby. 1203: All clear siren activated after confirming incident under control.</p> <p>At Central Control Room: 1140: CCR operator recognize the alarm of GD #202 activation in DCS. 1142: CCR operator informs the shift in charge to evaluate the situation. 1145: CCR operator stops all the operations & active work permits of the terminal. 1147: Communication to stakeholders like OHC, Marine POC, APSEZ Fire & Security. 1151: CCR activated public announce system & siren to communicate emergency. 1157: CCR communicated 35% LEL to incidence controller. 1200: Ambulance reached at incident point. 1202: CCR received information about LPG leakage arrested by maintenance team. 1203: All clear siren activated after confirmation of site incidence controller. 1205: All the operation were started after clearance from emergency control team & completion of emergency scenario briefing at assembly point.</p>	

	At Assembly point & security gate B: 1151: After hearing siren security guard opens gate for emergency vehicle movement. 1152: First person reached at assembly point & Head count started. 1215: Mock drill briefed by site management & emergency control team to all persons			
6.	Communication and Response of Emergency teams: Emergency control team, Fire crew, Ambulance & Maintenance team reported at site timely.			
	Events	Expected Response time	Actual Response time	Remarks, if any
a)	Siren activation	1 Minute	0.5 Minute	GD activates & confirmation by site incidence controller.
b)	Reporting of SIC	10 Minutes	5 Minutes	SIC reported at site.
c)	Reporting of IC	2 Minute	1 Minute	IC was informed by VHF.
d)	Fire team	5 Minute	2 Minute	Fire team placed at site along with fire tendor, emergency rescue kit & PPE.
e)	Medical team	5 Minute	5 Minute	Ambulance reached at site with paramedics.
f)	Security Team	3 Minute	2 Minute	Security team placed at site.
g)	Mutual Aid	20 Minute	Not required	Not required as emergency was controllable on-site.
h)	E&M	10 Minute	3 Minute	Leak arrested by maintenance team with spark proof tools & cryogenic PPE's.
i)	others	Nil	Nil	
7.	Head Count	79 Nos.		
a)	Total persons present in the installation before the drill	Adani Employees: 10 Contractual: 49 Visitors: 00 Security: 07 Drivers: 13		
b)	Total persons available at Assembly point(s) and key locations	79 Nos at assembly points 06 Nos at key locations (CCR-03, Fire pump house-01, Security gate A- 01 & Security gate C- 01)		
c)	Difference of head count after drill	Nil.		

d)	Action taken to search the shortfall of head counts if any	Nil.			
8.	Time of 'All Clear'	1203 Hrs.			
9.	Duration of Mock Drill (in Minutes)	13 Minutes			
10.	Observations (including highlight the positives of the drill)				
	<p>Positive Points:</p> <ol style="list-style-type: none"> 1. Fire hydrant system is in auto mode, fire tendor reached site timely. 2. Maintenance team equipped with emergency kit. 3. Communication system was in well maintained condition. 4. Firefighting & Medical team was reached at site timely. 5. PPEs was available at site. 				
11.	Recommendations & Action Plan.				
SN	Observation	Action Plan	Responsibility	Target Date	Status
1.	CCTV Camera observed not in working condition.	CCTV to be repaired and made in operational during emergency.	Ritesh Bharadiya	1 st Oct 24	In Progress
2.	Communication sequence is not followed by CCR.	New joinee CCR operators to be trained on emergency procedure.	Gaurav Vyas	10 th Oct 24	In Progress
3.	Security Team has not reached to the site	Security person to be involved in mock drill after hearing siren	Security supervisor & Port security	Immediate	In Progress
4.	Siren is not audible at warehouse, workshop & CCR offices	Need to install the separate siren inside the buildings	Abdul Rahman	31 st Dec 24	In Progress
5.	Quarterly ERDMP training to be added in Training calendar.	Revised training calendar to be shared	Amit Abdeo	15 th Oct 24	In Progress

12. Emergency Exercise Observers	
Name of the observer	Area of Observation
Amit Abdeo (adani)	LPG Terminal CCR
<i>Qaiser Husain</i> (adani)	Local incidence site (TLF-01)
<i>Mehul Chavda</i> (adani)	Security gate-B Assembly point

(Incidence Controller)

Dilip Rote.
Shift In-charge

(Location In-Charge)

Gaurav Vyas
HOS-LPG Terminal

SITE PHOTOS



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

Date	:	25.09.2024
Time	:	11:25AM
Location	:	Encloser – 09, TLF-09, Loading Bay: -
Type/Text of the Scenario	:	Chemical Spillage (Methanol around 300 litter) on loading helper due to wrong opening of valve for tanker loading at TLF -09.

INTRODUCTION: On the above-mentioned day alcohol loading will be planned to start at TLF 09. Loading supervisor lineup all the requirements and brief the operation & safety requirements to loading helpers. After all arrangement, tanker was placed on loading bay number 65, and loading hose was connected. When all setups done then driver instructed to the loading helper to open the valve for loading. But at that time loading helper was open the valve of line number 115 instead of number 116 then suddenly methanol come out from the hose, and it spilled upon tanker driver Mr. Ranjit (IP) who stand upon the tanker top. Immediately he moved away from the oil spilling area and started shouting, Mr. Vaidik Velani (1st informer) listened the sound and reached quickly at loading bay 65 after observing the seriousness, he pass the message to Mr. Ganeswara Rao (Incident controller). IC immediately reached at site and measure the situation then he informed to control room and declared emergency. After that IC instructed to operation team for giving shower to the IP at nearby safety shower near pump house -09.



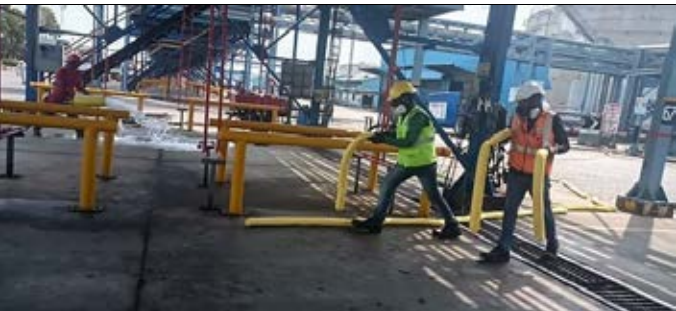



Immediately ISCR, OHC and fire were informed, and subsequently intimated the same through message/ call to concern departments

LOCATION (WITH PHOTOGRAPH):



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

SEQUENCE OF EVENTS WITH PHOTOGRAPHS:

<p style="text-align: center;">Chemical Spilled upon the tanker driver</p>	<p style="text-align: center;">1st informer reached at site informed to Incident controller</p>
	
<p style="text-align: center;">Incident location barricaded and spill boom laying for control the oil contamination</p>	<p style="text-align: center;">Axillary support team reached at incident location</p>
	
<p style="text-align: center;">Operation team assist by showing direction to emergency respond team</p>	<p style="text-align: center;">Shower provided to the injured person</p>
	

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

<p>Fire team reached at location and arranging for fume spray to controll veporization</p>	<p>Fome spraying progress by fire services</p>
	
<p>OHC team check the condition of I.P and taken OHC by ambulance</p>	<p>Workmen went towards assembly point</p>
	
<p>Addressing to the gaeathering at assemlly point</p>	<p>Addressing to the gaeathering at assemlly point</p>
	



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

RESPONSE TIME:

#	Description	Exact Time
1.	First responder informed to LT control room regarding emergency scenario	: 11:23
2.	Incident controller comes on site	: 11:25
3.	Declaration of Emergency	: 11:25
4.	Ambulance reaching time at incident Point	: 11:27
5.	Safety Shift in-charge reaching time at incident point	: -
6.	Security team reaching time at incident point	: -
7.	Fire Team reaching time at incident Point	: 11:30
8.	Rescue Arrangement at site	: -
9.	OHC Team Check the condition of person	: 11:31
10.	Person shift to OHC by ambulance	: 11:31
11.	First person at Assembly Point	: 11:28
12.	Last person at Assembly Point	: -
13.	Maintenance Arrangement at site	: 11:31
14.	Workers and supervisor reached at TLF-9 for spillage control	: 11:33
15.	Termination of Emergency and All clear siren	: 11:36
16.		

COMMUNICATION & ACTIONS:

Action By	Information To / Action By	Remarks
First Responder	Information given to incident controller about situation / scenario Operated VHF	
Site Incident Controller	Assess the site and declare on-site emergency.	
Concern Department/ Area In-charge	Inform to ISCR, Fire, Medical, Safety etc.	
Engineering Services	LT Maintenance team reached the site immediately after declaration of emergency	
Corporate Affairs	NA	
HR/ Admin	Not Required	



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

Safety Team	Not Required	
OHC	OHC team response was quick. Ambulance reached on site	
Security Control Room	Security team didn't reach at emergency location	
Fire Control Room Inform	Fire tender reached at site in quick time.	

COMMUNICATION TO MUTUAL AID GROUP

(IF REQUIRED, AS AND WHEN MUTUAL AID IS CALLED) – Not Required.

To	By Whom/ Media	Standard	Performance
IOCL		2 min. after receiving information to Emergency Control Room	
HPCL			
JINDAL SAW			
ADANI POWER			
CGPL			
HMEL			

RESPONSE TIME PERFORMANCE OF ACTION

Agency	Standard Time	Performance	Rating (Max. 9/ Block)	
			+VE Marks	-VE Marks
Ambulance	1-2 Min	2 Min	9	
Safety	4-5 Min	4 Min	9	
Fire Services	4-5 Min	3 Min	9	

A. PERFORMANCE OF OHS & F SERVICES & RESCUE SERVICES

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Turn out/ response time of Fire Team	Fire team reached at site within benchmark of response time.	3	
Turn out/ response time of OHC Team	OHC team & Ambulance reached at site within benchmark of response time. Ambulance crossed the warm zone and reached near to incident location.	2	1
Turn out/ response time of Safety Team and in coordination with	Response time of Safety team is within benchmark and will	3	



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

incident controller mobilisation of personnel and resources.	coordinate with incident controller for mobilisation of personnel, resources, PPE's etc.		
Firefighting at the site	Fire team apply foam upon the spilled chemical	3	
Medical attention at the site	Reported to incident Controller and ensure no any causality.	3	
Rescue of person	Person rescued by fire team on time and handover to OHC	3	

B. PERFORMANCE OF MAINTENANCE DEPARTMENT

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Power shut down/ cut off	Maintenance team reached on time.	3	
Immediate arrangements at the site	All arrangement were mobilised.	3	
Mobilizing of personnel and resources	Maintenance team reached at site with tool kit. Appropriate PPEs used.	3	
Maintenance activities being carried out at the site	Maintenance team standby at site	-	
Clearing debris	Spill containment within TLF bay after clearance from incident controller was partially done by operation team.	2	1
Other arrangement at required to meet emergency		-	

C. PERFORMANCE OF SECURITY SERVICES

Performance	Performance Rating	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Turnout of Security	Security Team not reached at incident site at time.	1	-2



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

Performance of security guards	Vehicle were only allowed inside Liquid Terminal with spark arrestor by security guards from the LT gate.	3	
Security officer's command & control	Security officers took charge and restricted the entry of unauthorized persons / also ensure that vehicles do not enter the incident site.	3	
Area cordoned off	There was area barricading nearby incident spot by operation team.	3	
Prevent unwanted/ unauthorized entry into this area	Security officers restrict the entry of unauthorized persons / also ensure that vehicles do not enter the gate also co-ordinate properly with incident controller.	3	
Closer of gates	Vehicle & man movement entry gates were not closed.	3	
Providing security coverage at main gate and directing concern person to the site.	Security guard was guided to emergency vehicle for scene.	3	

D. PERFORMANCE OF OPERATION/ CONCERN DEPARTMENT

Performance	Performance Rating	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Immediately pass the communication message through VHF / other available media to subordinates & emergency response team.	Communication / Information on emergency conveyed to all concern by incident controller	3	
Stopping of operation / like critical operations first & on priority basis	All operations stopped by incident controller.	3	
Emergency response of particular department at site	Response time of concern department found adequate. LT deputed for guided to emergency vehicle for scene.	3	



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED MOCK DRILL REPORT

Support for evacuation of people at site and head count along with HR/ Admin	Evacuation done by Operation team and head count was done Liquid and Security team.	2	1
Availability and response of emergency kit / equipment / Other.	Emergency spill kit was immediately mobilized at the incident spot.	3	
Audibility of the scenario on PA System by Persons	PA System was not use for announcement of emergency.		3

Observer – Mr. Baiju Abraham, Mr. Amit Abdeo, Mr. Abhishek Panda and Mr. Keyur Brahmhatt

Good Observations:

1. Incident Controller (IC) reached at site within 2 minutes and took charge.
2. Ambulance arrived near incident location within 2min
3. Fire and rescue team arrived with SCBA set for emergency.
4. Coordination between Incident Controller and Control Room
5. Emergency evacuation ensured by Incident Controller (IC).
6. Control room communicated to all the concern members on emergency.

Observations / Area of Improvement:

1. MSDS file not opened at CCR.
2. Siren is not audible as per siren code
3. Casual response of employees and surveyor during emergency evacuation.
4. Tractor driver moved the vehicle prior to close the door of Emergency response trolley door.
5. Security services involvement in mock drill is not as much visible as per emergency response plan.
6. During spillage of flammable cargo, tanker moved from loading bay during emergency scenario.
7. PA system not used to communicate the emergency evacuation.
8. Only one side containment was bunded.
9. No head count system at assembly point.
10. Ambulance crossed the warm zone and entered near to the incident location.

Overall rating – 88

Marks from 96 to 100 - Excellent

Marks from 91 to 95 - Very Good

Marks below 90 - Needs Improvement



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

VOTE OF THANKS:

- Gaurang Chudasama, Rama Rao, Amit Abdeo

SUPPORTING STAFF:

Drill Organized By : Gaurang Chudasama and Abhishek Panda
 Drill guided By : Rama Rao and Laxman Bhanushali
 Exercise Performance Assessor : Baiju Abraham & Amit Abdeo
 Site incident controller : Ganeswara Rao
 Report prepared By : Abhishek Panda

SI No	ATS Tracking ID	Observation	Recommendations	Responsibility	Target date of Completion
1	221625	MSDS file not opened at CCR	During any emergency with respect to cargo, MSDS of specific cargo should be available on the table of CCR-In charge	Laxman Bhanushali	05th Oct
2	221626	Siren is not audible as per siren code.	Siren should be audible as per the prescribed siren code as per ERDMP	HOS: LT-Ops	10th- Oct-2024
3	221627	Casual response of employees and surveyor during emergency evacuation.	Training and awareness should be more emphasized	Laxman Bhanushali, HOS: LT-Ops & ES-LTM	05th Oct
4	221628	Tractor driver moved the vehicle prior to close the door of Emergency response trolley door.	Vehicle should be move after clearance of the workmen involved / associated with the vehicle	Laxman Bhanushali	05th Oct
5	221630	Security services involvement in mock drill is not as much visible as per emergency response plan.	Security team should perform their role as described in ERDMP plan	B.K Krishna	05th Oct
6	221631	During spillage of flammable cargo, tanker moved from loading bay during emergency scenario.	During emergency no vehicle should be moved from the incident location before establishment of control measures	Laxman Bhanushali	05th Oct
7	221632	PA system not used to communicate the emergency from evacuation.	PA system should be used for announcement of emergency	Laxman Bhanushali	05th Oct
8	221633	Only one side containment was bunded.	All 4 side (360°) should be bunded for avoiding spreading of contamination	Laxman Bhanushali	05th Oct
9	221634	No head count system at assembly point.	Head count (In & Out) inside liquid terminal need to be established	HOS: LT-Ops	31st Oct
10	221635	Ambulance crossed the warm zone and red zone and entered near to the incident location.	Ambulance should be parked at warm zone.	CMO-OHS	05th Oct

ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

Date	30.09.2024
Time	11:27 Hrs
Location	Canteen area, ACMTPL
Type/Text of the Scenario	Assuming that one driver was started vomiting due to food poisoning while taking meal. Canteen supervisor Mr. Kiran Kumar Immediately informed to Admin in charge, OHC and Safety Department

INTRODUCTION:

Mock drill was decided, and advance information given to Canteen staffs, Safety Team, Security Team and OHC. Scenario and execution plan was decided as per scenario.

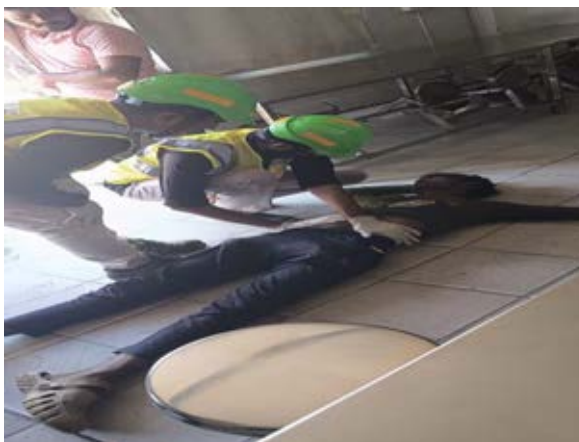
LOCATION (WITH PHOTOGRAPH): Canteen area, ACMTPL



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

SEQUENCE OF EVENTS WITH PHOTOGRAPHS:



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT



SEQUENCE OF EVENTS:

- Assuming that one driver Mr. Kiran Kumar was started vomiting due to food poisoning while taking meal.
- Canteen supervisor Mr. Pradeep Immediately informed to Admin in charge, OHC, Security and Safety Department



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

CANTEEN TEAM RESPONSE TIME

Sr No.	Particulars	Information provided	Service Received
1	Canteen Supervisor first informed to the ACMTPL In-gate security team	11:28	11:29
2	ACMTPL In-gate security team has informed to the ISCR	11:29	11:32
3	ACMTPL In-gate security team has informed to OHC	11:29	11:34
4	ACMTPL In-gate security team has informed to Safety Department	11:30	11:33

RESPONSE TIME:

Description	Information Provided time	Service received
OHC	11:29	11:34
Safety	11:30	11:33
Admin In charge	11:48	11:50

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

To	By Whom/ Media	Standard	Performance
IOCL		Not Required	
HPCL			
JINDAL SAW			
ADANI POWER			



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

CGPL			
HMEL			

RESPONSE TIME PERFORMANCE OF ACTION

Agency	Standard Time	Performance	Rating (Max. 9/ Block)	
			+VE Marks	-VE Marks
Ambulance	Response was good and they reached in 5 minutes	Good	8	
Safety	Response was good and they reached within 3 minutes	Good	8	
Security	Response was good and they reached in 3 minutes	Good	8	
Admin	Response was good and they reached within 2 minutes	Good	8	

A. PERFORMANCE OF OHS & F SERVICES & RESCUE SERVICES

Performance	Performance	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Turn out/ response time of OHC Team	Good	3	
Turn out/ response time of Safety Team and in coordination with incident controller mobilisation of personnel and resources.	Good	2	
Medical attention at the site	Good	2	



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

B. PERFORMANCE OF OPERATION/ CONCERN DEPARTMENT

Performance	Performance Rating	Rating (Max. 3 per Block)	
		+VE Marks	-VE Marks
Immediately pass the communication message VHF / other available media to subordinates & emergency response team.	Immediately passed the information to OHC and quick response from OHC team	3	
Stopping of operation / like critical operations first & on priority basis	NA		
Emergency response of department at site	Response time of concern department found good.	3	
Support for evacuation of people at site and head count along with HR/ Admin	NA		
Availability and response of emergency kit / equipment / Other.	First aid kit found not maintained	1	

Observer – I (General Observation)

- No First-Aid was available inside canteen
- Canteen staffs were not aware about the emergency contact numbers and the emergency numbers are not displayed inside canteen
- Canteen staff were not aware about whom to contact during the choking hazard



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

- Door of the canteen found in damaged condition

Observer – II NA

Overall rating

Marks from 95 to 100 - Excellent

Marks from 90 to 95 - Very Good

Marks below 90 - Needs Improvement

COMPLIANCE REPORT FOR MOCK DRILL

#	Recommendations	Department	Date of Completion
1	Display emergency contact numbers in canteen area and communicate with team	Admin	30.10.2024
2	Ensure to provide the first aid kit in well maintained condition	Admin	30.10.2024
3	First-aid training required for the canteen staff.	Admin	30.10.2024

Name & Signature of Concern HOD:

VOTE OF THANKS:

Vote of the thanks to Admin team, Security team, OHC team & Safety team.
Special thanks to all team members of mock drill participants.

Drill Participation Staff:



ADANI PORTS & SPECIAL ECONOMIC ZONE LIMITED

MOCK DRILL REPORT

Admin Team: Admin In charge (Mr. Swarup Mukherjee), Admin Supervisor (Mr. Ratan Tapariya)

QHSE Team: Mr. Abdul Halim Khan

Observation Team: Mr. Ajaykumar Bhatt & Mr. Vinod Rajput

Contractors: **M/s Sodexo**
Mr. Amarish Kumar
Mr. Hardhan Mondal
Mr. Karan Boro
Ms. Giriju Kadapur
Ms. Ramin Saket
Mr. Maheshwari Kheraj

Drill Organized By : Mr. Vinod Rajput & Mr. Ajaykumar Bhatt

Drill guided by : Mr. Vinod Rajput

Exercise Performance Assessor : Mr. Ajaykumar Bhatt

Admin In charge : Mr. Swarup Mukherjee

Report prepared by : Mr. Vinod Rajput

Annexure – 6



ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED



PIPE - TO - SOIL MONITORING REPORT

MAINTENANCE BASE : MUNDRA
 PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA
 CP STATION LOCATION : TP2
 CP SYSTEM PARAMETERS : DC Voltage = 3.70 VOLTS; DC Current = 2.20 AMP

DATE : 30.04.2024
 REPORT NO : APRIL24/24
 DATE OF MONITORING : 29.04.2024

TLP NO.	Type	Chainage KM	ON PSP (-volt)	OFF PSP (-volt)	AC VOLTAGE	Casing (-V w.r.t CSE)				Polarization coupon (-V w.r.t CSE)		HT Crossing		Foreign pipeline PSP (V w.r.t CSE)	Isolating Joint (-V w.r.t CSE)		Remarks
						Carrier PSP	Casing PSP	Casing Anode Potential (-V)	Casing Anode Current (mA)	ON PSP	OFF PSP	ZN Anode Potential (-V)	ZN Anode Resistance		Protected side PSP	Unprotected side PSP	
1	E	0.000	1.224	-	0.024	-	-	-	-	-	-	-	-	1.224	1.069		
2	D	0.425	1.283	-	0.021	1.283	0.724	NA	NA	-	-	-	-	-	-		
3	A	1.400	1.278	-	0.016	-	-	-	-	-	-	-	-	-	-		
4	A	2.400	1.253	-	0.011	-	-	-	-	-	-	-	-	-	-		
5	A	3.000	1.221	-	0.001	-	-	-	-	-	-	-	-	-	-		
6	D	3.440	1.289	-	0.001	1.289	0.591	NA	NA	-	-	-	-	-	-		
7	A	4.300	1.236	-	0.007	-	-	-	-	-	-	-	-	-	-		
8	A	5.200	1.240	-	0.010	-	-	-	-	-	-	-	-	-	-		
9	A	5.900	1.228	-	0.012	-	-	-	-	-	-	-	-	-	-		
10	E	6.200	1.235	-	0.014	-	-	-	-	-	-	-	-	1.235	0.962		

Remarks:

Monitored by : SAP ENPROCON PVT LTD

Signature:

Name : Harsh Vardhan Singh

Designation : CP Engineer



Reviewed by :

Signature

Name :

Disignation :

Graphical Representation of ON Measured PSP

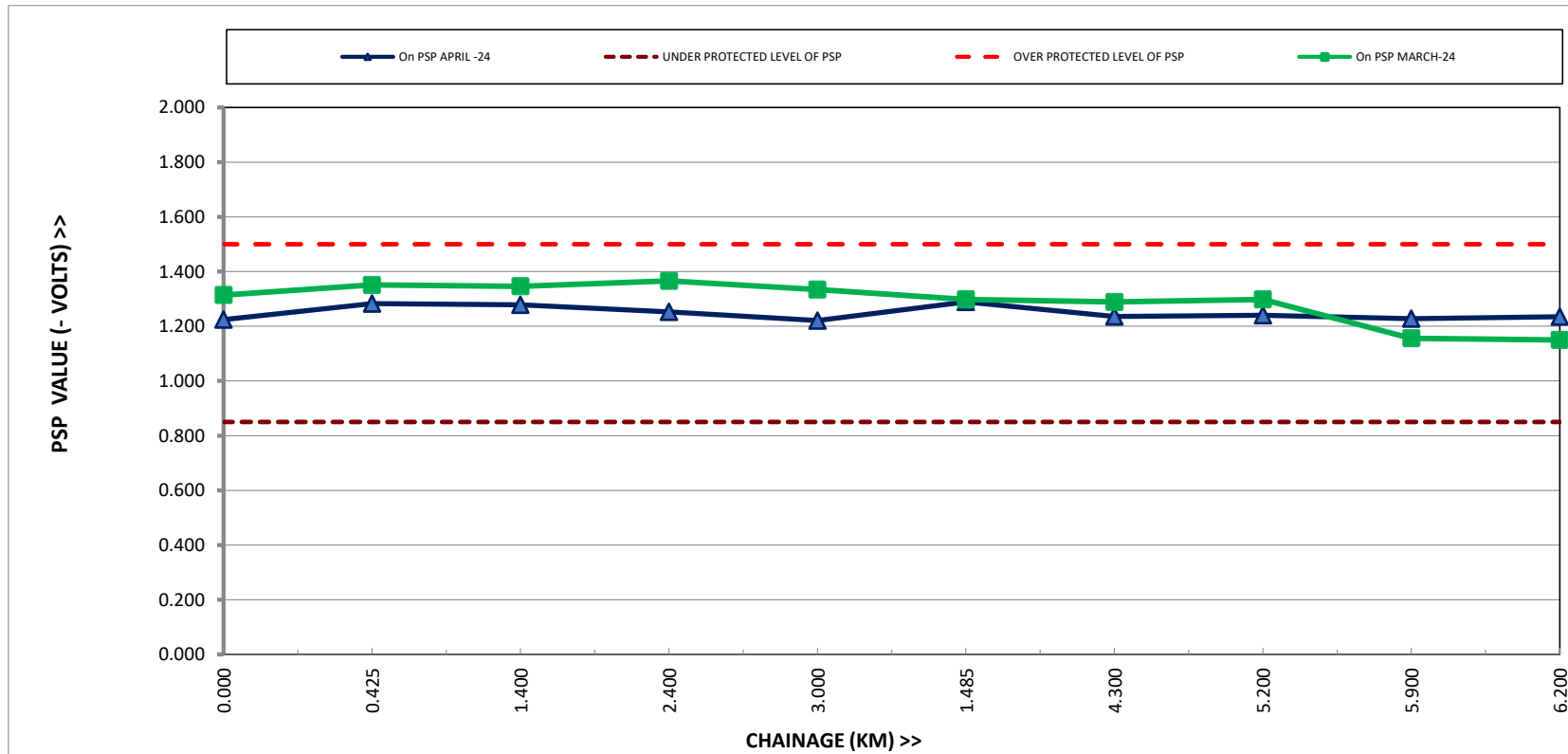
MAINTENANCE BASE : MUNDRA

PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA

CP STATION LOCATION : TP2

CP SYSTEM PARAMETERS : DC Voltage (V) = 3.7 DC Current (A) = 2.2

CP CONTRACTOR: SAP ENPROCON PVT LTD



LEGENDS

APRIL 2024 ON PSP (VOLT)	—▲— (Blue Solid)
MARCH 2024 ON PSP (VOLT)	—■— (Green Solid)
UNDER PROTECTED LEVEL OF PSP	- - - (Brown Broken)
OVER PROTECTED LEVEL OF PSP	- - - (Red Dashed)

Note : PSP value measured wrt Cu-CuSO4 portable reference Cell.



adani Ports and Logistics		ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED										SAP ENPROCON				
PIPE - TO - SOIL MONITORING REPORT																
MAINTENANCE BASE : MUNDRA		DATE : 27.05.2024														
PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA		REPORT NO : MAY24/25														
CP STATION LOCATION : TP2		DATE OF MONITORING : 27.05.2024														
CP SYSTEM PARAMETERS : DC Voltage = 3.60 VOLTS; DC Current = 2.1 AMP																
TLP NO.	Type	Chainage KM	ON PSP (-volt)	OFF PSP (-volt)	AC VOLTAGE	Casing (-V w.r.t CSE)			Polarization coupon (-V w.r.t CSE)		HT Crossing		Foreign pipeline PSP (-V w.r.t CSE)	Isolating Joint (-V w.r.t CSE)		Remarks
						Carrier PSP	Casing PSP	Casing Anode Potential (-V)	Casing Anode Current (mA)	ON PSP	OFF PSP	ZN Anode Potential (-V)	ZN Anode Resistance	Protected side PSP	Unprotected side PSP	
1	E	0.000	1.218	-	0.022	-	-	-	-	-	-	-	-	1.218	1.021	
2	D	0.425	1.235	-	0.021	1.235	0.603	NA	NA	-	-	-	-	-	-	
3	A	1.400	1.256	-	0.014	-	-	-	-	-	-	-	-	-	-	
4	A	2.400	1.240	-	0.016	-	-	-	-	-	-	-	-	-	-	
5	A	3.000	1.207	-	0.002	-	-	-	-	-	-	-	-	-	-	
6	D	3.440	1.191	-	0.001	1.191	0.577	NA	NA	-	-	-	-	-	-	
7	A	4.300	1.186	-	0.009	-	-	-	-	-	-	-	-	-	-	
8	A	5.200	1.230	-	0.010	-	-	-	-	-	-	-	-	-	-	
9	A	5.900	1.218	-	0.012	-	-	-	-	-	-	-	-	-	-	
10	E	6.200	1.202	-	0.014	-	-	-	-	-	-	-	-	1.202	0.962	
Remarks:																
Monitored by : SAP ENPROCON PVT LTD																
Reviewed by :																
Signature																
Name : Harsh Vardhan Singh																
Designation : CP Engineer																



Graphical Representation of ON Measured PSP

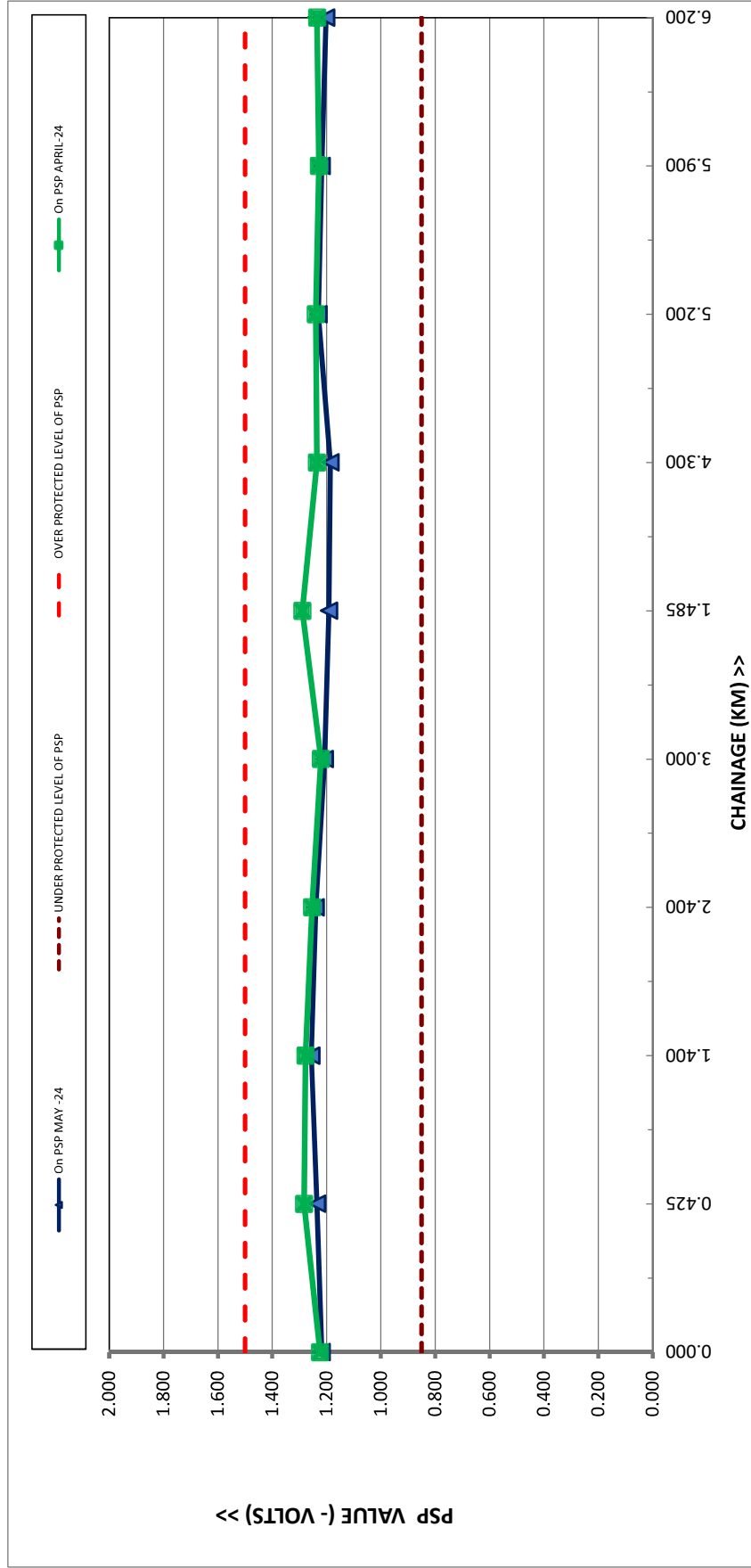
MAINTENANCE BASE : MUNDRA

PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA

CP STATION LOCATION : TP2

CP SYSTEM PARAMETERS : DC Voltage (V) = 3.6 DC Current (A) = 2.1

CP CONTRACTOR: SAP ENPROCON PVT LTD



LEGENDS

- MAY 2024 ON PSP (VOLT) (Blue Solid)
- APRIL 2024 ON PSP (VOLT) (Green Solid)
- UNDER PROTECTED LEVEL OF PSP (Brown Broken)
- OVER PROTECTED LEVEL OF PSP (Red Dashed)

Note : PSP value measured wrt Cu-CuSO4 portable reference Cell.





ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED



PIPE - TO - SOIL MONITORING REPORT

MAINTENANCE BASE : MUNDRA
PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA
CP STATION LOCATION : TP2
CP SYSTEM PARAMETERS : DC Voltage = 6.70 VOLTS; DC Current = 6.5 AMP

DATE : 01.07.2024
REPORT NO : JUNE24/26
DATE OF MONITORING : 01.07.2024

TLP NO.	Type	Chainage KM	ON PSP (-volt)	OFF PSP (-volt)	AC VOLTAGE	Casing (-V w.r.t CSE)				Polarization coupon (-V w.r.t CSE)		HT Crossing		Foreign pipeline PSP (-V w.r.t CSE)	Isolating Joint (-V w.r.t CSE)		Remarks
						Carrier PSP	Casing PSP	Casing Anode Potential (-V)	Casing Anode Current (mA)	ON PSP	OFF PSP	ZN Anode Potential (-V)	ZN Anode Resistance		Protected side PSP	Unprotected side PSP	
1	E	0.000	1.365	-	0.034	-	-	-	-	-	-	-	-	1.365	1.055		
2	D	0.425	1.373	-	0.038	1.373	0.672	NA	NA	-	-	-	-	-	-		
3	A	1.400	1.389	-	0.027	-	-	-	-	-	-	-	-	-	-		
4	A	2.400	1.405	-	0.015	-	-	-	-	-	-	-	-	-	-		
5	A	3.000	1.382	-	0.014	-	-	-	-	-	-	-	-	-	-		
6	D	3.440	1.414	-	0.002	1.414	0.851	NA	NA	-	-	-	-	-	-		
7	A	4.300	1.327	-	0.004	-	-	-	-	-	-	-	-	-	-		
8	A	5.200	1.347	-	0.009	-	-	-	-	-	-	-	-	-	-		
9	A	5.900	1.407	-	0.020	-	-	-	-	-	-	-	-	-	-		
10	E	6.200	1.372	-	0.011	-	-	-	-	-	-	-	-	1.372	1.009		

Remarks:

Monitored by : SAP ENPROCON PVT LTD
Signature:
Name : Harsh Vardhan Singh
Designation : CP Engineer



Reviewed by :
Signature
Name :
Designation :

Graphical Representation of ON Measured PSP

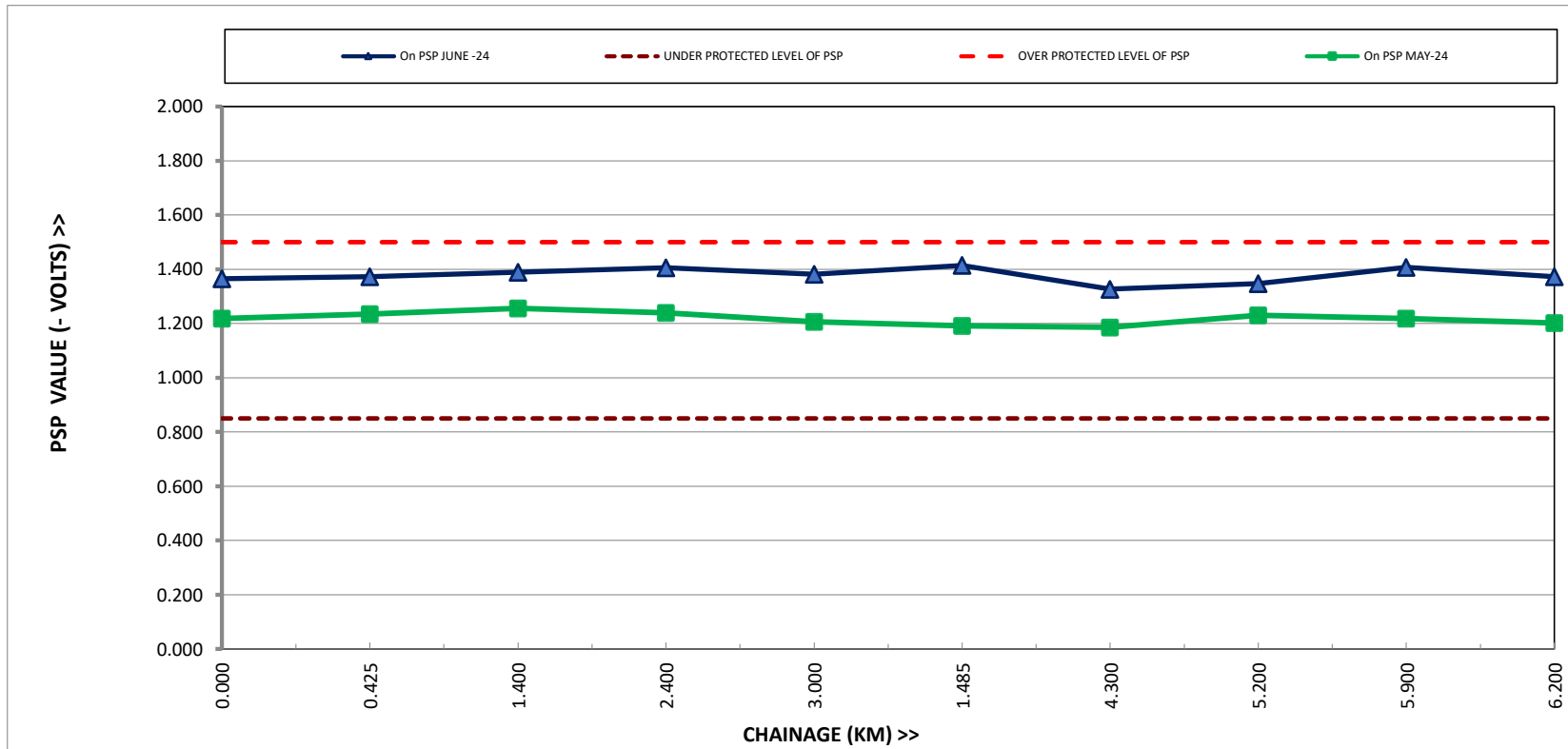
MAINTENANCE BASE : MUNDRA

PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA

CP STATION LOCATION : TP2

CP SYSTEM PARAMETERS : DC Voltage (V) = 6.7 DC Current (A) = 6.5

CP CONTRACTOR: SAP ENPROCON PVT LTD



LEGENDS	
JUNE 2024 ON PSP (VOLT)	— (Blue Solid)
MAY 2024 ON PSP (VOLT)	— (Green Solid)
UNDER PROTECTED LEVEL OF PSP	- - - (Brown Broken)
OVER PROTECTED LEVEL OF PSP	- - - (Red Dashed)

Note : PSP value measured wrt Cu-CuSO4 portable reference Cell.





ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED



PIPE - TO - SOIL MONITORING REPORT

MAINTENANCE BASE : MUNDRA
 PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA
 CP STATION LOCATION : TP2
 CP SYSTEM PARAMETERS : DC Voltage = 3.15 VOLTS; DC Current = 2.20 AMP

DATE : 29.07.2024
 REPORT NO : JULY24/27
 DATE OF MONITORING : 29.07.2024

TLP NO.	Type	Chainage KM	ON PSP (-volt)	OFF PSP (-volt)	AC VOLTAGE	Casing (-V w.r.t CSE)				Polarization coupon (-V w.r.t CSE)		HT Crossing		Foreign pipeline PSP (-V w.r.t CSE)	Isolating Joint (-V w.r.t CSE)		Remarks
						Carrier PSP	Casing PSP	Casing Anode Potential (-V)	Casing Anode Current (mA)	ON PSP	OFF PSP	ZN Anode Potential (-V)	ZN Anode Resistance		Protected side PSP	Unprotected side PSP	
1	E	0.000	1.281	-		-	-	-	-	-	-	-	-	-	-		
2	D	0.425	1.290	-				NA	NA	-	-	-	-	-	-		
3	A	1.400	1.264	-		-	-	-	-	-	-	-	-	-	-		
4	A	2.400	1.291	-	0.016	-	-	-	-	-	-	-	-	-	-		
5	A	3.000	1.259	-	0.012	-	-	-	-	-	-	-	-	-	-		
6	D	3.440	1.296	-	0.019	1.296	0.503	NA	NA	-	-	-	-	-	-		
7	A	4.300	1.212	-	0.016	-	-	-	-	-	-	-	-	-	-		
8	A	5.200	1.275	-		-	-	-	-	-	-	-	-	-	-		
9	A	5.900	1.280	-	0.014	-	-	-	-	-	-	-	-	-	-		
10	E	6.200	1.278	-	0.011	-	-	-	-	-	-	-	-	-	1.278	1.096	

Remarks:

Monitored by : SAP ENPROCON PVT LTD

Signature:

Name : Harsh Vardhan Singh

Designation : CP Engineer



Reviewed by :

Signature

Name :

Disignation :

Graphical Representation of ON Measured PSP

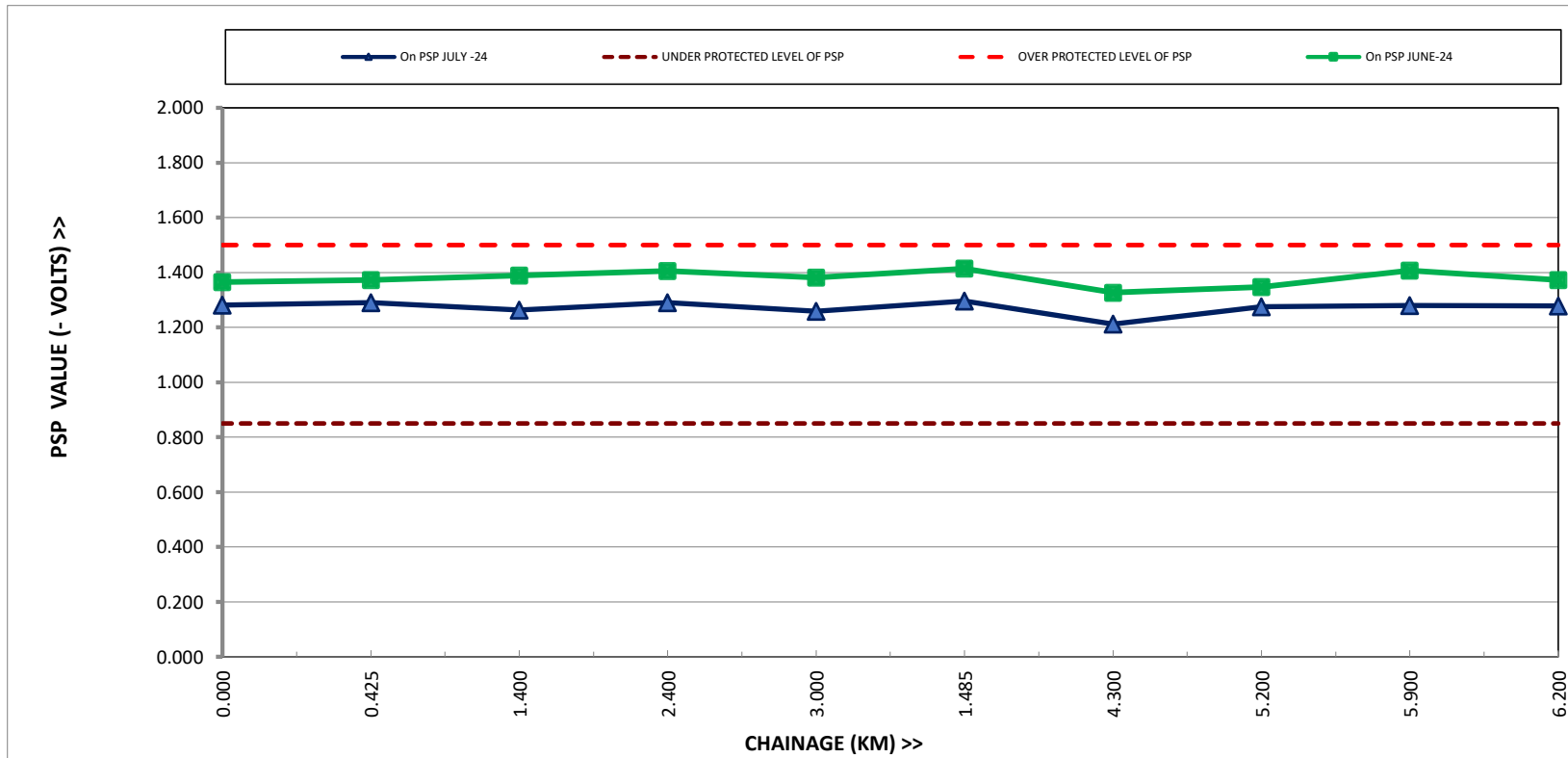
MAINTENANCE BASE : MUNDRA

PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA

CP STATION LOCATION : TP2

CP SYSTEM PARAMETERS : DC Voltage (V) = 3.15 DC Current (A) = 2.20

CP CONTRACTOR: SAP ENPROCON PVT LTD



LEGENDS

JULY 2024 ON PSP (VOLT)	—▲— (Blue Solid)
JUNE 2024 ON PSP (VOLT)	—■— (Green Solid)
UNDER PROTECTED LEVEL OF PSP	- - - (Brown Broken)
OVER PROTECTED LEVEL OF PSP	- - - (Red Dashed)

Note : PSP value measured wrt Cu-CuSO4 portable reference Cell.





ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED



PIPE - TO - SOIL MONITORING REPORT

MAINTENANCE BASE : MUNDRA

PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA

CP STATION LOCATION : TP2

CP SYSTEM PARAMETERS : DC Voltage = 6.60 VOLTS; DC Current = 6.48 AMP

DATE : 30.08.2024

REPORT NO : AUGUST24/28

DATE OF MONITORING : 30.08.2024

TLP NO.	Type	Chainage KM	ON PSP (-volt)	OFF PSP (-volt)	AC VOLTAGE	Casing (-V w.r.t CSE)				Polarization coupon (-V w.r.t CSE)		HT Crossing		Foreign pipeline PSP (-V w.r.t CSE)	Isolating Joint (-V w.r.t CSE)		Remarks
						Carrier PSP	Casing PSP	Casing Anode Potential (-V)	Casing Anode Current (mA)	ON PSP	OFF PSP	ZN Anode Potential (-V)	ZN Anode Resistance		Protected side PSP	Unprotected side PSP	
1	E	0.000	1.325	-	0.044	-	-	-	-	-	-	-	-	-	1.325	1.040	
2	D	0.425	1.333	-	0.045	1.333	0.662	NA	NA	-	-	-	-	-	-	-	
3	A	1.400	1.370	-	0.033	-	-	-	-	-	-	-	-	-	-	-	
4	A	2.400	1.385	-	0.019	-	-	-	-	-	-	-	-	-	-	-	
5	A	3.000	1.372	-	0.011	-	-	-	-	-	-	-	-	-	-	-	
6	D	3.440	1.394	-	0.004	1.394	0.870	NA	NA	-	-	-	-	-	-	-	
7	A	4.300	1.317	-	0.008	-	-	-	-	-	-	-	-	-	-	-	
8	A	5.200	1.322	-	0.005	-	-	-	-	-	-	-	-	-	-	-	
9	A	5.900	1.397	-	0.030	-	-	-	-	-	-	-	-	-	-	-	
10	E	6.200	1.359	-	0.019	-	-	-	-	-	-	-	-	-	1.359	1.011	

Remarks:

Monitored by : SAP ENPROCON PVT LTD

Signature:

Name : Harsh Vardhan Singh

Designation : CP Engineer



Reviewed by :

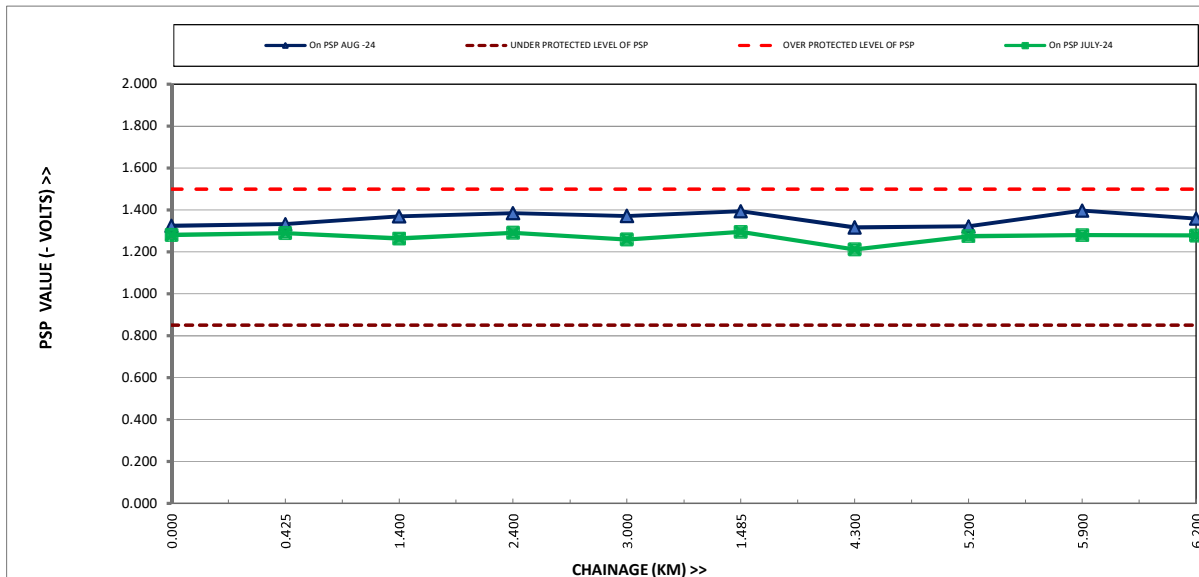
Signature

Name :

Designation :

Graphical Representation of ON Mesured PSP

MAINTENANCE BASE : MUNDRA
 PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA
 CP STATION LOCATION : TP2
 CP SYSTEM PARAMETERS : DC Voltage (V) = 6.6 DC Current (A) = 6.48
 CP CONTRACTOR: SAP ENPROCON PVT LTD



LEGENDS	
AUG 2024 ON PSP (VOLT)	(Blue Solid)
JULY 2024 ON PSP (VOLT)	(Green Solid)
UNDER PROTECTED LEVEL OF PSP	(Brown Broken)
OVER PROTECTED LEVEL OF PSP	(Red Dashed)

Note : PSP value measured wrt Cu-CuSO4 portable reference Cell.





ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED



PIPE - TO - SOIL MONITORING REPORT

MAINTENANCE BASE : MUNDRA
 PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA
 CP STATION LOCATION : TP2
 CP SYSTEM PARAMETERS : DC Voltage = 3.15 VOLTS; DC Current = 2.20 AMP

DATE : 28.09.2024
 REPORT NO : September24/29
 DATE OF MONITORING : 28.09.2024

TLP NO.	Type	Chainage KM	ON PSP (-volt)	OFF PSP (-volt)	AC VOLTAGE	Casing (-V w.r.t CSE)				Polarization coupon (-V w.r.t CSE)		HT Crossing		Foreign pipeline PSP (V w.r.t CSE)	Isolating Joint (-V w.r.t CSE)		Remarks
						Carrier PSP	Casing PSP	Casing Anode Potential (-V)	Casing Anode Current (mA)	ON PSP	OFF PSP	ZN Anode Potential (-V)	ZN Anode Resistance		Protected side PSP	Unprotected side PSP	
1	E	0.000	1.361	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	D	0.425	1.362	-	0.022	0.686	1.342	NA	NA	-	-	-	-	-	-	-	
3	A	1.400	1.341	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	A	2.400	1.389	-	0.026	-	-	-	-	-	-	-	-	-	-	-	
5	A	3.000	1.284	-	0.022	-	-	-	-	-	-	-	-	-	-	-	
6	D	3.440	1.288	-	0.029	0.560	1.288	NA	NA	-	-	-	-	-	-	-	
7	A	4.300	1.214	-	0.026	-	-	-	-	-	-	-	-	-	-	-	
8	A	5.200	1.210	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	A	5.900	1.295	-	0.030	-	-	-	-	-	-	-	-	-	-	-	
10	E	6.200	1.292	-	0.056	-	-	-	-	-	-	-	-	-	1.292	0.987	

Remarks:

Monitored by : SAP ENPROCON PVT LTD

Signature:

Name : Harsh Vardhan Singh

Designation : CP Engineer



Reviewed by :

Signature

Name :

Disignation :

Graphical Representation of ON Measured PSP

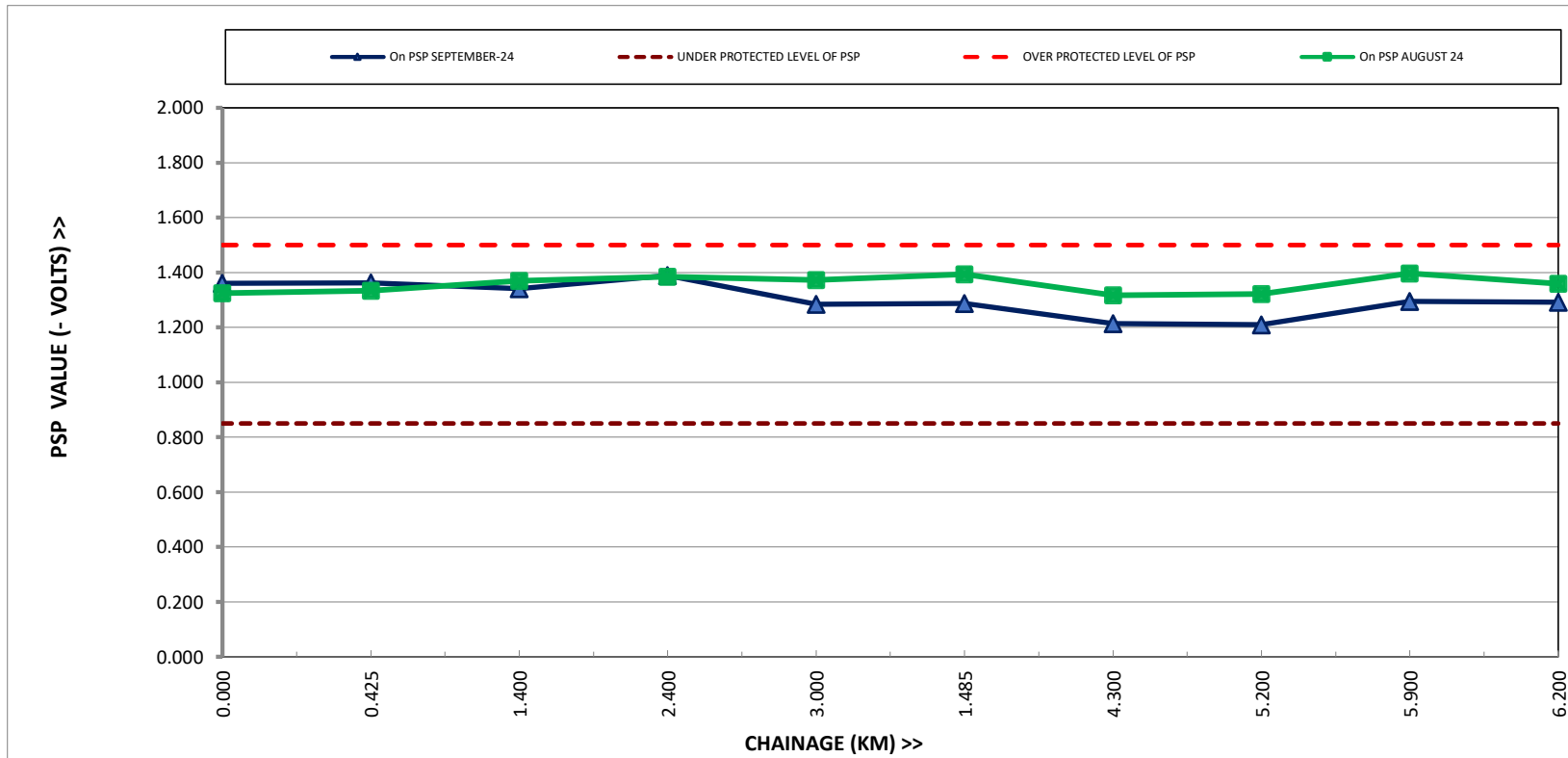
MAINTENANCE BASE : MUNDRA

PIPELINE SECTION : 48" X 6.2 KM SPM-IOCL CRUDE OIL PIPELINE AT ADANI PORTS, MUNDRA

CP STATION LOCATION : TP2

CP SYSTEM PARAMETERS : DC Voltage (V) = 3.15 DC Current (A) = 2.20

CP CONTRACTOR: SAP ENPROCON PVT LTD

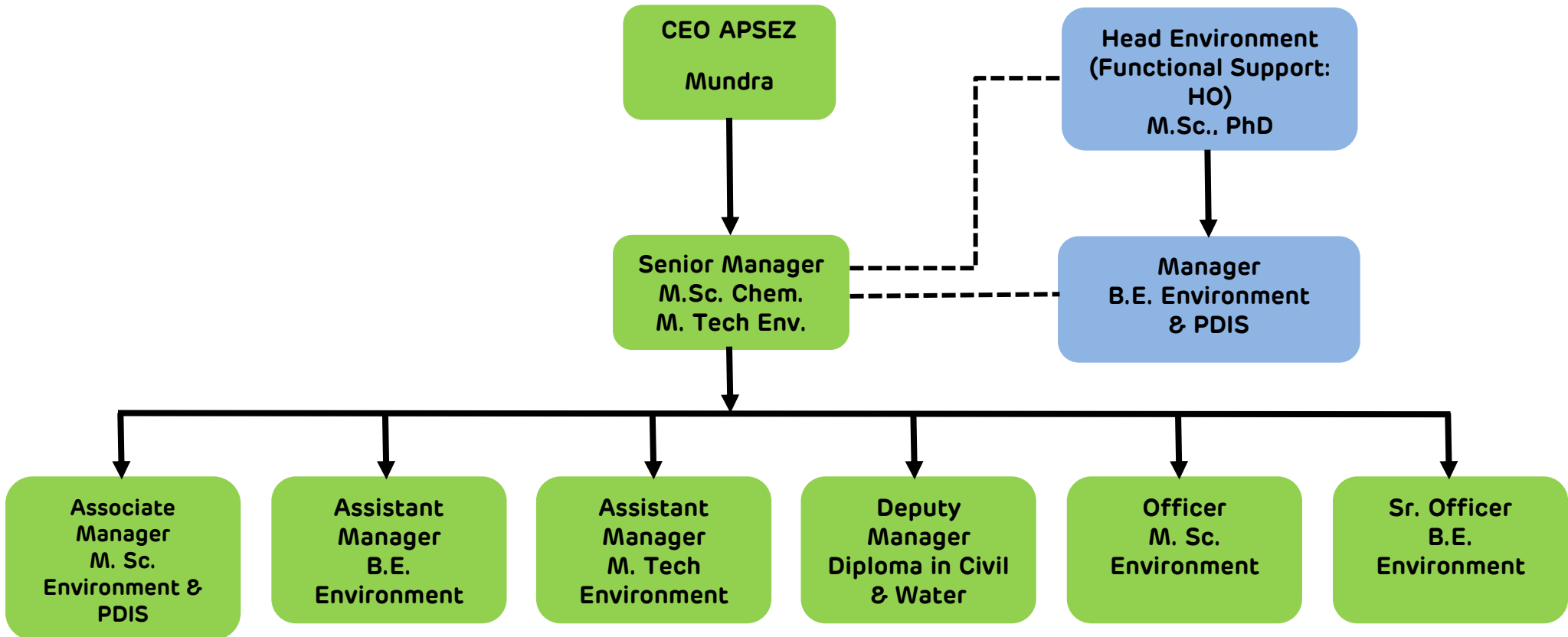


LEGENDS	
SEPTEMBER 2024 ON PSP (VOLT)	— (Blue Solid)
AUGUST 2024 ON PSP (VOLT)	— (Green Solid)
UNDER PROTECTED LEVEL OF PSP	- - - (Brown Broken)
OVER PROTECTED LEVEL OF PSP	- - - - (Red Dashed)
Note : PSP value measured wrt Cu-CuSO4 portable reference Cell.	



Annexure – 7

Updated Organogram of Environment Management Cell, APSEZ, Mundra



Annexure – 8

Cost of Environmental Protection Measures

Sr. No.	Activity	Cost incurred (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2022 - 23	2023 - 24	2024 - 25 (till Sep'24)	2024 - 25
1.	Environmental Study / Audit and Consultancy	7.32	22.67	1.88	27
2.	Legal & Statutory Expenses	12.32	8.60	5.00	13
3.	Environmental Monitoring Services	15.32	13.37	6.11	19.20
4.	Hazardous / Non-Hazardous Waste Management & Disposal	104.035	130.11	19.10	172.40
5.	Environment Days Celebration and Advertisement / Business development	2.53	3.42	2.80	4.00
6.	Treatment and Disposal of Bio-Medical Waste	2.29	2.28	1.20	2.28
7.	Mangrove Plantation, Monitoring & Conservation	35.0	15	0	0
8.	Other Horticulture Expenses	956	904	253	831
9.	O&M of Sewage Treatment Plant and Effluent Treatment Plant (including STP, ETP of Port & SEZ & Common Effluent Treatment Plant)	141.33	186.94	74.69	195.41
10.	Expenditure of Environment Dept. (Apart from above head)	90.136	80.39	2.19	75.92
Total		1366.28	1366.78	365.97	1340.21

Annexure – 9

Compliance Report of CIA Study Environment Management Plan

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude ¹	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance
1	Land Use Change						
1.1	<p>It is predicted that the built up land in the rural areas would increase by an order 50% from the baseline 2015.</p> <p>New settlements near the SEZ area might create slums.</p> <p>Unorganized urban development leading to poor sanitation and proliferation</p>	Level - 1	<p>APSEZ has developed two townships (Shantivan and Samudra) presently accommodating 1668 households. Necessary permissions from concerned authorities were already obtained for the development of townships and Associated infrastructure facilities.</p>	<p>The existing townships will be expanded to accommodate about 4 lakh people when the APSEZ is fully developed.</p>	APSEZ	As and when Required	<p>APSEZ has developed two townships (Shantivan and Samudra) accommodating 2302 households and associated infrastructure facilities. Accommodation is made available for all interested employees working within Adani group & SEZ industries. Out of which 87.14 % Occupancies are accommodated within the townships and rest are available for employees working within APSEZ.</p> <p>At present 61 nos. of industries (processing & non-processing) are present within the SEZ (46 nos. are in operation). Township facilities are also made by some of SEZ industries within Mundra town for their employees with basic infrastructure facilities and requirements.</p> <p>Most of the employees working in SEZ industries are residing in Mundra township having all basic requirements and associated facilities.</p> <p>The existing social infrastructure facilities are adequate for present development at APSEZ. The existing townships with associated facilities will be</p>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance
	of vectors and disease.						expanded as per requirement. APSEZ has also been granted permission for receiving domestic sewage @ 2.5 MLD from Mundra village (which was earlier discharged into open area within Mundra region) into wastewater treatment plant for treatment and disposal. APSEZ has already started receiving of domestic sewage from Mundra, which abates the poor sanitation and unhygienic condition within Mundra region. Total project cost for laying domestic sewage underground pipeline with other associated facilities from Mundra to APSEZ is 362 Lacs.
1.2	Once the project is fully developed, due to increase in built up land in the APSEZ area, there will be an increase in the storm water runoff from the facility.	Level-1	The study area experiences scanty rainfall less than 400 mm/year. Considering the natural gradient, APSEZ have designed and implemented storm water	Technical feasibility study can be carried out to explore the possibility of developing storm water collection ponds to utilize maximum possible storm water runoff for dust suppression in the coal yard areas during non-rainy days.	APSEZ	Technical Study - one time, Implementation - Continual process	Presently, ~ 51.7 % of the total SEZ is developed. Based on technical studies, At present all existing coal yards are designed with drain, for collection of water during water sprinkling and rainfall, which is carried away to dump pond. Supernatant water from dump pond is being collected and used for dust suppression activities or after sedimentation, discharged to sea. Details of drain and dump pond has been submitted in along with EC compliance report (Oct 19 to March 20). Analysis of said water discharging into sea during monsoon season is being carried out (twice in a year during monsoon) through NABL / MoEF&CC accredited laboratory. Analysis report of the same shows there is

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance
			drains in the existing facility to meet the peak daily rainfall of 440 mm/hr. Hence flooding of water in the neighboring areas is not envisaged.				no any contamination. The report of the same is attached as Annexure - i . During compliance period FY 2024-25 till Sep'24 total recorded rain fall was 1349 mm observed, which was much less than the design capacity of existing storm water drainage system. So, our existing storm water management facility is adequate to handle the storm water runoff from the area. Hence flooding of water in the neighboring areas is not envisaged.
			As per the directions given in the environmental clearance issued for the proposed Multi-Product SEZ and CRZ clearance for Desalination, sea water intake, outfall	The channel depth in all the natural streams shall be maintained to accommodate peak flood flow during the monsoon and periodical desilting activities in the natural streams passing through the APSEZ area	APSEZ, District Administration* and Irrigation department	As and When Required	Presently there is no Desalination plant, sea water intake and outfall facility developed as part of EC & CRZ clearance of Multiproduct SEZ. The project will be designed and implemented as per requirement without disturbing the natural flow of rainwater in all the seasonal streams.

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance
			facility and pipeline project, the master plan of the project was designed and being implemented without disturbing the natural flow of rainwater in all the seasonal streams.				
1.3	Due to conservation and protection of mangroves in the designated conservation area, it has been predicted	Positive Impact with ecological benefits	In addition to conservation of the identified 1254 ha mangrove areas around Mundra port and SEZ, APSEZ has taken up large scale	APSEZ will continue mangrove afforestation as per the commitment made with concerned regulatory authority	APSEZ	Short Term	<p>APSEZ has carried out mangrove afforestation in 4140 ha. area across the coast of Gujarat till date. Total expenditure for the same till date is INR 1592.8 lakh. No further mangrove afforestation is pending w.r.t. commitment made with concerned regulatory authority for APSEZ, Mundra project.</p> <p>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</p>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance
	that the current mangrove footprint area would marginally increase in next 15 years due to natural growth. This will enhance the overall biodiversity in the local coastal ecosystem.		mangrove afforestation activities in an area of more than 2800 ha at various locations across the coast of Gujarat state in consultation with various organizations				<p>APSEZ in year 2016-17. The cost of said study was 3.15 Cr, which was incurred by APSEZ.</p> <p>As a part of mangrove conservation plan, APSEZ has done following activities.</p> <ul style="list-style-type: none"> 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 was Rs. 80000 during FY 2023-24. The algal removal report was submitted during the last compliance report submission Oct'23 to Mar'24. d. Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 132.0 Lacs during FY 2024-25 till Sep'24 which was incurred by APSEZ. This activity is being done on continuous basis as a part of CSR activity. <p><u>Summary of Conservation of mangroves:</u></p>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance				
							Mangrove mapping Year	Monitoring Agency	Mangrove cover total Area (Ha.)	Mangrove cover area Increased	
									Hac.	%	
							2011	NCSCM	2094	-	-
						2011 to 2016-17	2340		246	11.75%	
							2017 to 2019 till March	NCSCM	2596	256	10.94%
							2019 to 2021 till March	GUIDE	2723	127	4.89%
							Total		2723	629	--
							<p>Hence, overall increase in mangrove cover area in creek system in and around APSEZ from 2011 (2094 Ha) to 2021 (2723 Ha) is 629 Ha (30%).</p> <p>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.</p>				
							Sr	Recommendations	Compliance		

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance		
							No.		
							1.	Mangrove mapping and monitoring in and around APSEZ	<ul style="list-style-type: none"> • 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 10.94%. • This suggests that the mangroves and 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

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance		
									<p>around APSEZ, Mundra is 502 Ha between 2011 and 2019.</p> <ul style="list-style-type: none"> • The cost of the said study was INR 23.56 Lacs incurred by APSEZ. • According to GUIDE Mangrove monitoring study report November 2023 (the report was submitted during the last compliance report submission Apr'23 to Sep'23), the distribution of mangroves in Kotadi, Baradi mata, Navinal, Bocha and Khari creeks as well as in the Bocha island was studied using LISS IV satellite images for the duration of March 2019 to March 2021. The mangrove cover in the creeks in and around APSEZ showed a positive trend from March 2019 to March 2021, with an overall increase of 52.79 ha (1.9%) compared to the cover during the year 2019. The total mangrove cover during 2019 was 2670 ha which has increased to 2723 ha during the year 2021. • Hence, overall increase in mangrove cover area in creek system in and around APSEZ from 2011 (2094 Ha) to 2021 (2723 Ha) is 629 Ha (30%). • The cost of the said study was INR 23.60 Lacs incurred by APSEZ.

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance																									
									<p>Summary of Mangrove mapping and monitoring (from 2011 to 2021):</p> <table border="1" data-bbox="1635 721 1995 1408"> <thead> <tr> <th data-bbox="1640 721 1740 906" rowspan="2">Mangrove mapping Year</th> <th data-bbox="1740 721 1843 906" rowspan="2">Mangrove cover total Area (Ha.)</th> <th colspan="2" data-bbox="1843 721 1990 808">Mangrove cover area Increased</th> </tr> <tr> <th data-bbox="1843 824 1885 906">Ha. c.</th> <th data-bbox="1885 824 1990 906">%</th> </tr> </thead> <tbody> <tr> <td data-bbox="1640 906 1740 954">2011</td> <td data-bbox="1740 906 1843 954">2094</td> <td data-bbox="1843 906 1885 954">-</td> <td data-bbox="1885 906 1990 954">-</td> </tr> <tr> <td data-bbox="1640 954 1740 1089">2011 to 2016-17</td> <td data-bbox="1740 954 1843 1089">2340</td> <td data-bbox="1843 954 1885 1089">246</td> <td data-bbox="1885 954 1990 1089">11.75 %</td> </tr> <tr> <td data-bbox="1640 1089 1740 1252">2017 to 2019 till March</td> <td data-bbox="1740 1089 1843 1252">2596</td> <td data-bbox="1843 1089 1885 1252">256</td> <td data-bbox="1885 1089 1990 1252">10.94 %</td> </tr> <tr> <td data-bbox="1640 1252 1740 1408">2019 to 2021 till March</td> <td data-bbox="1740 1252 1843 1408">2723</td> <td data-bbox="1843 1252 1885 1408">127</td> <td data-bbox="1885 1252 1990 1408">4.89</td> </tr> </tbody> </table>		Mangrove mapping Year	Mangrove cover total Area (Ha.)	Mangrove cover area Increased		Ha. c.	%	2011	2094	-	-	2011 to 2016-17	2340	246	11.75 %	2017 to 2019 till March	2596	256	10.94 %	2019 to 2021 till March	2723	127	4.89
Mangrove mapping Year	Mangrove cover total Area (Ha.)	Mangrove cover area Increased																														
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S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance							
									Total	2723	629	--		
							2.	Tidal observation in creeks in and around APSEZ	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 Rs. 80000 during FY 2023-24. The algal removal report was submitted during the last compliance report submission Oct'23 to Mar'24. 					
							4.	Awareness of mangroves importance in surrounding communities	<ul style="list-style-type: none"> 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 					

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance	
								<p>green fodder to 25 Villages. Project is covering total 15005 Cattels and hence enhancing cattle productivity. Dry Fodder 10,90,875 Kg Green – 27,64,920 Kg.</p> <ul style="list-style-type: none"> • Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 132.0 Lacs during FY 2024-25 till Sep'24, which was incurred by APSEZ. • Grass Land development: 213 acres of gauchar land has been cleaned and allocated for Grass land development with strong Community Contribution and Mobilization. • 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 24th to 26th July 2024 to raise awareness of the importance of mangrove ecosystems as "a unique, special

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance			
							<table border="1"> <tr> <td></td> <td></td> <td>and vulnerable ecosystem". The report for the same is attached as Annexure - 10.</td> </tr> </table> <ul style="list-style-type: none"> Refer CSR report attached as Annexure - 2. <p>To comply with the GCZMA recommendations regarding mangrove monitoring at every 2 years, presently APSEZ has awarded the work order to NCSCM, Chennai vide order no. 4802055905, dated 24/09/2024 with cost 45.87 Lacs for mangrove mapping in and around APSEZ March 2021 to March 2023. The said work will be undertaken by NCSCM shortly.</p>			and vulnerable ecosystem". The report for the same is attached as Annexure - 10.
		and vulnerable ecosystem". The report for the same is attached as Annexure - 10.								
1.4	Development activities along the coast might cause certain changes in hydro-dynamic characteristics along the		Detailed hydro-dynamic modelling and shoreline change prediction for a fully developed APSEZ facility has	It is recommended to map the coastal morphology (Shoreline) at least once in three years	APSEZ	Continual Process	<p>Shore line change aspect has been studied in detail as part of following two studies;</p> <ul style="list-style-type: none"> Bathymetry & Topography study, preparation of plan for protection of creeks/ mangrove area including buffer zone, mapping of co-ordinates, running length, HTL, CRZ boundary. A Regional Impact Assessment study to identify impacts of all the existing as well as proposed project activities in Mundra region. <p>As per the outcome of these studies, no erosion is observed on the coast of the project area. As part of</p>			

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	<p>shoreline. Shoreline of any area also can be influenced by storm surges and other natural processes.</p>		<p>been studied. The study reveals that the erosion and accretion in the study area at the end of 15th year will be within the designated criteria of ± 0.5 m/year. which reconfirms that the waterfront development activities of APSEZ would pose insignificant impact on the Mundra shoreline.</p>				<p>the Regional Impact Assessment study, the possible changes in shoreline that may occur due to the proposed developments in 10 km area on either side of the waterfront development project have been predicted. It has been inferred from the modelling study that the shift in the shoreline will be less than 0.5 m/year, which reconfirms that the APSEZ facility would pose insignificant impact on the Mundra shoreline. Accretion is observed at South port and at West port due to approved reclamation activities.</p> <p>Based on the study outcome, it is recommended to map the coastal morphology (shoreline change) at least once in three years.</p> <p>Shoreline change study was carried out by M/s. Gujarat Institute of Desert Ecology, Bhuj in 2022 as a part of the Environmental Management Plan (EMP) compliance with the CIA study. The cost of said study was INR 17.39 Lacs.</p> <p>As per GUIDE study, the rate of shoreline changes statistics on a time series of multiple shoreline positions of a totally 43 km coastline stretches (16 km on the west side and 27 km on the east side of Adani main port) on either side of Adani Ports and Special Economic Zone Ltd (APSEZL) has been taken into account for the calculation by using satellite images.</p>

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							<p>As a part of the NGT direction, the shoreline change analysis has been carried out for the years 2015-2022 to study the immediate changes after the commissioning of the port and initiation of the activities (September 2015) for short-term variation for the year 2015-2022 using EPR method has been carried out.</p> <p>The details of the rate of shoreline changes (Short interval time) recorded from 2015 to 2022 are summarized in below table.</p> <table border="1" data-bbox="1398 906 2011 1182"> <thead> <tr> <th rowspan="2">Period</th> <th rowspan="2">Name of the block</th> <th rowspan="2">Average Shoreline Change(M/Year)</th> <th colspan="2">Shoreline Change(M)</th> </tr> <tr> <th>Maximum Accretion</th> <th>Maximum Erosion</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015-2022</td> <td>West Port</td> <td>-11.43</td> <td>39.86</td> <td>-78.68</td> </tr> <tr> <td>Eastern side</td> <td>-26.60</td> <td>191.32</td> <td>-165.19</td> </tr> </tbody> </table> <p>The Shoreline Change Assessment Study report of GUIDE was submitted along with six monthly compliance report for the period Oct'22 to Mar'23.</p> <p>Shoreline change study was carried out by M/s. Chola MS, Chennai (NABET accredited consultant) also as a</p>	Period	Name of the block	Average Shoreline Change(M/Year)	Shoreline Change(M)		Maximum Accretion	Maximum Erosion	2015-2022	West Port	-11.43	39.86	-78.68	Eastern side	-26.60	191.32	-165.19
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							<p>part of Waterfront Development Project – Expansion EIA study. The summary of the said study are as below.</p> <p>To estimate the shoreline change due to the earlier approved waterfront development plan, a historical shoreline change assessment has been undertaken using the satellite imagery for a period of 2008 to 2018. In order to avoid any major errors in estimating the shoreline, the satellite data for similar tidal condition was considered for 2008, 2013 and 2018. AMBUR Methodology was used to study the historical analysis.</p> <p>10 km radius stretch of shoreline on either side of the APSEZ project boundary has been considered for assessing the historical shoreline change scenario. The baseline shoreline change assessment depicts the influence of both natural causes and also possible changes in the shore due to various development activities in the study area during the designated period. For the purpose of this study, shoreline on left side of APSEZ is termed as West Side Shoreline and that of the right side as East Side Shoreline for ease of recognition.</p> <p>The maximum accretion and erosion rate of the west side shoreline over a period of 10 years during the year 2008 – 2018 are observed to be 4.78 m/yr and 1.93 m/yr respectively.</p>

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							The maximum accretion and erosion rate of the east side shoreline over a period of 10 years during the year 2008 – 2018 are observed to be 05 m/yr and 0.82 m/yr respectively.
2	Regional Traffic Management Plan						
2.1	The projected traffic data as per the EIA Report of Multi-Product Special Economic Zone, the peak vehicular traffic from the port and SEZ operations (including supporting facilities and colony) could be in the order of	Level-1	As per the master plan of APSEZ, eight artillery roads will be connected to either state highway or national highway for evacuating the goods from APSEZ. None of these roads are passing through settlements, thereby avoiding traffic Congestions	Additional road as per master plan will be built in future based on the overall progress of the project. Currently about 25% of cargo from APSEZ is transported by Rail and the same will be enhanced to 40% when the facility is fully developed in future. This will further reduce the traffic volumes on the regional road	APSEZ	As and When Required	Presently, ~ 51.7 % of the total SEZ is developed. Based on technical studies, Existing road/rail/conveyer infrastructure facilities are adequate to evacuate the existing cargo. Further, APSEZ's cargo evacuation through rail / conveyer / pipeline has ~59.01 %. Additional Road facilities will be built as per master plan considering future development. The facilities for transportation of cargo other than road will be enhanced considering future development, which will reduce the traffic volumes on the regional road Network.

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	<p>18,300 and 10,400 vehicles per day respectively .</p> <p>There could be a possible increase in traffic congestions on village-highway intersections and road accidents.</p>		<p>in the respective villages. The carrying capacity of the eight artillery roads connecting APSEZ is estimated to be about 16,000 PCU/hr as against the envisaged peak traffic volume of 4,500 PCU/hr.</p> <p>Out of eight artillery roads considered in APSEZ master plan, seven roads</p>	network.			

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			were already developed and functional.				
			APSEZ has been imparting Driver Training Programs to all their contractors to enhance awareness on road safety.	APSEZ can undertake technical feasibility of implementing Intelligent Transport System (ITS) for the freight carriers associated with their development activities.	APSEZ & GSRDC*	Long Term	<p>APSEZ is being imparting the regular in-house training awareness program in different mode i.e., classroom, on-job training, virtual platform & Assessment by internal & external trainer to all drivers and employees on below topics:</p> <ul style="list-style-type: none"> ✓ Basic induction Training for drivers ✓ ITV Driver Training ✓ ITV Driver Induction for Supervisor ✓ Defensive Driving for LMV & HMV ✓ Defensive Driving & BBS ✓ Driver Assessment ✓ Road accident & rescue ✓ Traffic Management & Road Signage ✓ Driving safety training ✓ RORO Driver training ✓ Road Safety ✓ Defensive Driving & Emergency Action Plan ✓ Drivers Responsibilities & Safe driving ✓ Emergency Rescue (Vehicle) Training <p>Approx. 1865 Participants (On roll and contractual manpower) were benefitted from above trainings in compliance period Apr'24 to Sep'24. The same will be continued in future also.</p>

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							<p>APSEZ has also implemented the Remote traffic management system (RTMS) to manage the traffic movements and capturing the violations to further improve the system.</p> <p>Following steps were taken by APSEZ to reduce the accidents.</p> <ul style="list-style-type: none"> ✓ Handling and escorting of the ODC for ensuring the smooth movement on the roads. ✓ Traffic Awareness programs for the drivers and regular briefing of the drivers in the parking areas. ✓ Incident handling and root cause analysis for taking necessary action in order to avoid such incidents. ✓ BAC checks for the drivers in order to identify the intoxicated drivers and necessary action is being taken against them. ✓ Water spray drive at gates are being conducted on regular basis during night hours to avoid dozing by the driver while driving. ✓ RTMS devices are being installed at 08 critical locations in order to capture speed violations and enforcing road safety regulations. ✓ Display of traffic signages and lane markings on road in coordination with the Civil team for ensuring road safety rules are being followed by the road users.

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							<ul style="list-style-type: none"> ✓ We have approx. 100+ cameras which are being utilized for monitoring of traffic movement through CCTV and timely response in order to avoid any congestion and during traffic incidents. ✓ Regular traffic checks by Traffic Marshalls in order to ensure road safety rules (Wearing seat belt/Wearing helmet/Carrying driving license/Speed checks/Documents) is being followed by the drivers. ✓ Installation of Road furniture's (Cones/Water filled barriers/Cats eye/Spring Posts/Jersey Barriers) for lane segregation, Channelizing the traffic, at Junctions and indicating Caution for the road users. ✓ In case on any Vehicle found breakdown in main roads, we arrange the security crane / lifting machines to remove /relocated the vehicle. Which help for smooth passage to other vehicles. ✓ Ensuring Drivers must wear near necessary PPEs, for that we have arranged a PPE's Stall at APMS parking area (issued on chargeable basis). ✓ Night Patrolling and PA announcement by Traffic DSO to manage traffic condition. ✓ Safety briefing via PA system at Security Gate.
3	Water resources Management and sewage treatment & disposal Plan						
3.1	For a fully developed APSEZ facility,	No-Impact	APSEZ is meeting the current water	As per the master plan and permissions granted under	APSEZ	As and When Required	Presently there are two fresh water sources available with APSEZ. Desalination Plant – 47 MLD

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	water demand will be in the order of 4,30,000 m ³ /day (430 MLD). APSEZ will be sourcing majority of the water from the captive desalination plants, which will be developed in progressive manner.		demand through Narmada water supply scheme and 47 MLD captive desalination plant at site. Necessary water allocation from concerned authorities was obtained and the same will be renewed from time to time as per the directions of state government.	EC, APSEZ will be developing progressively 4,50,000 m ³ /day (450 MLD) of desalination plants to meet the future demand. Hence stress on regional water resources due to these developmental projects will be less significant.			<p>Gujarat Water Infrastructure Limited (GWIL) – 9 MLD (sanctioned capacity).</p> <p>Current water demand for APSEZ along with SEZ industries including Adani Power Plant is an avg. of 28.78 MLD.</p> <p>So presently, these sources are adequate to fulfill the current freshwater requirement of entire APSEZ including member units.</p> <p>The desalination plant of additional capacities will be installed on modular basis considering future requirement of APSEZ.</p>
3.2	Existing water demand in	Level-2	Adani Foundation has been	Adani Foundation is planning to	APSEZ and CGWB*	Long Term	Water needs of APSEZ is being met through existing Desalination Plant of APSEZ and GWIL which may be further enhanced on modular basis. At present Ground

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	<p>the Mundra taluk is estimated as 8500 m³/day (@55 lpcd) and the potable and sanitation water needs would increase to 37,000 m³/day (@125 lpcd) in future when the area is fully grown into larger municipality due to induced economic growth. Water demand of the local</p>		<p>contributing to various watershed development projects in the Mundra region to enhance ground water resources in the area. Adani Foundation has contributed about Rs. 300 Lakhs so far for the development of 18 check dams.</p>	<p>implement the various water resource conservation programs in next ten years under various schemes.</p>			<p>water is not utilized for any activities within APSEZ.</p> <p>However various works are being carried out by Adani Foundation continuously under Water Conservation Work to achieve water security in Mundra region by Adani Foundation. Following works are carried out as a part of water conservation work since April – 2018.</p> <p>Water conservation Projects i.e. Roof Top Rainwater 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.</p> <p>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.</p> <p>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.</p> <p><u>WORK COMPLETED:</u></p> <p>Water Conservation Projects completed during last Compliance period:</p>

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	communities is met through Narmada water supply system to some extent, but largely depending on the groundwater in the study area. Mundra block is reported to be a safe ground block as on date. Due to influx of people and rapid urbanization due to the economic						<p>Water Conservation Projects:</p> <p>Swajal Project:</p> <ul style="list-style-type: none"> > Aim: The Foundation's Water Conservation program, SWAJAL, is aimed at addressing the alarming depletion of groundwater levels and reduction in water sources in various parts of Kutch district. > Water Security Plan: Due to arid climatic characters of the Kutch region, it is essential to plan for water security drinking and livelihood purposes. Considering weather condition, rainfall characters, geohydrological condition and water demand, water security plan has been prepared for the Seven villages. <table border="1"> <thead> <tr> <th>Block Name</th> <th>Water conservation structure</th> <th>Total no. of Structure</th> <th>Total Capacity Created (CUM)</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Mundra</td> <td>Check Dam</td> <td>23</td> <td>6,07,332.80</td> </tr> <tr> <td>Pond Deepening</td> <td>66</td> <td>1,89,121.08</td> </tr> <tr> <td>RRWHS</td> <td>275</td> <td>2750</td> </tr> <tr> <td>Recharge Borewell</td> <td>209</td> <td>-</td> </tr> <tr> <td>Percolation Well</td> <td>24</td> <td>-</td> </tr> </tbody> </table> <p>Earlier Completed Activities/Projects:</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Project</th> <th>Unit</th> <th>Outcome</th> <th>Impact</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Check dam Restrengtheni</td> <td>1</td> <td>Water Storage Capacity</td> <td>60 + farmer's 120+Acre Area of</td> </tr> </tbody> </table>	Block Name	Water conservation structure	Total no. of Structure	Total Capacity Created (CUM)	Mundra	Check Dam	23	6,07,332.80	Pond Deepening	66	1,89,121.08	RRWHS	275	2750	Recharge Borewell	209	-	Percolation Well	24	-	Sr. No.	Project	Unit	Outcome	Impact	1	Check dam Restrengtheni	1	Water Storage Capacity	60 + farmer's 120+Acre Area of
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	development, there could be some stress on the ground water resources in future.						<table border="1"> <tr> <td data-bbox="1390 565 1453 678"></td> <td data-bbox="1453 565 1612 678">ng-Nana Kapaya</td> <td data-bbox="1612 565 1675 678"></td> <td data-bbox="1675 565 1814 678">increased by 48000 Cum</td> <td data-bbox="1814 565 2022 678">Agri land can be Irrigated</td> </tr> <tr> <td data-bbox="1390 678 1453 841">2</td> <td data-bbox="1453 678 1612 841">Recharge Borewell</td> <td data-bbox="1612 678 1675 841">21</td> <td data-bbox="1675 678 1814 841">Reduce Salinity ingress, and preventing water run</td> <td data-bbox="1814 678 2022 841">150+ farmer's 260+ Acre Area of Agri land for Irrigated</td> </tr> <tr> <td data-bbox="1390 841 1453 979">3</td> <td data-bbox="1453 841 1612 979">Pipe Culvert at Checkdam at Bhujpur</td> <td data-bbox="1612 841 1675 979">1</td> <td data-bbox="1675 841 1814 979">prevent water runoff into seaside.</td> <td data-bbox="1814 841 2022 979">35 farmers' 120+Acre Area of Agri land can be Irrigated</td> </tr> </table> <ul style="list-style-type: none"> • 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 66 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 liter storage which is sufficient for one year drinking water purpose for 5 people family. 		ng-Nana Kapaya		increased by 48000 Cum	Agri land can be Irrigated	2	Recharge Borewell	21	Reduce Salinity ingress, and preventing water run	150+ farmer's 260+ Acre Area of Agri land for Irrigated	3	Pipe Culvert at Checkdam at Bhujpur	1	prevent water runoff into seaside.	35 farmers' 120+Acre Area of Agri land can be Irrigated
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							<ul style="list-style-type: none"> 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. <p>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.</p> <p>Adani foundation has spent approx. INR 8824.17 lakhs from April – 2018 to September– 2024 for CSR activities which also includes water conservation projects as mentioned above.</p>
3.3	It is estimated that about 60,000 m ³ /day (60	No Impact	Seven sewage treatment plants with an aggregate	APSEZ is permitted to develop decentralized sewage	APSEZ	As and When Required	Current installed capacity of wastewater treatment plants is 6.255 MLD (ETP, STPs & CETP) for treatment of effluent & sewage generated at various locations of APSEZ excluding wastewater treatment plants installed within indivial member units.

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	MLD) of sewage will be generated from the APSEZ facility when the project is fully developed.		capacity of 3.1 MLD have already built at APSEZ. Treated sewage is utilized for greenbelt development and sewage is not discharged into either seasonal natural streams or marine environment.	treatment plants of total 62 MLD capacities. Existing sewage treatment facilities will be augmented progressively based on the development at APSEZ in future. Similar to existing practices, treated sewage will be utilized for greenbelt development.			<p>Out of 46 only 4 operational industries within the SEZ are sending their partially treated industrial as well as domestic effluent to the CETP confirming to CETP inlet norms for further treatment and final disposal. Other SEZ industries have their own STPs / ETPs for treatment of wastewater generated from their industrial operation and discharging the treated water on land for horticulture purpose within their premises as per specific permission granted by SPCB.</p> <p>APSEZ also granted permission to treat 2.5 MLD of sewage generated from Mundra village through CETP and STP.</p> <p>Presently avg. 2.52 MLD of wastewater (into ETP, STPs & CETP) is treated and being utilized on land for horticulture purpose within APSEZ premises during Apr'24 to Sep'24. Existing wastewater treatment plants are adequate to treat and handle the total effluent / sewage load considering current development.</p> <p>Existing wastewater treatment facilities will be augmented, or new plants will be developed on modular basis considering future requirement.</p>
4	Air quality management Plan						
4.	Although all		APSEZ and	All existing and	APSEZ	Continual	APSEZ has been granted requisite permissions from

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1	the regulated activities in the study area will be adopting promulgated emission norms, total air emission mass discharge from the study area would increase.	Level-2	other thermal power plants have obtained valid consent to operate and have been operating the facilities as per the emission norms stipulated in respective consent orders. APSEZ and other two power plants are monitoring the ambient air quality on regular intervals as per	new industrial establishments will obtain requisite consents from GPCB and adhere to the stipulated emission norms regulations and guidelines issued by authorities from time to time.	And Other Industries	Process	<p>the concerned authorities with stipulated norms for air emission (flue gas as well as ambient air).</p> <p>Ambient Air Quality monitoring is being carried out by NABL accredited and MoEF&CC authorized agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi for APL as per NAAQ standards, 2009. Stack emission monitoring is also being carried out on regular basis. Reports of the same are being submitted to the concerned authorities on regular basis.</p> <p>Adani power plant has installed continuous emission and air quality monitoring instruments as per CPCB Directive and submitting the reports also. Another power plant of CGPL is outside APSEZ area.</p> <p>The AAQM summary for last six months (Apr'24 to Sep'24) are as below.</p> <p>Locations: 18 Nos. (APSEZ – 15 + APL – 3 including 4 villages) Frequency: Twice in a week</p> <table border="1"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>Min</th> <th>Max</th> <th>Average</th> <th>Per m. Limit^s</th> </tr> </thead> <tbody> <tr> <td>PM₁₀</td> <td>µg/m³</td> <td>30.61</td> <td>87.52</td> <td>64.53</td> <td>100</td> </tr> </tbody> </table>	Parameter	Unit	Min	Max	Average	Per m. Limit ^s	PM ₁₀	µg/m ³	30.61	87.52	64.53	100
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PM ₁₀	µg/m ³	30.61	87.52	64.53	100														

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			GPCB/CPCB guidelines and the data is analyzed and presented to GPCB on monthly basis. Both the thermal power plants located within the study area have installed continuous emission and air quality monitoring instruments as per CPCB directive.				<table border="1" data-bbox="1398 570 2013 735"> <tr> <td>PM_{2.5}</td> <td>µg/m³</td> <td>12.84</td> <td>44.72</td> <td>26.20</td> <td>60</td> </tr> <tr> <td>SO₂</td> <td>µg/m³</td> <td>7.13</td> <td>40.42</td> <td>19.17</td> <td>80</td> </tr> <tr> <td>NO₂</td> <td>µg/m³</td> <td>9.63</td> <td>44.27</td> <td>22.82</td> <td>80</td> </tr> </table> <p>⁵ as per NAAQ standards, 2009 Values recorded confirms to the stipulated standards.</p> <p>Approx. INR 6.11 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2024-25 till Sep'24, which also includes ambient air quality monitoring for overall APSEZ, Mundra.</p> <p>Other industries located within the SEZ have obtained requisite permissions from the competent authorities for their respective plant and they also carried out environmental monitoring within their premises to comply with the permission granted. The same has been ensured by APSEZ as well as SPCB during their regular visits. APSEZ carries out regular visits/inspections of member industries within SEZ and last visit was conducted during September, 2024 for EMS & compliance verification. During compliance verification, it was verified that monitoring of air emission was well within the permissible standards based on analysis reports. Same will be continued in future also.</p>	PM _{2.5}	µg/m ³	12.84	44.72	26.20	60	SO ₂	µg/m ³	7.13	40.42	19.17	80	NO ₂	µg/m ³	9.63	44.27	22.82	80
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							The monitoring reports of industries within SEZ are also being submitted to the regulatory authorities as a part of half yearly Compliance report of EC for Multi-Product SEZ.
				A common air quality management committee may be framed under the guidance of the State Pollution Control Board and district administration to manage regional level emission inventory data that can help to manage regional level air quality management goals.	APSEZ and Other Industries, Stakeholders, District Administration and GPCB*	Long Term And Continual	<p>APSEZ will co-operate and comply with the directions from concerned regulatory authorities for air quality management within APSEZ area. However, at present, APSEZ has formed Internal Environment Monitoring Committee, involving officials from APSEZ, Adani Power Limited and other SEZ member units with following role and responsibilities:</p> <ul style="list-style-type: none"> • Identification of sources of air & noise emission and its dispersion in surrounding villages • Remedial measures to eliminate, control, reduce or capture air & noise emission. • Identify available resource to abate the air and noise emission. • Required additional resources for control of air and noise emission. • Drinking water and its testing of all the available fresh water sources in surrounding villages • Identify any surrounding villages affected by organization's improper waste disposal mechanism. <p>Last committee meeting was conducted on dated 20.11.2024 and below was the point of discussion for way forward.</p>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance
							<ul style="list-style-type: none"> • Brief introduction about the Environment Management Plan (EMP) • All members conveyed his environment management practices, issue & suggestions. • Discussed about the various ways to improve existing practice to control the emission in terms of Air, Water and Noise. • Discussed about the proper management of the canteen waste. • Discussed about the cleaning of outside of the SEZ units. • Discussed about the management of rain water & proper cleaning of the common storm water drainage system. • Discussed about proper segregation & disposal of solid waste material. • Discussed about to increase more green belt area inside plant premises of SEZ units. • Discussed about disposal of minor qty. of generated hazardous waste & E-waste materials at authorized recycler/vendor. <p>APSEZ and all the industries within SEZ are complying to NAAQS and same is being ensured by APSEZ. The monitoring reports of industries within SEZ are being submitted to the regulatory authorities as part of half yearly Compliance report of EC for Multi-Product SEZ.</p>
	Release of		APSEZ has				Following safeguard measures are taken by APSEZ for

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4.2	particulate emissions from handling and storage of coal at the port and power plants would influence PM10 and PM2.5 concentration in the background air. This could pose some health impacts such as asthma and COPD etc. among the local communities.	Health Impact	been implementing the following management plan to control emissions as per the applicable regulations and similar practices will be adopted in future: Entire bulk material handling facilities are mechanized. Regular water sprinkling on road and other open areas, regular cleaning of	All industries located in the APSEZ shall adhere to the emissions norms and minimum stack height guidelines issued by CPCB and consent to operate issued by Gujarat Pollution Control Board from time to time.	APSEZ and Other Industries	Continual Process	<p>abatement of dust emissions.</p> <ul style="list-style-type: none"> Adequate stack heights to the Boilers, D.G. Sets, TFHs & HWGs for proper dispersion of pollutants within APSEZ Using of liquid & Gaseous fuels instead of solid fuels in Boilers, Thermic fluid heaters and hot water generators. Regular sprinkling on road and other open area Regular cleaning of roads Dry fog Dust Suppression System (DSS) in hopper, transfer towers and conveyor belts Use of water mist canon Closed type conveyor belts Regular sprinkling on coal heaps Covering other types of dry bulk cargo heaps Installation of wind breaking wall Development of greenbelt along the periphery of the storage yards/back up area Mechanized handling system for coal and other dry bulk cargo Wagon loading and truck loading through closed silo Optimized the weigh bridge location to reduce the movement of trucks. <p>Adequate air pollution control measures like ESPs,</p>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance																								
			roads, dry fog dust suppression systems (DSS) in hoppers, transfer towers and conveyor belts, use of water mist canon, covered conveyor belts, regular sprinkling on coal heaps,				<p>FGDs, Bag Filters, etc. and adequate stack heights provisions are implemented within the thermal power plant.</p> <p>The stack monitoring summary for last six months (Apr'24 to Sep'24) are as below.</p> <p>Total Nos. of Stacks: 23 Nos. Frequency: Monthly / Half Yearly</p> <table border="1" data-bbox="1398 841 2011 1060"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>GPCB Limit</th> <th>Min</th> <th>Max</th> <th>Avrg.</th> </tr> </thead> <tbody> <tr> <td>PM</td> <td>mg/Nm³</td> <td>150</td> <td>16.11</td> <td>28.19</td> <td>20.61</td> </tr> <tr> <td>SO₂</td> <td>Ppm</td> <td>100</td> <td>5.80</td> <td>16.24</td> <td>8.55</td> </tr> <tr> <td>NO_x</td> <td>ppm</td> <td>50</td> <td>17.31</td> <td>32.26</td> <td>21.65</td> </tr> </tbody> </table> <p>Values recorded confirms to the stipulated standards.</p> <p>Approx. INR 6.11 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2024-25 till Sep'24, which also includes ambient air quality monitoring for overall APSEZ, Mundra.</p> <p>All other industries located within SEZ are adhere to provide adequate stack height and pollution control measures for proper dispersion of pollutants as per respective permissions granted by the board. The same is being inspected and ensured by APSEZ as well as</p>	Parameter	Unit	GPCB Limit	Min	Max	Avrg.	PM	mg/Nm ³	150	16.11	28.19	20.61	SO ₂	Ppm	100	5.80	16.24	8.55	NO _x	ppm	50	17.31	32.26	21.65
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			covering of other types of dry bulk cargo heaps by protective materials, installation of wind breaking wall, development of greenbelt along the periphery of the storage yards/back up area and mechanized handling system for coal and other dry bulk cargo and Wagon loading and truck loading	An internal Coal Dust Management Working Group shall be formed by APSEZ to effectively co-ordinate the approach to coal dust management and monitoring	APSEZ and Other Industries, Concerned Stake holders, District Administration*	Long Term	<p>SPCB officials on regular basis.</p> <p>As mentioned above, earlier APSEZ has formed Internal Environment Monitoring Committee, involving Officials of APSEZ, Adani Power Limited & other member units, with specific role and responsibilities as defined above.</p> <p>The dry cargo is being handled by mechanized system and transported by covered conveyer system, trucks and rail wagons.</p> <p>Wind breaking wall is provided around the coal storage yards of APSEZ as well as Adani Power Plant.</p> <p>Adequate air pollution control measures like ESPs, FGDs, Bag Filters, etc. and adequate stack heights provisions within the thermal power plant for proper dispersion of pollutants.</p> <p>Green belt / plantation is provided around the periphery of dry cargo storage area and regular water sprinkling is also being done to abate the dust emission from coal hips.</p> <p>Last committee meeting was conducted on dated 20.11.2024 and below were the points of discussion for way forward.</p> <ul style="list-style-type: none"> Brief introduction about the Environment Management Plan (EMP)

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			<p>through closed silo. Both thermal power plants in the study area have installed electrostatic precipitators on the boilers and are meeting the emission norms as per the respective ECs granted. Due to installation of tall stacks as per CPCB guidelines and EC conditions, the relative air pollution impacts due to release</p>				<ul style="list-style-type: none"> • All members conveyed his environment management practices, issue & suggestions. • Discussed about the various ways to improve existing practice to control the emission in terms of Air, Water and Noise. • Discussed about the proper management of the canteen waste. • Discussed about the cleaning of outside of the SEZ units. • Discussed about the management of rain water & proper cleaning of the common storm water drainage system. • Discussed about proper segregation & disposal of solid waste material. • Discussed about to increase more green belt area inside plant premises of SEZ units. • Discussed about disposal of minor qty. of generated hazardous waste & E-Waste materials at authorized recycler/vendor.

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			of emissions from two power plants is insignificant.				
4.3	Ships are one of the significant sources of SO ₂ and NO _x emissions in the study area. Marine diesel engines on the ships often utilize fuel oils that might contain higher sulphur content. As per the international best practices,	Level-2	A Standard Operating Procedure (SOP) has been developed to be included as a part of APSEZ environment management plan to verify that all ships anchored at the port are adopting the MARPOL4 regulations.	The current global limit for Sulphur content of ships fuel oil is 3.5 % m/m (mass by mass). According to MARPOL, the new global cap on sulphur in the marine vessel fuels will be 0.50% m/m by the 1st January 2025. APSEZ should explore the possibility of providing shore power to the ships at the port to reduce idling	APSEZ and Ship Owners	Long Term	The ships coming to the APSEZ is complying with MARPOL and other shipping rules and regulations. APSEZ has already started providing shore power supply to the tugs (11 Nos.), dredgers (2 Nos.) and barges (1 No.). The feasibility of shore power will be explored and implemented on large scale for the visiting vessels to reduce idling stage ship emissions.

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	<p>these marine diesel engines are designed to meet MARPOL regulations with NOX emissions less than 14.4 gram/Kwh of engine. Due to lower stack heights of the marine diesel engine, ship emissions often gets dispersed in the local environment and might pose risk of fumigation</p>			<p>stage ship emissions.</p>			

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	during the early morning and evening hours due to atmospheric inversion break-up periods.						
4.4	Road vehicle emissions will be other major contributors to the air pollution in the region when the facility is fully developed.	Level-2	Not Applicable	Due to implementation of Bharat VI fuels (MoEF&CC) in near future the vehicular and diesel engine emissions will be reduced by about 50% from the current national levels. APSEZ should develop a robust contractor environmental policy to ensure that Bharat Stage VI	APSEZ and All Industries	Short Term	<p>Presently, cargo evacuation through rail / conveyer / pipeline is ~59.01 % of overall cargo evacuation.</p> <p>Vehicles having valid PUC certificate are only being allowed to enter within APSEZ area.</p> <p>APSEZ, has procured 217 nos. of Electrical Vehicle for internal cargo movement and 183 nos. E-ITV's are in operation.</p> <p>As well as procured 10 nos. LMV E-Vehicles for manpower movement and all are in operation.</p> <p>Electrification of Rail Corridor from Dhrub Railway Station to Adipur Railway Station has completed and movement started by electric locomotive. It will leads to reduce the gaseous emission and increase efficiency of transportation by rail.</p>

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				emission norms are adopted by all their contractors and sub-contractors.			
5	Noise emissions						
5.1	Noise emissions are envisaged from port operations, industrial operations and power plants in the study area. Any increase in noise levels beyond three decibels from the background	Level-1	Due to adoption of various mechanized operations at the waterfront development, the noise emissions from the port cargo handling will be minimal. An adequate greenbelt is being developed by APSEZ to further reduce any	APSEZ, all the tenant industries and facilities within APSEZ are required to undertake noise monitoring at their facilities to demonstrate the compliance with the Noise level standards. Continuous noise recording units can be installed by APSEZ at facility boundary to address the community grievances, whenever	APSEZ	Continual Process	<p>Below Safeguard measures are already taken for abatement of noise emissions.</p> <ul style="list-style-type: none"> • Development of greenbelt along the periphery of the operational area. • D.G. Sets having Acoustic enclosures. • Maintenance of plant machineries and equipment's on regular frequency. <p>Noise monitoring is being carried out by NABL accredited and MoEF&CC authorized agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi as per permission granted and reports are being submitted to the concerned authorities on regular basis.</p> <p>The noise monitoring summary for last six months (Apr'24 to Sep'24) are as below.</p> <p>Locations: 15 Nos. Frequency: Once in a month (24 hourly)</p>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude ¹	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance																							
	levels would be perceived as noise nuisance (USEPA)7.		residual impacts due to noise emissions from the facility. Periodic noise level monitoring programs were adopted by APSEZ. Predicted noise levels were found to be well within the designated noise standards for Industrial facilities.	required. To assess the overall site wide compliance and also to address any community grievances related to noise issues due to operation of APSEZ facilities.			<table border="1" data-bbox="1398 573 2018 849"> <thead> <tr> <th>Noise</th> <th>Unit</th> <th>Leq Min</th> <th>Leq Max</th> <th>Leq Avr.</th> <th>Leq Permissible Limits</th> </tr> </thead> <tbody> <tr> <td>Day Time</td> <td>dB(A)</td> <td>57.90</td> <td>69.60</td> <td>64.42</td> <td>75</td> </tr> <tr> <td>Night Time</td> <td>dB(A)</td> <td>52.60</td> <td>64.80</td> <td>61.21</td> <td>70</td> </tr> </tbody> </table> <p style="text-align: right;">[§] as per GPCB standards</p> <p>Approx. INR 6.11 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2024-25 till Sep'24, which also includes ambient air quality monitoring for overall APSEZ, Mundra.</p> <p>All the results are well within the standards. From this it can be inferred that there no impacts on the surrounding community.</p> <p>All other industries located in the APSEZ are adhere to monitor and control the ambient noise level as per permission granted by SPCB and same is being confirmed by APSEZ as well as SPCB on regular basis.</p> <p>Further, till date APSEZ has not received any grievances/notice for noise issues from any of the stakeholders.</p>						Noise	Unit	Leq Min	Leq Max	Leq Avr.	Leq Permissible Limits	Day Time	dB(A)	57.90	69.60	64.42	75	Night Time	dB(A)	52.60	64.80	61.21	70
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				<p>In order to address the public grievances related to noise from the facility, an internal Noise Management Committee can be formed by APSEZ to investigate the root cause and to develop and implement noise mitigation plans in the specific zones.</p>	APSEZ	Continual Process	<p>As mentioned above, earlier APSEZ has formed Internal Environment Monitoring Committee, involving Officials of APSEZ, Adani Power Limited & other member units, having role and responsibilities as defined above.</p> <p>Last committee meeting was conducted on dated 20.11.2024 and below were the point of discussion for way forward.</p> <ul style="list-style-type: none"> • Brief introduction about the Environment Management Plan (EMP) • All members conveyed his environment management practices, issue & suggestions. • Discussed about the various ways to improve existing practice to control the emission in terms of Air, Water and Noise. • Discussed about the proper management of the canteen waste. • Discussed about the cleaning of outside of the SEZ units. • Discussed about the management of rain water & proper cleaning of the common storm water drainage system. • Discussed about proper segregation & disposal of solid waste material. • Discussed about to increase more green belt area inside plant premises of SEZ units.

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							<ul style="list-style-type: none"> Discussed about disposal of minor qty. of generated hazardous waste & E-Waste materials at authorized recycler/vendor. <p>No grievance received for noise related issues, and it is observed that ambient noise level are well within the permissible standards.</p>
6	Surface water quality (Terrestrial and Marine)						
6.1	In general, release of untreated wastewater from industrial facilities would pose threat to water quality of streams, estuaries and marine water bodies.	Level -1	As per the master plan of APSEZ, 67 MLD of wastewater is expected to be generated from the fully developed project scenario, for which necessary permissions to set up decentralized CETPs of various capacities	As per the master plan of APSEZ, the existing CETP shall be augmented to 67 MLD in progressive manner based on the future demand. The facility should limit the marine discharge of treated industrial wastewater to 16 MLD as per the permits. Remaining treated wastewater shall	APSEZ	As and When Required	<p>APSEZ has installed Common Effluent Treatment Plant (CETP) having 2.5 MLD capacities for treatment of partially treated effluent and sewage generated from industries within SEZ.</p> <p>Currently, CETP receives 963.72 KLD (Avg.) during this compliance period hydraulic load and considering the current development scenario, existing CETP is adequate to treat and handle the total effluent load coming from industries within SEZ.</p> <p>Out of 46 operational units only 4 industries within SEZ are sending their partially treated industrial as well as domestic effluent to the CETP confirming CETP inlet norms for further treatment and final disposal. Other industries within SEZ have their own STPs / ETPs for treatment of wastewater generated from their industrial operation and discharging the treated water on land for horticulture purpose within their premises as per permission granted by SPCB.</p>

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			<p>are already obtained. Presently a CETP capacity of 2.5 MLD is in place. Presently member units treat their effluents to meet the CETP inlet norms and then send it to CETP. Treated wastewater from CETP meets the stipulated discharge norms for utilization for greenbelt development within the</p>	<p>be utilized for horticulture purpose.</p>			<p>The capacities of CETP will be enhanced on modular basis as per future requirement.</p> <p>Presently avg. 2.52 MLD (from CETP, ETP & STPs) of treated water is being utilized on land for horticulture purpose within APSEZ premises during period Apr'24 to Sep'24 and no discharge is made to any other source.</p>

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			APSEZ areas.				
			Online wastewater quality monitoring systems are installed at CETP to ensure quality of treated effluent meets the requisite discharge norms. No wastewater from CETP is discharged into natural bodies as on date..	Efforts shall be made to recycle complete treated wastewater for port operations and industrial operations of APSEZ in future based on a detailed techno-economic feasibility study.	APSEZ	Based on outcome Techno-feasibility Study	Online continuous effluent monitoring system (CEQMS) installed at the discharge point of CETP to track any deviation from discharge norms. CEQMS is connected with CPCB/GPCB server & data is continuous transferring in both servers. Presently entire quantity of treated water from CETP is used for gardening / horticulture purpose within APSEZ premises.
			Runoff during monsoon from coal storage yards is	Storm water runoff from the facility during the first rain shall be sampled and analyzed for the	APSEZ	Continual	There are provision of drains around coal stack yard to carry to runoff water to dump ponds. This water is either used for dust suppression or after sedimentation (to remove residual dust), is allowed disposal to sea. Presently Marine monitoring is being carried out once

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			collected in sedimentation ponds (dump pond) to remove any residual dust particulates for further disposal into sea	presence of heavy metals or other criteria pollutants to adopt corrective and preventive actions to protect the marine water quality. All red and hazard category industry within APSEZ shall adopt spill prevention and control program and no effluents shall be discharged into storm water-drains.			<p>in a month by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi for APSEZ & APL both. The analysis reports of the same are being submitted to the concerned authorities on regular basis.</p> <p>The marine water quality monitoring summary for last six months (Apr'24 to Sep'24) is as per below.</p> <p>Locations: 14 Nos. (APSEZ – 9 + APL – 5) Frequency: Once in a Month / Half Yearly</p> <table border="1" data-bbox="1398 899 2013 1354"> <thead> <tr> <th rowspan="2">TEST PARAMETERS</th> <th rowspan="2">UNIT</th> <th colspan="3">Cumulative Surface</th> <th colspan="3">Cumulative Bottom</th> </tr> <tr> <th>Min</th> <th>Max</th> <th>Average</th> <th>Min</th> <th>Max</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>pH</td> <td>--</td> <td>7.91</td> <td>8.30</td> <td>8.16</td> <td>7.74</td> <td>8.30</td> <td>8.11</td> </tr> <tr> <td>BOD</td> <td>mg/L</td> <td>2.20</td> <td>4.40</td> <td>3.13</td> <td>BDL(MDL:1.0)</td> <td>4.50</td> <td>3.04</td> </tr> <tr> <td>TSS</td> <td>mg/L</td> <td>26.90</td> <td>144.00</td> <td>90.12</td> <td>32.90</td> <td>132.00</td> <td>84.64</td> </tr> <tr> <td>DO</td> <td>mg/L</td> <td>4.50</td> <td>6.69</td> <td>5.62</td> <td>4.40</td> <td>6.49</td> <td>5.42</td> </tr> <tr> <td>Salinity</td> <td>ppt</td> <td>35.20</td> <td>39.20</td> <td>36.46</td> <td>26.76</td> <td>39.40</td> <td>36.91</td> </tr> </tbody> </table>	TEST PARAMETERS	UNIT	Cumulative Surface			Cumulative Bottom			Min	Max	Average	Min	Max	Average	pH	--	7.91	8.30	8.16	7.74	8.30	8.11	BOD	mg/L	2.20	4.40	3.13	BDL(MDL:1.0)	4.50	3.04	TSS	mg/L	26.90	144.00	90.12	32.90	132.00	84.64	DO	mg/L	4.50	6.69	5.62	4.40	6.49	5.42	Salinity	ppt	35.20	39.20	36.46	26.76	39.40	36.91
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DO	mg/L	4.50	6.69	5.62	4.40	6.49	5.42																																																						
Salinity	ppt	35.20	39.20	36.46	26.76	39.40	36.91																																																						

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Temperature	o C	29.00	30.70	29.90	28.90	30.60	29.71																
			Detailed marine hydrodynamic modelling studies revealed that the current and proposed dredged soil disposal practices, sea water intake and outfall facilities and desalination	Good dredging practices shall be adopted by APSEZ: (i).Improving the dredging accuracy (ii).Improving onboard automation and monitoring, (iii). Reduce spill and loss, (iv). evaluating the need for installing silt screens near mangrove areas	APSEZ	Long Term	<p>No capital dredging has been done, since Apr 2015. Dredged material generated during maintenance dredging is being disposed at designated locations within deep sea as identified by NIO.</p> <p>Dredging Management plan is adopted for carrying out dredging and management of dredge material. Presently there are 3 nos. (2 Nos. Cutter suction + 1 No. Trailer suction) of dredgers are in operation for dredging.</p> <p>Marine monitoring 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. The analysis reports of the same are being submitted to the concerned authorities on regular basis. Summary of marine water for the last six months is as</p>																

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			plant outfall etc. have shown insignificant impact on the marine eco-system. As part of the comprehensive environmental monitoring program, APSEZ has been adopting marine water and sediment quality monitoring on monthly basis.	during the dredging phase operations, (v). Environment friendly dredging activities can be undertaken in such a way that the overall turbidity levels near the mangrove and ecologically sensitive zones shall not exceed 100 NTU or 200 mg/l of TSS (10% lethal level of fish) Existing marine monitoring program shall be continued as per the directions of MoEF&CC and GPCB.			mentioned above. The same practice will be continued in future also as per direction by MoEF&CC as well as GPCB. Monitoring will be focused near ecological sensitive area in case of need to carryout capital dragging near such areas.
7	Groundwater quality and salinity ingress						
	While		APSEZ is not	A dedicated			Present source of water for various project activities is

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7.1	Mundra block is enjoying safe ground water status as on date (based on the data published by CGWB), due to induced economic and population growth, use of ground water resources by the local people might increase in Mundra region. This might increase the TDS and	Level-2	utilizing ground water for any type of use. APSEZ is meeting the current water demand through Narmada water supply scheme and 47 MLD captive desalination plant at site.	desalination plant of capacity 4,50,000 m ³ /day (450 MLD) will be developed in progressive manner to meet the APSEZ requirements.	APSEZ	As and When Required	desalination plant of APSEZ and/or through Gujarat Water Infrastructure Limited (GWIL) and same is sufficient to meet the present water demand. APSEZ does not draw any ground water. The desalination plant of additional capacities will be installed on modular basis considering future development and requirement.

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	chloride levels in the ground water in future.						
7.2	Due to induced growth in the region, pressure on the available ground water source would increase and this could pose some threat to salinity ingress.	Level-2	Ground water is not drawn by APSEZ for its operations. Natural streams (seasonal rivers) passing through the APSEZ area will not be disturbed, the micro-watershed in the area will not be disturbed. Due to the above reasons, the possibility of	The Govt. of Gujarat, Narmada, Water Resources, Water Supply & Kalpsar Dept.,(WRD)12 has been implementing various salinity ingress prevention projects	District Administration*	Long Term	<p>APSEZ will co-operate and comply with the directions from concerned regulatory authorities.</p> <p>APSEZ does not draw any ground water for the fresh water requirement.</p> <p>However, Adani Foundation – CSR arm of Adani Group has carried out rainwater harvesting activities in the nearby villages for benefit of the locals.</p> <p>Water conservation Projects i.e. Roof Top Rainwater 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.</p> <p>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.</p> <p>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</p>

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			salinity ingress due to APSEZ development is not envisaged. Mundra and Anjar blocks fall under fresh water to medium salinity zones. It can be observed that little variation was observed in the ground water salinity levels from year 2013 to 2016 across the Mundra and Anjar blocks. This aspect confirms that the				<p>as per increased in coastal belt of Mundra as per Government Figures.</p> <p>WORK COMPLETED:</p> <p>Water Conservation Projects completed during last Compliance period:</p> <p>Water Conservation Projects:</p> <p>Swajal Project:</p> <ul style="list-style-type: none"> > Aim: The Foundation's Water Conservation program, SWAJAL, is aimed at addressing the alarming depletion of groundwater levels and reduction in water sources in various parts of Kutch district. > Water Security Plan: Due to arid climatic characters of the Kutch region, it is essential to plan for water security drinking and livelihood purposes. Considering weather condition, rainfall characters, geohydrological condition and water demand, water security plan has been prepared for the Seven villages. <table border="1"> <thead> <tr> <th>Block Name</th> <th>Water conservation structure</th> <th>Total no. of Structure</th> <th>Total Capacity Created (CUM)</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Mundra</td> <td>Check Dam</td> <td>23</td> <td>6,07,332.80</td> </tr> <tr> <td>Pond Deepening</td> <td>66</td> <td>1,89,121.08</td> </tr> <tr> <td>RRWHS</td> <td>275</td> <td>2750</td> </tr> <tr> <td>Recharge Borewell</td> <td>209</td> <td>-</td> </tr> <tr> <td>Percolation Well</td> <td>24</td> <td>-</td> </tr> </tbody> </table>	Block Name	Water conservation structure	Total no. of Structure	Total Capacity Created (CUM)	Mundra	Check Dam	23	6,07,332.80	Pond Deepening	66	1,89,121.08	RRWHS	275	2750	Recharge Borewell	209	-	Percolation Well	24	-
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			overall salinity ingress from the shore into the land due to existing APSEZ facilities and power plant outfalls are less significant.				<p>Earlier Completed Activities/Projects:</p> <table border="1" data-bbox="1423 618 2011 1273"> <thead> <tr> <th data-bbox="1423 618 1476 727">Sr. No.</th> <th data-bbox="1476 618 1625 727">Project</th> <th data-bbox="1625 618 1682 727">Unit</th> <th data-bbox="1682 618 1816 727">Outcome</th> <th data-bbox="1816 618 2011 727">Impact</th> </tr> </thead> <tbody> <tr> <td data-bbox="1423 727 1476 919">1</td> <td data-bbox="1476 727 1625 919">Check dam Restrengthening-Nana Kapaya</td> <td data-bbox="1625 727 1682 919">1</td> <td data-bbox="1682 727 1816 919">Water Storage Capacity increased by 48000 Cum</td> <td data-bbox="1816 727 2011 919">60 + farmer's 120+Acre Area of Agri land can be Irrigated</td> </tr> <tr> <td data-bbox="1423 919 1476 1110">2</td> <td data-bbox="1476 919 1625 1110">Recharge Borewell</td> <td data-bbox="1625 919 1682 1110">21</td> <td data-bbox="1682 919 1816 1110">Reduce Salinity ingress, and preventing water run</td> <td data-bbox="1816 919 2011 1110">150+ farmer's 260+ Acre Area of Agri land for Irrigated</td> </tr> <tr> <td data-bbox="1423 1110 1476 1273">3</td> <td data-bbox="1476 1110 1625 1273">Pipe Culvert at Checkdam at Bhujpur</td> <td data-bbox="1625 1110 1682 1273">1</td> <td data-bbox="1682 1110 1816 1273">prevent water runoff into seaside.</td> <td data-bbox="1816 1110 2011 1273">35 farmers' 120+Acre Area of Agri land can be Irrigated</td> </tr> </tbody> </table> <ul data-bbox="1423 1308 2011 1382" style="list-style-type: none"> • Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams. 	Sr. No.	Project	Unit	Outcome	Impact	1	Check dam Restrengthening-Nana Kapaya	1	Water Storage Capacity increased by 48000 Cum	60 + farmer's 120+Acre Area of Agri land can be Irrigated	2	Recharge Borewell	21	Reduce Salinity ingress, and preventing water run	150+ farmer's 260+ Acre Area of Agri land for Irrigated	3	Pipe Culvert at Checkdam at Bhujpur	1	prevent water runoff into seaside.	35 farmers' 120+Acre Area of Agri land can be Irrigated
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							<ul style="list-style-type: none"> • 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 liter 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 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. <p>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.</p>

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							Narmada Water Resources, Water Supply & Kalpsar Dept., (WRD)1 has been implementing various salinity ingress prevention projects. Under Sardar Sarovar canal project, Govt. of Gujarat has proposed to implement about 8200 Km stretch of water canal and the project is at various stages of implementation. Under this project about 112,000 ha of land in about 180 villages will be benefitted with irrigation needs. This will significantly reduce the pressure on the ground water resources in the region.										
				While the individual industries in the study area will continue to undertake ground water quality monitoring as per the environmental clearances issued for the	All Concerned Stakeholders, District Administration and CGWB*	Continual Process	<p>APSEZ (9 Locations – half yearly) & Adani Power Ltd. (5 Locations – quarterly) is carrying out ground water sampling and reports of the same are being submitted to the regulatory authorities on regular basis.</p> <p>The summary of APSEZ ground water quality monitoring for last six months (Apr'24 to Sep'24) are as below.</p> <p>Nos. of Location: 09</p> <table border="1" data-bbox="1396 1198 2011 1274"> <thead> <tr> <th>Parameters</th> <th>Unit</th> <th>Min</th> <th>Max</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Parameters	Unit	Min	Max	Average					
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				<p>respective projects, a regional level ground water conservation action committee can be formed under the guidance of state ground water board and district Administration.</p>			pH @ 25 ° C	--	7.11	8.54	7.84
							Salinity	p pt	0.90	18.38	4.08
							Oil & Grease	m g/ L	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)
							Hydrocarbon	m g/ L	Not Detected	Not Detected	Not Detected
							Lead as Pb	m g/ L	0.01	0.02	0.02
							Arsenic as As	m g/ L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)
							Nickel as Ni	m g/ L	0.09	0.19	0.11
							Total Chromium as Cr	m g/ L	0.00	0.00	#DIV/0!
							Cadmium as Cd	m g/ L	0.03	0.12	0.06
							Mercury as Hg	m g/ L	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)
							Zinc as Zn	m g/ L	0.07	0.14	0.10

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							Copper as Cu	m g/L	0.08	0.13	0.10
							Iron as Fe	m g/L	0.12	0.61	0.26
							Insecticides/Pesticides	µ g/L	Absent	Absent	Absent
							Depth of Water Level from Ground Level	meter	1.95	2.25	2.12
							<p style="text-align: right;">BDL – Below Detection Limit MDL – Minimum Detection Limit</p> <p>Approx. INR 6.11 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2024-25 till Sep'24, which also includes ambient air quality monitoring for overall APSEZ, Mundra.</p> <p>The freshwater requirement of all the industries within SEZ is being satisfied through APSEZ. All the industries are encouraged to monitor ground water quality as per the permissions granted by competent authorities.</p> <p>As mentioned above, presently, APSEZ has formed Internal Environment Monitoring Committee, involving Officials of APSEZ, Adani Power Limited and other</p>				

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							member units, having role and responsibilities as defined above. APSEZ will co-operate and comply with the directions from concerned regulatory authorities for ground water management.
8	Waste Management						
8.1	Solid waste will be generated from industrial activities of APSEZ and other permitted facilities in the study area including Mundra town. These wastes would contain recyclable material, constructio	Level-2	APSEZ has been adopting Zero waste Initiatives and the entire waste generated from existing operations is segregated and disposed to recycling vendors, thereby APSEZ has achieved zero landfill status as on date.	APSEZ will continue to adopt Zero Waste Initiative and wastes will be segregated at source and disposed to various recycling vendors, co-processing in cement plants. This initiative helps not only to reduce the waste to landfill significantly, but also to recycle the materials there by avoiding ecological	APSEZ	Continual Process	Presently APSEZ has implemented Zero waste Initiatives as per 5R (Reduce, Reuse, Recycle, Recover & Reprocess) principles of waste management. At present, APSEZ has developed material recovery facility for 6.0 TPD capacities. 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, Glass etc. are then sent to respective recycling units, whereas remaining non-recyclable waste is bailed and sent to cement plants for Co-processing as RDF (Refused Derived Fuel). The same practice will be continued in future also. APSEZ has also been recognized for Zero Waste to Landfill certification from reputed organization.

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	<p>n debris, organic waste, inert material and e-waste etc. In the absence of any organized source segregation programs and material recycling strategies and infrastructure facilities, these wastes will enter into environment and would pose long term health impacts.</p>			impacts.			<p>APSEZ, Mundra is certified for Zero Waste to Landfill management system (ZWTL MS 2020) by TUV Rheinland India Pvt. Ltd.</p> <p>APSEZ is being done proper solid waste management in his operational area with 5R principle as per Waste Management Plan.</p> <p>Industries located within the SEZ area are also complying with the waste management rules stipulated by statutory authorities and same is also being confirmed by APSEZ as well SPCB on regular</p>
			APSEZ has made a	The existing waste			

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8.2	Considering an average solid waste generation of 0.25 Kg/person/day, the estimated solid waste from facilities within APSEZ will be in the order of 100 TPD (36,500 TPA).	Level-2	provision for central waste management facilities within the existing site based on the future needs. As part of the Zero Waste Initiatives, no landfill facilities will be installed at APSEZ.	segregation and material recycling facilities will be augmented to dispose safely the wastes generated from APSEZ areas. Solid Waste Management Program shall be adopted and implemented as per Municipal Solid Waste Management Rules 2016 and Construction Waste Management Rules 2016	APSEZ	Continual Process	basis.
8.3	About 35 TPD (13,000 TPA) of solid waste would be	Level-2	As per the MSW Rules 2016 all the industrial facilities and	Solid Waste Management Program shall be adopted and implemented as per Municipal	All Industries	Continual Process	

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	generated from the proposed industrial areas located outside the APSEZ area.		SEZs are required to adopt waste segregation facilities at the respective properties and non-recyclable waste shall be disposed to landfill sites.	Solid Waste Management Rules 2016 and Construction Waste Management Rules 2016			
9	Ecological aspects (terrestrial and marine)						
9.1	About 1576 ha of shrub forest land contiguous to APSEZ area is applied for	Level -1	It is noted that the designated forest land is free from any native vegetation and comprises of	APSEZ has approached concerned authorities for diversion of designated forest land. Suitable compensatory afforestation plan shall be	APSEZ/State Forest Department*	Long Term	Stage – 1 Forest clearance granted for diversion of 1576.81 Ha Forest land. Compliance of stage-1 forest clearance is process. After getting EC & CRZ Clearance, Stage-2 Forest clearance will be obtained. APSEZ has applied for getting EC & CRZ clearance for SEZ / Industrial Park in 1576.81 Ha Forest land. ToR accorded by MoEF&CC on 30.11.2021 and draft EIA is being carried out through NABET accredited consultant.

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	land diversion for various developmental activities. This might have certain level of changes in the biodiversity in the study area.		Prosopis juliflora. It is also noted that no endangered species are present at the shrub forests that are applied for land diversion. It is also noted that no forest produce is reported from this designated forest land parcel due to lack of economic importance of plant species reported in	adopted based on the recommendations and directions of the concerned authorities. Due to adoption of compensatory afforestation program through a scientific manner, the overall ecological footprint in the district will be increased. Due to plantation of native tree species as part of greenbelt development, the overall biodiversity of the region will increase considerably when the project is fully			

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			the shrub forest. It is also noted that no tribal lands are located in the designated forest land parcel. Hence there will not be any change in biodiversity due to the proposed diversion.	developed.			
9.2	Mangrove conservation areas are located adjacent to the APSEZ area.	Level -1	No development activities will be undertaken within mangrove conservation areas.	Mangrove footprint and health status shall be monitored annually	APSEZ	Continual Process	As per study conducted by NCSCM in 2017, mangrove cover in and around APSEZ, Mundra has increased from 2094 Ha to 2340 ha (as compared between 2011 to 2017). The analysis has shown an overall growth of 246 ha. The cost for said study was INR 3.15 Cr. 1. NCSCM (MoEF&CC promoted Government Agency) study on comprehensive and integrated plan for preservation and conservation of mangroves and

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	<p>Accidental discharges of industrial effluents into the marine environment would pose certain ecological risk.</p>		<p>APSEZ has taken up large scale mangrove afforestation activities in an area of more than 2800 ha at various locations across the coast of Gujarat state in consultation with various organizations. The Adani Foundation introduced 'Mangrove Nursery Development and Plantation' scheme in</p>				<p>associated creeks in and around APSEZ in year 2016-17. The cost of said study was 3.15 Cr, which was incurred by APSEZ.</p> <p>As a part of mangrove conservation plan, APSEZ has done following activities.</p> <ol style="list-style-type: none"> 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. Tidal observation in creeks in and around APSEZ – The cost of the said activity was INR 1.0 Lacs incurred by APSEZ. Algal & Prosopis removal from Mangrove area - The cost of the said activity was Rs. 80000 during FY 2023-24. The algal removal report was submitted during the last compliance report submission Oct'23 to Mar'24. Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 132.0 Lacs during FY 2024-25 till Sep'24 which was incurred by APSEZ. This activity is being done on continuous basis as a part of CSR activity. <p><u>Summary of Conservation of mangroves:</u></p>

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							Mangrove mapping Year	Monitoring Agency	Mangrove cover total Area (Ha.)	Mangrove cover area Increased	
			the area as an alternative income generating activity for the people of the region.						Hac.	%	
							2011	NCSCM	2094	-	-
							2011 to 2016-17		2340	246	11.75%
							2017 to 2019 till March	NCSCM	2596	256	10.94%
							2019 to 2021 till March	GUIDE	2723	127	4.89%
							Total		2723	629	--
							<p>Hence, overall increase in mangrove cover area in creek system in and around APSEZ from 2011 (2094 Ha) to 2021 (2723 Ha) is 629 Ha (30%).</p> <p>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.</p>				
							Sr	Recommendations	Compliance		

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							No.		
							1.	Mangrove mapping and monitoring in and around APSEZ	<ul style="list-style-type: none"> • 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 10.94%. • This suggests that the mangroves and 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

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									<p>sparse which also shows that the growth of mangroves in a progressive direction.</p> <ul style="list-style-type: none"> 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. According to GUIDE Mangrove monitoring study report November 2023 (the report was submitted during the last compliance report submission Apr'23 to Sep'23), the distribution of mangroves in Kotadi, Baradi mata, Navinal, Bocha and Khari creeks as well as in the Bocha island was studied using LISS IV satellite images for the duration of March 2019 to March 2021. The mangrove cover in the creeks in and around APSEZ showed a positive trend from March 2019 to

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									<p>March 2021, with an overall increase of 52.79 ha (1.9%) compared to the cover during the year 2019. The total mangrove cover during 2019 was 2670 ha which has increased to 2723 ha during the year 2021.</p> <ul style="list-style-type: none"> Hence, overall increase in mangrove cover area in creek system in and around APSEZ from 2011 (2094 Ha) to 2021 (2723 Ha) is 629 Ha (30%). The cost of the said study was INR 23.60 Lacs incurred by APSEZ. <p>Summary of Mangrove mapping and monitoring (from 2011 to 2021):</p> <table border="1" data-bbox="1654 1219 1997 1398"> <thead> <tr> <th data-bbox="1654 1219 1755 1321" rowspan="2">Mangrove mapping Year</th> <th data-bbox="1755 1219 1854 1377" rowspan="2">Mangrove cover total Area (Ha.)</th> <th colspan="2" data-bbox="1854 1219 1997 1295">Mangrove cover area Increased</th> </tr> <tr> <th data-bbox="1854 1321 1915 1377">Ha c.</th> <th data-bbox="1915 1321 1997 1377">%</th> </tr> </thead> <tbody> <tr> <td data-bbox="1654 1321 1755 1377"></td> <td data-bbox="1755 1321 1854 1377"></td> <td data-bbox="1854 1321 1915 1377"></td> <td data-bbox="1915 1321 1997 1377"></td> </tr> </tbody> </table>	Mangrove mapping Year	Mangrove cover total Area (Ha.)	Mangrove cover area Increased		Ha c.	%				
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							2.	Tidal observation in creeks in and around APSEZ	<ul style="list-style-type: none"> 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 																						

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									<p>ranges, adequate for the growth of mangroves.</p> <ul style="list-style-type: none"> The cost of the said activity was INR 1.0 Lacs.
							3.	Removal of Algal and Prosopis growth from mangrove areas	<ul style="list-style-type: none"> 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 Rs. 80000 during FY 2023-24. The algal removal report was submitted during the last compliance report submission Oct'23 to Mar'24.
							4.	Awareness of mangroves importance in surrounding communities	<ul style="list-style-type: none"> 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 25 Villages. Project is covering total 15005 Cattle and hence enhancing cattle

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									<p>productivity. Dry Fodder 10,90,875 Kg Green - 27,64,920 Kg.</p> <ul style="list-style-type: none"> • Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 132.0 Lacs during FY 2024-25 till Sep'24, which was incurred by APSEZ. • Grass Land development: 213 acres of gauchar land has been cleaned and allocated for Grass land development with strong Community Contribution and Mobilization. • 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

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9.3	Outfall from the thermal power plants desalination	Level-1	A detailed marine hydro-dynamic and dispersion modelling of the study area	All approved marine outfalls shall be monitored for salinity, temperature and other designated	APSEZ and Concerned Industry	Continual Process	<p>Presently marine monitoring is being carried out by the Adani power plant at the marine outfall locations and reports are being submitted to the concerned authorities on regular basis.</p> <p>APSEZ is carrying out Marine monitoring once in a month at 9 locations in deep sea by NABL and MoEF&CC accredited agency namely M/s. Unistar</p>			

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	and CETP would pose certain level of impact on the marine environment.		indicates that the background temperature and salinity at mangrove conservation area will not increase from the prevailing background levels as the outfalls are located far away. APSEZ and respective power plants in the study area have been monitoring the marine water quality status on monthly basis for the	parameters as per consent to establish issued by GPCB. Existing marine environmental monitoring program shall be continued.			<p>Environment and Research Labs Pvt. Ltd., Vapi. The analysis reports of the same are being submitted to the concerned authorities on regular basis.</p> <p>Adani power plant is also doing marine water quality at 5 locations (2 locations at outfall location) in deep sea by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment & Research Labs Pvt. Ltd. The analysis reports of the same are being submitted to the concerned authorities on regular basis. The summary of marine water quality is shown above.</p> <p>The comparison of marine water results between CIA and current monitoring data are as below.</p> <table border="1"> <thead> <tr> <th rowspan="2">Parameter</th> <th rowspan="2">Unit</th> <th colspan="2">Max</th> <th colspan="2">Min</th> </tr> <tr> <th>CIA</th> <th>Present</th> <th>CIA</th> <th>Present</th> </tr> </thead> <tbody> <tr> <td>Temp.</td> <td>°C</td> <td>36.4</td> <td>36.6</td> <td>35.2</td> <td>35.2</td> </tr> <tr> <td>Salinity</td> <td>ppt</td> <td>29.5</td> <td>30</td> <td>29</td> <td>29</td> </tr> </tbody> </table> <p>As per above results, it can be seen that there is no deviation in the concentration of parameters and thus indicates that impacts are insignificant.</p>	Parameter	Unit	Max		Min		CIA	Present	CIA	Present	Temp.	°C	36.4	36.6	35.2	35.2	Salinity	ppt	29.5	30	29	29
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			stipulated environmental and ecological parameters.				
9.4	Terrestrial Ecology: Study area doesn't have any notified national parks or ecological sanctuaries. Since the area falls under dry deciduous shrubs. Due to scanty rains in the area, the overall natural green-cover/vegetation in the	Level-1	APSEZ has developed greenbelt in an area of 550ha as against the committed area of 430ha. A dedicated nursery is set up to promote plantation. APSEZ have undertaken a plantation with about 9.6 Lakh fully grown trees.	The compensatory afforestation area to be monitored annually to check the survival rate of the plantation.	APSEZ	Continual Process	APSEZ has developed its own "Dept. of Horticulture" which is taking measures/ steps for terrestrial plantation/greenbelt development. APSEZ, Individual SEZ Industries and Adani Power Plant has developed approx. 700 Ha. area as greenbelt within the APSEZ area including SEZ industries & Adani Power Plant. Dedicated horticulture department is maintaining and monitoring the terrestrial green belt development on regular basis to check the survival rate of plantation. Total expenditures of the horticulture dept. of APSEZ during the FY 2024-25 within APSEZ is INR 831 lakhs. and out of which, Approx. INR 253 lakh are spent during the financial year 2024-25 till Sep'24.

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	area is very small.						
10	Socio-economic aspects						
10.1	Population growth in the Mundra region was reported to be in the order of 85% during the past decade (2001-2011). Further expansion of the urban area could be possible due to induced economic growth in the region. Increase in population will have an additional need for public	Level-1	Dedicated townships are developed within APSEZ area with necessary community infrastructures such as hospital, school, recreational facilities, sewage treatment and waste collection facilities. Adani Foundation has been undertaking various CSR programs under the	The existing townships will be expanded to accommodate about 4lakh people when the project activity is fully developed.	APSEZ	As and When Required	<p>APSEZ has developed two townships (Shantivan and Samudra) accommodating 2302 households and associated infrastructure facilities. Accommodation is made available for all interested employees working within Adani group & SEZ industries. Out of which 87.14 % Occupancies are accommodated within the townships and rest are available for employees working within APSEZ.</p> <p>At present 46 nos. of industries (processing & non-processing) are operating within the SEZ. Township facilities are also made by SEZ industries within Mundra town for their employees having basic infrastructure facilities and requirements. Most of the employees working in SEZ industries are residing in Mundra township having all basic requirements and associated facilities.</p> <p>The existing social infrastructure facilities are adequate to accommodate the people considering present APSEZ development. The existing townships with associated facilities will be expanded as per requirement. Other infrastructure facilities have been developed for people are as follows.</p> <ul style="list-style-type: none"> • Multi-Specialty Hospital

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	infrastructure in the region.		principal themes such as education, community health, sustainable livelihood and rural infrastructure. About Rs. 97 Cr has been spent on various CSR activities in the Mundra region since 2010. Similar community development programs (based on need based assessment) will be continued in future as well with allocation of appropriate budget.				<ul style="list-style-type: none"> • School • Commercial complex • Religious place <p>APSEZ is actively working with local community (including fishermen community) around the project area and provides required support for their livelihood and other concerns through the CSR arm – Adani Foundation in the main five persuasions is mentioned below.</p> <ul style="list-style-type: none"> • Community Health • Sustainability Livelihood – Fisher Folk • Education • Rural Infrastructures • Skill Development <p>Adani foundation has spent approx. INR 8824.17 lakhs from April – 2018 to September – 2024 for CSR activities which also includes cost of rural infrastructure projects.</p> <p>Major works carried out since April 2018 as a part of CSR activities are as below.</p> <p><u>Last FY 2023-24 infrastructure development activities:</u></p>

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							<ul style="list-style-type: none"> • 377 - AC Roof sheet support to Fisherfolk Vasaha 1700+ Benefited. • 2 Development of Common Gathering flooring work – 4000+ Benefited. • 195 Stall – Vegetable market– 900+ Benefited. • Solar Panel System at Mundra – 600+ Benefited. • Maintenance, Fencing & Material Support - 30+ Benefited. Renovation of Shed at Shekranpir Bhopavandh - 2000+ Benefited. • Renovation Check dam and CC road work at Nani Khakhar – 200+ Benefited. • Renovation of High School at Zarpara – 2200+ Benefited. • Construction of Pipe Culvert – 400+ Benefited. • Construction of chain-link fencing at Mangra village – 300 people benefited. • Gaushala Shed at Zarpara village – 400 cattle benefited. • Renovation of approach road, Zarpara – benefiting 400 villagers. • Renovation of Civil and Electrical Work at ITI, Mundra - 500 students benefited. • Construction of 21 Borewell Recharge in Nagmati River - 150+ farmer benefited. • Check dam Desilting and restoration at Nana Bhadiya – 100+ farmers benefited. • Renovation of Check dam at Pavadiyara village - 300 people benefited.

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							<ul style="list-style-type: none"> • Renovation of Balwadi at Juna bandar & Luni bandar. • 185 RRWHS construction is ongoing in various villages - will benefit 1300+ residents. • Supply & installation of Solar panel (3.25 KV) at CGP, Mundra – benefiting 1200 people. • Development of Model Farm in Zarpara, Siracha & Mangra – Benefiting 300 people. • Renovation of approach road at various fisherfolk vasahat. <p><u>Previous FY 2022-23 infrastructure development activities:</u></p> <ul style="list-style-type: none"> • 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.

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							<ul style="list-style-type: none"> • 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-Monsoon 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 • Pond Deepening work at Vadala & Mota Bhadiya • Artificial recharge borewell in Borana, Mangara & Dhruh village. • Under Dignity of Drivers Project, Adani Foundation has constructed Resting Shed for Drivers entering in SEZ Premises. Total 50 beds are constructed,

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10.2	The overall sex ratio was found to reduce by 28% in the Mundra taluk (study area) during the period 2001 - 2011. This could be attributed to increase in influx of working men in the region due to rapid economic development. Similar trend might continue in future due to induced	Level-2	Adani foundation is taking up several girl child education programs as part of CSR activities to create awareness about girl child protection.	Suitable regional level awareness programs on the girl child protection and encouragement programs in line with state and national policies shall be adopted under Corporate Social Responsibility programs in association with district authorities.	APSEZ, Other development projects and District Administration*	Long Term	<p>Major works carried out since April 2018 as a part of CSR activities to create awareness about girl child protection are as below.</p> <ul style="list-style-type: none"> The Adani Foundation provided scholarship support to motivation and encouragement of fishermen boys and girls for higher education under this program. We extend 100% fee support to female candidates and 80% to male candidates." Student Benefitted Under Uthhan Project: <table border="1"> <thead> <tr> <th>Utthan Initiatives</th> <th>Benefitted</th> </tr> </thead> <tbody> <tr> <td>Strengthening government Primary & High schools</td> <td>31 Villages, 77 Schools, 12000+ Students, Efforts for Increase Gunotsav result & Board result.</td> </tr> <tr> <td>Appointing an Utthan sahayak</td> <td>70+ Utthan sahayak works as catalyst. Students: Teacher ration decrease.</td> </tr> <tr> <td>Mainstreamed Progressive learner</td> <td>Assessment: 6982, Progressive learners: 2541, Mainstreamed: 1278.</td> </tr> <tr> <td>Providing required</td> <td>Sports Kit, Music Kit, TLM Kit, Science Kit provided in schools.</td> </tr> </tbody> </table>	Utthan Initiatives	Benefitted	Strengthening government Primary & High schools	31 Villages, 77 Schools, 12000+ Students, Efforts for Increase Gunotsav result & Board result.	Appointing an Utthan sahayak	70+ Utthan sahayak works as catalyst. Students: Teacher ration decrease.	Mainstreamed Progressive learner	Assessment: 6982, Progressive learners: 2541, Mainstreamed: 1278.	Providing required	Sports Kit, Music Kit, TLM Kit, Science Kit provided in schools.
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Mothers as catalyst in transformation	Mothers meet 700+ Mothers Joined: 15000+ this year. (Meetings + Home Visit)																												

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							<table border="1" data-bbox="1398 565 2018 643"> <tr> <td data-bbox="1398 565 1608 643">Strengthening Stakeholders</td> <td data-bbox="1608 565 2018 643">Support in Taluka, District & state level various initiative with DIRT, BRC, Strengthening SMC Committee.</td> </tr> </table> <ul data-bbox="1398 678 2018 1404" style="list-style-type: none"> • Uthhan Project promotes girl child education, creating awareness through various Govt schemes i.e. Vahali Dikri Yojana, Sukanya Samriddhi Yojana etc. till date covered more than 1200 girl child to get benefit out of it. • AVMB School Bhadreswar where Free of Cost education is provide to Poor and Needy Family Child up 10 standards More than 500 Students are benefiting every year. • Separate sanitation facilities for girl child in schools. • Menstrual Hygiene Awareness: To educate and empower rural girls and women about menstrual health, break down negative social views on menstruation, supply to enhance their overall health, education, and empowerment." • Till date 36% women had never used sanitary Napkin single time now they started using due to our intervention. This will reduce UTI @ 22%. As our sample survey. 1587 Women and 494 School girls from 18 nos. of villages. • Beti Vadhavo Programme was organized in 32 Villages in the presence of Village Sarpanch and other leaders in year 2017-18. We explained people about the various topics i.e. importance of girl 	Strengthening Stakeholders	Support in Taluka, District & state level various initiative with DIRT, BRC, Strengthening SMC Committee.
Strengthening Stakeholders	Support in Taluka, District & state level various initiative with DIRT, BRC, Strengthening SMC Committee.								

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							<p>child, Sex Ratio, Gender Equality and laws regarding Child abortion. This initiative was well accepted by community and we have observed a visible change in their mindset.</p> <ul style="list-style-type: none"> • During the year various activity like, Covid-19 awareness in village & Slum Area, Menstrual Hygiene Day, Breastfeeding Week, National Deworming Day, National Nutrition Month had been celebrated. • Project Suposhan is initiated with the Motive to focus on adolescent and Reproductive age women nutrition part. Till date covered more than 12500 women and 8700 adolescents under this Project and brought them to considerable status. Curb malnutrition amongst Children, Adolescent girls and Women in our CSR villages. <ul style="list-style-type: none"> ✓ 204 beneficiaries covered in Breastfeeding Week ✓ 320 beneficiaries covered in National Deworming Day ✓ 20 villages covered in celebration of NATIONAL NUTRITION MONTH ✓ 42 FAMILY COUNSELLING ✓ 2059 Women participated in celebration of Women's Day week. • To reduce malnutrition and anemia amongst Children 95 % & adolescent girls and pregnant & lactating women by 70 % in three years • Reduction IMR and MMR

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							<ul style="list-style-type: none"> Support Awareness & Cover 100 % Vaccination taken by Child & women. SuPoshan Thanksgiving program was organized. In this webinar DDO, CDPO Mundra and other dignitaries remained present and appreciated the efforts to overcome malnourishment in Mundra and Bitta. The National girl child day was celebrated with ICDC Department with Vahli Dikri Yojna form filling, paediatric health camp and Baby health kit distribution at Mundra. Mrs. Ashaben-CDPO Mundra was remain present in this event. Total 61 forms have received approval letter from GOG and 15 forms filled upon the same day. Adani Foundation is working with 15 Self-help group and supporting to develop entrepreneur skills to become self reliant, sourcing more than 350 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. <p>About INR 8824.17 lakhs has been spent on various CSR activities in the Mundra region since April 2018 to till September 2024 including cost of community health and education for woman and girl child.</p>
	Due to economic growth		Adani hospitals, Mundra is setup by	APSEZ will explore other possibilities to augment the primary and	APSEZ	Long Term	Adani hospitals (Multi-specialty), Mundra is having 110 bed facility and same is setup by Adani group near Samudra township.

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10.4	leading to rapid urbanization, which prompts the need for healthcare facilities in the region. For an influx of 6 lakh people from APSEZ operations and additional 3 Lakh from induced growth by the year by 2030 (fully developed scenario), total hospitals facilities with about 540 beds would be required.	Level-2	Adani group near Samudra township with a goal to provide primary and secondary health care services to Adani group employees and the local populace of Mundra. The existing 100 bed Adani hospital at Mundra has been catering the services ranging from wellness and preventative care.	secondary healthcare facilities in future depending on the growth scenario at APSEZ development.			<p>Primary health center and community health center are in place within the Mundra taluka.</p> <p>Other than this Adani foundation is doing various activities as part of community health. The details of last year are as below.</p> <ul style="list-style-type: none"> • Mobile Health Care Units and Rural Clinics • 07 Rural Clinics • 05 villages of Mundra & 02 village Mandvi block has benefited by rural clinic service. • Total 5519 Patients Benefitted FY 24-25 till Sep'24 (direct & indirect) by Mobile van and rural clinic. • 2 financially challenged patients has been supported with Dialysis treatment at 22 Times which added day in their Life. • Provided 27,355 medical health services Burn & Intensive Care Unit • On August 11 (Adani Foundation Day), the foundation stone for the Burn Ward at GK General Hospital, Bhuj, was laid. • This center will provide comprehensive care for burn victims, from emergency treatment to long-term rehabilitation. It will benefit 22 lakh population of Kutch. <p>Eye Vision Care:</p> <ul style="list-style-type: none"> • To address these challenges, the Adani Foundation, in collaboration with Vision Spring, is launching a holistic eye care initiative for the community.

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							<p>This initiative focuses on:</p> <ul style="list-style-type: none"> • Student: See to Learn, SHG Women: See to Earn, Driver of APSEZ: See to be Safe • Total Screening 7476 (Students) + 3958 (Drivers) = 11434 <p>Vision Aids: 621 (Students) + 1110 (Drivers) = 1731</p> <p>Cataract Screening: 366 nos. of peoples</p> <p>Cataract Surgery: 18 nos. of peoples</p> <p>Medical Services Data April to Sep - 2024:</p> <ul style="list-style-type: none"> • Ayushman Card: 243 beneficiaries • Eye Vision Care; 7740 beneficiaries • Driver Health Check-up: 2423 beneficiary • Blood Donation Camp: 2902 beneficiary • Specialty Health Camp: 2578 beneficiary • General Health Camp: 1074 beneficiary • Rural Clinic: 5519 beneficiaries • Mobile Health Care Unit: 4348 beneficiaries • Medical Supports: 1071 beneficiary <ul style="list-style-type: none"> • Dialysis Support: During this year, 2 patients were supported for regular dialysis with 22 Times which added day in their Life. • 1094 –Economically Challenged patients have been supported for operation, OPD, IPD, Medicines and lab-test. <p>Animal Husbandry:</p>

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							<ul style="list-style-type: none"> • Fodder support to 25 villages, benefiting 15005 cattle, Dry Fodder Support - 10,90,875 Kg & Green Fodder Support - 27,64,920 Kg • Launched a vaccination camp for 20,000 cattle, in collaboration with the Animal Health Department of Bhuj. 6,200+ cattle have been successfully vaccinated, <p><u>Previously Conducted Community Health Details:</u></p> <ul style="list-style-type: none"> • Total Patients Benefitted FY 23-24: - 23327 (direct & indirect) by Mobile van and rural clinic • 2 financially challenged patients has been supported with Dialysis treatment at 124 Times which added day in their Life. • Provided 41,546 medical health services and conducted health awareness camps for 763 High school students. • <u>Cataract-Free Mundra:</u> The initiative is a dedicated effort to eradicate cataract-related vision impairments specially focused on Senior citizen through Meticulous planning as below. <p>Lives Impacted: - 1131</p> <ul style="list-style-type: none"> ➤ Comprehensive Eye Screenings at Village level ➤ Cataract Surgeries to GKGH, Bhuj ➤ Post-Operative Care and Follow-up

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							<p>➤ 5 successful Operation</p> <p>Health camp:</p> <ul style="list-style-type: none"> • 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, ophthalmic, specialty health camp): - 5795 Patients Benefited. • General health camp: - 1618 Patients benefited. • Blood Donation Camp: 1715 people have donated blood. • Conducted health programs for students, engaging 763 participants, and held sessions on Personal Health & Hygiene Awareness, addressing critical health issues and promoting overall well-being. • Women's Health: Provided health services to more than 2610 women benefitted through Menstrual & Mental Health Awareness Drive. • Dialysis Support: During this year, 2 patients were supported for regular dialysis with 124Times which added day in their Life. • Medical Supports: 1007 beneficiary in 35 village. • International year of Millets – 2023: To promote millet culture and raise awareness about its benefits in Mundra, we organized a Millet Competition across nine villages. Over 715 women

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							<p>took part in the competition, while 2200 benefited from awareness sessions. Through this initiative, 300 indigenous millet recipes were showcased, highlighting the potential for sustainable and nutritious dishes in our daily diets.</p> <ul style="list-style-type: none"> • Ayushman card facilitation: Ayushman card issued to 5584 for 25 village of 686.50 Cr. health insurance. • Preventive health Campaign the Adani Foundation is focusing on providing preventive healthcare to women and adolescent girls, raising awareness of Physical and Mental health issues, promoting healthy behaviors, implementing Menstrual hygiene initiatives and Millet consumption for healthy body. • Sample Survey Report 2023-24 <ul style="list-style-type: none"> ○ 55% Never heard about Menstrual hygiene. ○ 60% Are using cloths on regular basis. ○ 36% Had never used sanitary pads. ○ 68% Had no information about UTI. ○ 30% Never used millets in their diet. ○ 60% Never heard about millets or it's benefits. • 2222 –Economically Challenged patients have been supported for operation, OPD, IPD, Medicines and lab-test. • For Preventive health care General and multispecialty camps Paediatric camp, General

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							<p>Health camps in 7 villages and Super specialist camp which benefitted more than 4690 patients of Mundra & Mandvi Taluka.</p> <ul style="list-style-type: none"> • 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 with total 18903 cattle benefitted, and 18870 cattle vaccinated. Total 982 cattle owners benefited for Preventive Health Care & Fodder Support Program • Present Hospital facilities are adequate to avail the medical treatment for Mundra region considering present development. Other Occupational Health centres, primary health centres and community health centres are also in place in Mundra to take care the people residing in Mundra. Adani group is also operating high quality health care services to the people of Kutch at G. K. General Hospital, Bhuj having 750 beds facilities on public private partnership (PPP) model, which is 60 km far from Mundra. <p>APSEZ will explore other possibilities to augment the primary and secondary healthcare facilities in future depending on the future development at APSEZ.</p>
	Due to rapid economic development in the region,		APSEZ has been giving preferences to people from				<p><u>Last FY 2023-24 fishermen livelihood activities development activities:</u></p>

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10.5	<p>several employment opportunities can be generated to the local people.</p> <p>When the area is fully developed by the end of 2030, the working population of the Mundra taluk would increase from current level of 55,000 to as high as 4,00,000, which will be 45% of the total envisaged population in Mundra Taluk by the end of 2030.</p>		<p>Gujarat for providing employment opportunities based on eligibility and skills. In Mundra, special programmes have been conducted by Adani Foundation to enhance the employability of youth from fisherfolk communities. Based on the need assessment results, several livelihood options have been introduced by the Adani Skill Development Centre,</p>	<p>APSEZ is committed to provide support for fishermen livelihood activities and has submitted a detailed 5 years plan to MoEF&CC with a total budget of Rs.13.5 Cr.</p>	APSEZ	Short Term	<p><u>Overall Persistent efforts for Fisherman development:</u></p> <ul style="list-style-type: none"> • 598 Education Kit Support • 273 Fisherman Shelter Support • 1,247 Vehicle transportation support of Mundra and Mandvi taluka • 106 Cycle Support to high school going students. • 613 Scholarship Support • 419 Youth Employment • 195 Linkages with Fisheries Scheme • 3,534 Ramatotsav Community Engagement • 56,523 Man days Mangroves Plantation <ul style="list-style-type: none"> • Vehicle Transportation Facilities: 146 Students supported Mundra Taluka and 58 Students supported at Mandvi Taluka during the compliance period. • Education Kits Support: Education Kits including notebooks, guides, and bags, to fisherfolk students studying in 9th to 12th standard to enhance their learning experience (57 nos. students benefitted). • Educational Awareness Sessions: Through targeted awareness sessions in Fisherfolk Vasahat, we promote the transformative power of education, with a particular focus on advancing girl-child education. (487 Students motivated for high school Education).

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			<p>Mundra. In these centers, youth can join and get vocational training for a number of technical and non-technical skills. An industrial Training Institute is set up at APSEZ, Mundra, to enhance the skill levels of the local youth to maximum possible extent.</p>				<ul style="list-style-type: none"> • Scholarship Support: Provide scholarship support to 31 deserving students, covering their higher secondary school fees. Emphasizing gender equality, we offer 100% fee support to female candidates and 80% to male candidates. • Cycle Support: Overcoming transportation obstacles, our cycle support initiative enables six 9th standard fisherfolk students from Juna Bandar to continue their education with ease. • Assisting During Emergencies: Fisherfolk Home were significantly damaged by the Biporjoy Cyclone. In response to that we provided 2696 cement sheets to 336 fisherfolk households of Juna Bandar, Luni, and Randh Bandar to support their recovery. (336 Fisherfolk house benefited) • Fostering Youth Employment: At APSEZ Mundra, our mission revolves around providing sustainable employment opportunities for the local fishing community. We serve as a bridge between industries and Fisherfolk youth, facilitating job placements to enhance livelihoods. This year, we have successfully engaged 115+ Fisherfolk youth, paving the way for a brighter future. (115+ Fisherfolk youth employed) • Strengthening Fisherfolk women: Through comprehensive health and hygiene initiatives, we empower Fisherfolk women. Our programs include family planning resources, menstrual hygiene workshops, nutrition advocacy, and health awareness sessions covering vaccinations,

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							<p>clean water access, and mental health support. (449 Women benefited)</p> <ul style="list-style-type: none"> • Potable Water Distribution: Providing potable water facilities to 9 Fisherfolk Vasahat daily, either through water tankers or by establishing linkages with the nearest Gram Panchayat. This initiative benefits over 5000 Fisherfolk, significantly improving their health and productivity. (5000+ Population benefited). • Cement Roof Sheet Support: fisherfolk Home were significantly damaged by the Bipor Cyclone. In response to that we provided 2696 cement sheets to 336 fisherfolk households of Juna Bandar, Luni, and Randh Bandar to support their recovery." • Potable water Distribution: Providing access of potable Drinking water Facilities to Nine fisherfolk vasahat on Daily bases, either By Water tanker or Linkage with Nearest Gram panchayat. • More than 5000 Fisherfolk Population are getting benefit which impact on their health and efficiency. • Water distribution to Luni & Bavadi Bandar Fishfolk Vasahat: 35000 KL water for 936 people. • Sagar Mitra Card: Introduced the 'Sagar Mitra Card' to simplify access for Fisherfolk to specific fishing routes within APSEZ. This digital card is connected to a digital punching machine located at designated entry points. Initially, we

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							<p>have implemented this system for Navinal Fisherfolk, and so far, we have issued a total of 57 Sagar Mitra Cards."</p> <ul style="list-style-type: none"> • 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. • More than 35% of enrolled students in AVMB come from the Fisherfolk community. • Youth Employment: Our main objective is to offer sustainable employment opportunities to the local fishing community in APSEZ Mundra. We bridge the gap between industries and Fisherfolk youth by facilitating job placements. Currently, we have successfully engaged a total of 12 Fisherfolk youth in this endeavor. • Vidya Sahay Yojana – Scholarship Support: All basic education supportive facilities have been created to promote education in fisher folk community. We are deeply committed to empowering the future of fisherfolk communities through education. To this end, we provide scholarship support to 30 deserving students, covering their actual school fees. In our unwavering commitment to promoting gender equality and advancing girl child education, we extend 100% fee support to female candidates and 80% to male candidates."

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							<ul style="list-style-type: none"> • During FY2023-24 Approx. INR 122.32 lakh were spent for Fisherfolk Amenities work in different core areas • Till FY 2023-24, Adani Foundation has done total expenditure of INR 1460.51 lakh for Fisherfolk Amenities work in different core areas. <p>APSEZ is carrying out various initiatives specific to the Fisherfolk community which includes:</p> <ul style="list-style-type: none"> • Vidya Deep Yojana • Vidya Sahay Yojana – Scholarship Support • Adani Vidya Mandir • Fisherman Approach in SEZ • Machhimar Arogya Yojana • Machhimar Kaushalya Vardhan Yojana • Machhimar Sadhan Sahay Yojana • Machhimar Awas Yojana • Machhimar Shudhh Jal Yojana • Sughad Yojana • Machhimar Akshay kiran Yojana • Machhimar Suraksha Yojana • Machhimar Ajivika Uparjan Yojana • Bandar Svachhata Yojana <p>These initiatives are planned for the period 2016 – 2021 with a committed expense of INR 13.5 Cr as submitted earlier in detail in the report namely "Silent Transformation of Fisher folk at Mundra",</p>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude	Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.	Additional Risk Mitigation Measures/ESMP	Responsible agency	Timeframe for implementation	Compliance
							Till, FY 2024-25 approx. 15.06 Cr. INR, has already been spent in support for fishermen livelihood activities. Further, details regarding the expenditure incurred against the commitment are attached as Annexure - 11 .

Annexure – 10

Report on World Mangroves Day Celebration by Adani Foundation

Mundra, July 24-26, 2024 - Adani Foundation organized a three-day celebration for World Mangroves Day, focusing on raising awareness about the conservation and maintenance of mangroves. The Adani Foundation has been actively working towards community support and development, with key areas including health, education, rural infrastructure, and agriculture and animal husbandry. The Adani Foundation has been actively involved in the conservation and restoration of mangroves, recognizing their crucial role in maintaining coastal ecosystems.

Day 1: Awareness Lecture at Adani Vidya Mandir, Bhadreswar

On July 24, an awareness lecture was conducted by Dr. Mansi Goswami, Biodiversity expert, for the students of Adani Vidya Mandir, Bhadreswar. The lecture aimed to educate the students about the significance of mangroves, their environmental benefits, medicinal properties, and natural resources. Through interactive quizzes and presentations, **more than 50 students** were made aware of the ecological importance of mangroves and their role in maintaining environmental balance.



Awareness Lecture at Adani Vidhya Mandir- Bhadreswar

Day 2: Mangrove Nursery Preparation at Luni Site

On July 25, a nursery for **10,000 mangrove seeds** was established at the Luni site with the active participation of local fishermen. The fishermen were trained in proper planting techniques and the care of mangrove saplings. This initiative aimed to enhance local biodiversity, provide employment opportunities for fishermen, and stabilize coastal areas. The nursery project also served to raise awareness among fishermen about the importance of mangroves and encouraged their active involvement in conservation efforts.



Mangrove Nursery Preparation and training at Luni Coast

Day 3: Workshop on Mangrove Ecosystem

On July 26, a one-day workshop was held at Adani House, involving students from various departments of Kutch University and Government Science College, Mandvi. The workshop aimed to educate students about mangrove ecosystems and conservation strategies. **More than 100 students** were participated in the workshop from different educational institutions.

Key speakers included Dr. Paurav Mehta, Principal of Government Science College, Mandvi, and Dr. Mansi Goswami, Biodiversity Expert at Adani Foundation. Dr. Mehta provided detailed information on the adaptations, characteristics, and

conservation of mangroves, while Dr. Goswami discussed mangrove habitats, their status in India and Gujarat, and their global significance.

The workshop included a quiz competition for students, with prizes awarded to the winners. Additionally, group discussions, project planning, and networking opportunities for future conservation projects were provided. Each student received a certificate of participation.

Through these programs, Adani Foundation - Mundra aimed to foster greater understanding and commitment to mangrove conservation among community members. The foundation has planted mangrove trees over 162 hectares, significantly contributing to marine environmental protection. Such awareness programs by Adani Foundation inspire hope and active participation among various communities, including school children, fishermen, and subject-specific students.

The celebration of World Mangroves Day by Adani Foundation underscores their commitment to environmental conservation and community development, fostering a sustainable future for all.



Mangrove Day Celebration with Subjective students of Kutch University and Government colleges

Annexure – 11

Expense Details for Fisherfolk Amenities work in different core areas												
Sr. No.	Details	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Sep-2024-25	TOTAL	AMT IN LACS
Expenditure Details (Amount in Rs.)												
1	Vidya Deep Yojana	2,069,300	193,000	2,087,000	1,771,000	110,225	580,103	969,660	-	-	7,780,288	77.80
2	Vidya Sahay Yojana	552,580	495,000	691,000	708,000	504,336	659,709	847,013	563,000	476,000	5,496,638	54.97
3	Adani Vidya Mandir – Shaping Lives	4,200,000	4,030,000	3,472,000	6,434,020	1,593,805	3,737,700	5,950,854	7,452,390	2,783,545	39,654,314	396.54
4	Senio Citizen Health Card	--	8,430,000	1,750,000	2,975,000	1,750,000	-	-	-	-	14,905,000	149.05
5	Financial Support to Poor Patients	4,439,507	1,275,000	813,000	1,296,063	763,800	1,255,000	1,691,410	1,620,000	833,000	13,986,780	139.87
6	Machhimar Kaushalya Vardhan Yojana	188,708	200,000	397,000	73,000	--	226,000	134,070	-	-	1,218,778	12.19
7	Machhimar Sadhan Sahay Yojana	--	--	315,000	522,000	--	-	-	-	-	837,000	8.37
8	Machhimar Awas Yojana	4,592,106	1,165,000	--	2,311,000	2,424,016	2,480,000	712,000	1,227,000	-	14,911,122	149.11
9	Machhimar Shudhh Jal Yojana	2,236,050	2,700,000	2,038,000	1,773,000	2,348,300	1,936,575	2,096,050	1,370,000	382,000	16,879,975	168.80
10	Sughad Yojana	1,367,300	170,000	--	192,000	30,000	-	-	-	-	1,759,300	17.59
11	Machhimar Akshay kiran Yojana	860,850	100,000	68,000	--	--	-	-	-	-	1,028,850	10.29
12	Machhimar Ajivika Uparjan Yojana-Mangroves plantation	1,558,800	500,000	1,382,000	1,400,000	1,900,272	2,069,432	1,914,432	-	137,000	10,861,936	108.62
13	Bandar Svachhata Yojana	106,400	50,000	--	--	367,000	145,000	25,000	-	-	693,400	6.93
14	Cricket league and Cycle Marathon	432,000	657,119	638,000	610,800	--	-	-	-	-	2,337,919	23.38
15	Sports Material For Children & Youth at Vasahats	197,797	--	--	--	--	-	-	-	-	197,797	1.98
16	New Pilot Initiative for Polyculture	398,240	160,000	--	--	--	-	-	-	-	558,240	5.58
17	New Pilot Initiative for Cage farming Asian Seabass & Lobster	864,000	660,000	--	--	--	-	-	-	-	1,524,000	15.24
18	Sea Weed Culture Project	--	--	--	200,000	--	-	-	-	-	200,000	2.00
19	Mangrove Biodiversity Project	--	--	1,890,000	684,000	499,210	997,642	1,135,000	-	-	5,205,852	52.06
20	Approach Road restoration at 9 vasahat	--	--	--	--	599,000	942,780	1,011,000	-	-	2,552,780	25.53
21	Community trening Centor & Maintenance work	--	--	--	--	--	6,022,000	2,051,000	-	-	8,073,000	80.73
	TOTAL	24,063,638	20,785,119	15,541,000	20,949,883	12,889,964	21,051,941	18,537,489	12,232,390	4,611,545	150,662,969	1,506.63

Annexure - i

TEST REPORT

Report No.	URC /24/07/Water/APL-0001		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port) PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Date of Report	17/07/2024
		Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	WB/b/h ATT-19
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0001		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
1.	Colour	IS 3025(Part 4):2021	Pt. Co. Scale	20
2.	Odour	IS 3025(Part 5):1983	--	Agreeable
3.	Total Suspended Solids	APHA 24th Ed.,2023,2540 –D	mg/L	60
4.	pH @ 25 ° C	APHA 24th Ed.,2023,4500-H+B	--	7.34
5.	Temperature	IS 3025(Part 9):1984	°C	30
6.	Oil & Grease	IS 3025(Part 39):1991	mg/L	BDL(MDL:2.0)
7.	Total Residual Chlorine	IS 3025(Part 26):2021	mg/L	BDL(MDL:0.1)
8.	Ammonical Nitrogen	IS 3025(Part 34):1988,	mg/L	BDL(MDL:2.0)
9.	BOD (3 days at 27 °C)	IS 3025(Part 44):1993	mg/L	24
10.	COD	IS 3025(Part 58):2006	mg/L	84.5
11.	Arsenic (as As)	APHA 24th Ed.,2023,3114-C	mg/L	BDL(MDL:0.01)
12.	Mercury (as Hg)	APHA 24th Ed.,2023, 3112-B	mg/L	BDL(MDL:0.001)
13.	Lead (as Pb)	IS 3025 (Part 47):1994	mg/L	BDL(MDL:0.01)
14.	Cadmium (as Cd)	IS 3025(Part 41):1992	mg/L	BDL(MDL:0.003)
15.	Hexavalent Chromium	APHA 24th Ed.,2023,3500CrB	mg/L	BDL(MDL:0.05)
16.	Total Chromium (as Cr)	IS 3025 (Part 52):2003	mg/L	BDL(MDL:0.05)
17.	Copper (as Cu)	IS 3025 (Part 42):1992	mg/L	BDL(MDL:0.05)
18.	Zinc (as Zn)	IS 3025(Part 49):1994	mg/L	0.064

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Note: This report is subject to terms and conditions mentioned overleaf.

TEST REPORT

Report No.	URC /24/07/Water/APL-0001		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port) PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Date of Report	17/07/2024
		Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	WB/b/h ATT-19
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0001		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
19.	Selenium (as Se)	IS 3025(Part 56):2003	mg/L	BDL(MDL:0.01)
20.	Nickel (as Ni)	APHA 24th Ed.,2023,3111-B	mg/L	BDL(MDL:0.02)
21.	Cyanide (as CN)	IS 3025(Part 27):1986	mg/L	BDL(MDL:0.05)
22.	Fluoride (as F)	IS 3025(Part 60):2008	mg/L	0.48
23.	Dissolved Phosphate (as P)	APHA 24th Ed.,2023,4500-P, D	mg/L	0.46
24.	Sulphide as S	APHA 24th Ed.,2023,4500 S ² F	mg/L	1.2
25.	Phenolic Compound	IS 3025(Part 43):2020	mg/L	BDL(MDL:0.01)
26.	Bio Assay test (%)	IS:6582-1971	%	90 % survival of fish after 96 hrs. in 100% effluent
27.	Manganese (as Mn)	APHA 24th Ed.,2023, 3500 Mn B	mg/L	BDL(MDL:0.1)
28.	Iron (as Fe)	IS 3025(Part 53):2003	mg/L	0.144
29.	Vanadium (as V)	APHA 24th Ed.,2023-3500 – V	mg/L	N.D.
30.	Nitrate (as NO ₃ -N)	APHA 24th Ed.,2023,4500 NO ₃ -B	mg/L	0.3

Remarks: BDL= Below Detection Limit, MDL = Minimum Detection Limit

Opinion & Interpretation (If required):

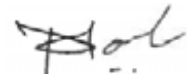
*****End of Report *****

Checked By



(Nilesh C. Patel)
(Sr. Chemist)

Authorized By



(Nitin B. Tandel)
(Technical Manager)

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Note: This report is subject to terms and conditions mentioned overleaf.

TEST REPORT

Report No.	URC /24/07/Water/APL-0002		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port) PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Date of Report	17/07/2024
		Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	WB/b/h ATT-8
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0002		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
1.	Colour	IS 3025(Part 4):2021	Pt. Co. Scale	50
2.	Odour	IS 3025(Part 5):1983	--	Agreeable
3.	Total Suspended Solids	APHA 24th Ed.,2023,2540 –D	mg/L	38
4.	pH @ 25 ° C	APHA 24th Ed.,2023,4500-H+B	--	7.19
5.	Temperature	IS 3025(Part 9):1984	°C	30
6.	Oil & Grease	IS 3025(Part 39):1991	mg/L	BDL(MDL:2.0)
7.	Total Residual Chlorine	IS 3025(Part 26):2021	mg/L	BDL(MDL:0.1)
8.	Ammonical Nitrogen	IS 3025(Part 34):1988,	mg/L	BDL(MDL:2.0)
9.	BOD (3 days at 27 °C)	IS 3025(Part 44):1993	mg/L	55
10.	COD	IS 3025(Part 58):2006	mg/L	184.7
11.	Arsenic (as As)	APHA 24th Ed.,2023,3114-C	mg/L	BDL(MDL:0.01)
12.	Mercury (as Hg)	APHA 24th Ed.,2023, 3112-B	mg/L	BDL(MDL:0.001)
13.	Lead (as Pb)	IS 3025 (Part 47):1994	mg/L	BDL(MDL:0.01)
14.	Cadmium (as Cd)	IS 3025(Part 41):1992	mg/L	BDL(MDL:0.003)
15.	Hexavalent Chromium	APHA 24th Ed.,2023,3500CrB	mg/L	BDL(MDL:0.05)
16.	Total Chromium (as Cr)	IS 3025 (Part 52):2003	mg/L	BDL(MDL:0.05)
17.	Copper (as Cu)	IS 3025 (Part 42):1992	mg/L	BDL(MDL:0.05)
18.	Zinc (as Zn)	IS 3025(Part 49):1994	mg/L	0.087

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TEST REPORT

Report No.	URC /24/07/Water/APL-0002		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port) PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Date of Report	17/07/2024
		Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	WB/b/h ATT-8
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0002		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
19.	Selenium (as Se)	IS 3025(Part 56):2003	mg/L	BDL(MDL:0.01)
20.	Nickel (as Ni)	APHA 24th Ed.,2023,3111-B	mg/L	BDL(MDL:0.02)
21.	Cyanide (as CN)	IS 3025(Part 27):1986	mg/L	BDL(MDL:0.05)
22.	Fluoride (as F)	IS 3025(Part 60):2008	mg/L	0.36
23.	Dissolved Phosphate (as P)	APHA 24th Ed.,2023,4500-P, D	mg/L	0.4
24.	Sulphide as S	APHA 24th Ed.,2023,4500 S ² F	mg/L	0.5
25.	Phenolic Compound	IS 3025(Part 43):2020	mg/L	BDL(MDL:0.01)
26.	Bio Assay test (%)	IS:6582-1971	%	90 % survival of fish after 96 hrs. in 100% effluent
27.	Manganese (as Mn)	APHA 24th Ed.,2023, 3500 Mn B	mg/L	BDL(MDL:0.1)
28.	Iron (as Fe)	IS 3025(Part 53):2003	mg/L	0.587
29.	Vanadium (as V)	APHA 24th Ed.,2023-3500 – V	mg/L	N.D.
30.	Nitrate (as NO ₃ -N)	APHA 24th Ed.,2023,4500 NO ₃ -B	mg/L	0.6

Remarks: BDL= Below Detection Limit, MDL = Minimum Detection Limit

Opinion & Interpretation (If required):

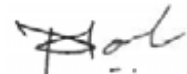
*****End of Report *****

Checked By



(Nilesh C. Patel)
(Sr. Chemist)

Authorized By



(Nitin B. Tandel)
(Technical Manager)

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Note: This report is subject to terms and conditions mentioned overleaf.

TEST REPORT

Report No.	URC /24/07/Water/APL-0003		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port) PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Date of Report	17/07/2024
		Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	WB/b/h ATT-7
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0003		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
1.	Colour	IS 3025(Part 4):2021	Pt. Co. Scale	60
2.	Odour	IS 3025(Part 5):1983	--	Agreeable
3.	Total Suspended Solids	APHA 24th Ed.,2023,2540 –D	mg/L	24
4.	pH @ 25 ° C	APHA 24th Ed.,2023,4500-H+B	--	7.18
5.	Temperature	IS 3025(Part 9):1984	°C	30
6.	Oil & Grease	IS 3025(Part 39):1991	mg/L	BDL(MDL:2.0)
7.	Total Residual Chlorine	IS 3025(Part 26):2021	mg/L	BDL(MDL:0.1)
8.	Ammonical Nitrogen	IS 3025(Part 34):1988,	mg/L	BDL(MDL:2.0)
9.	BOD (3 days at 27 °C)	IS 3025(Part 44):1993	mg/L	70
10.	COD	IS 3025(Part 58):2006	mg/L	232.9
11.	Arsenic (as As)	APHA 24th Ed.,2023,3114-C	mg/L	BDL(MDL:0.01)
12.	Mercury (as Hg)	APHA 24th Ed.,2023, 3112-B	mg/L	BDL(MDL:0.001)
13.	Lead (as Pb)	IS 3025 (Part 47):1994	mg/L	BDL(MDL:0.01)
14.	Cadmium (as Cd)	IS 3025(Part 41):1992	mg/L	BDL(MDL:0.003)
15.	Hexavalent Chromium	APHA 24th Ed.,2023,3500CrB	mg/L	BDL(MDL:0.05)
16.	Total Chromium (as Cr)	IS 3025 (Part 52):2003	mg/L	BDL(MDL:0.05)
17.	Copper (as Cu)	IS 3025 (Part 42):1992	mg/L	BDL(MDL:0.05)
18.	Zinc (as Zn)	IS 3025(Part 49):1994	mg/L	0.086

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TEST REPORT

Report No.	URC /24/07/Water/APL-0003		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port)	Date of Report	17/07/2024
	PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	WB/b/h ATT-7
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0003		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
19.	Selenium (as Se)	IS 3025(Part 56):2003	mg/L	BDL(MDL:0.01)
20.	Nickel (as Ni)	APHA 24th Ed.,2023,3111-B	mg/L	BDL(MDL:0.02)
21.	Cyanide (as CN)	IS 3025(Part 27):1986	mg/L	BDL(MDL:0.05)
22.	Fluoride (as F)	IS 3025(Part 60):2008	mg/L	0.37
23.	Dissolved Phosphate (as P)	APHA 24th Ed.,2023,4500-P, D	mg/L	0.43
24.	Sulphide as S	APHA 24th Ed.,2023,4500 S ² F	mg/L	1.7
25.	Phenolic Compound	IS 3025(Part 43):2020	mg/L	BDL(MDL:0.01)
26.	Bio Assay test (%)	IS:6582-1971	%	90 % survival of fish after 96 hrs. in 100% effluent
27.	Manganese (as Mn)	APHA 24th Ed.,2023, 3500 Mn B	mg/L	BDL(MDL:0.1)
28.	Iron (as Fe)	IS 3025(Part 53):2003	mg/L	0.858
29.	Vanadium (as V)	APHA 24th Ed.,2023-3500 – V	mg/L	N.D.
30.	Nitrate (as NO ₃ -N)	APHA 24th Ed.,2023,4500 NO ₃ -B	mg/L	0.5

Remarks: BDL= Below Detection Limit, MDL = Minimum Detection Limit

Opinion & Interpretation (If required):

*****End of Report *****

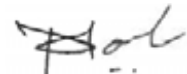
Checked By



(Nilesh C. Patel)
(Sr. Chemist)

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Authorized By



(Nitin B. Tandel)
(Technical Manager)

UERL/CHM/F-2/05

Note: This report is subject to terms and conditions mentioned overleaf.

TEST REPORT

Report No.	URC /24/07/Water/APL-0004		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port) PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Date of Report	17/07/2024
		Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	Nr,yard H
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0004		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
1.	Colour	IS 3025(Part 4):2021	Pt. Co. Scale	10
2.	Odour	IS 3025(Part 5):1983	--	Agreeable
3.	Total Suspended Solids	APHA 24th Ed.,2023,2540 –D	mg/L	44
4.	pH @ 25 ° C	APHA 24th Ed.,2023,4500-H+B	--	7.24
5.	Temperature	IS 3025(Part 9):1984	°C	30
6.	Oil & Grease	IS 3025(Part 39):1991	mg/L	BDL(MDL:2.0)
7.	Total Residual Chlorine	IS 3025(Part 26):2021	mg/L	BDL(MDL:0.1)
8.	Ammonical Nitrogen	IS 3025(Part 34):1988,	mg/L	BDL(MDL:2.0)
9.	BOD (3 days at 27 °C)	IS 3025(Part 44):1993	mg/L	11
10.	COD	IS 3025(Part 58):2006	mg/L	38.8
11.	Arsenic (as As)	APHA 24th Ed.,2023,3114-C	mg/L	BDL(MDL:0.01)
12.	Mercury (as Hg)	APHA 24th Ed.,2023, 3112-B	mg/L	BDL(MDL:0.001)
13.	Lead (as Pb)	IS 3025 (Part 47):1994	mg/L	BDL(MDL:0.01)
14.	Cadmium (as Cd)	IS 3025(Part 41):1992	mg/L	BDL(MDL:0.003)
15.	Hexavalent Chromium	APHA 24th Ed.,2023,3500CrB	mg/L	BDL(MDL:0.05)
16.	Total Chromium (as Cr)	IS 3025 (Part 52):2003	mg/L	BDL(MDL:0.05)
17.	Copper (as Cu)	IS 3025 (Part 42):1992	mg/L	BDL(MDL:0.05)
18.	Zinc (as Zn)	IS 3025(Part 49):1994	mg/L	0.092

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TEST REPORT

Report No.	URC /24/07/Water/APL-0004		
Name & Address of Customer	M/S. ADANI PORTS & SPECIAL ECONOMIC ZONE LTD. (WFDP-West Port) PLOT NO: - NAVINAL ISLAND, Village - MUNDRA, Tal. – Bhuj, DIST. - KUTCH - 370421.	Date of Report	17/07/2024
		Customer's Ref.	As Per W.O.
Sample Details	Pond Water	Location	Nr,yard H
Sample Qty.	5 Lit.	Appearance	Colorless
Sampling Date	10/07/2024	Sample Received Date	11/07/2024
Test Started Date	11/07/2024	Test Completion Date	16/07/2024
Sampled By	UERL Lab	Sampling Method	UERL/CHM/SOP/116
UERL Lab ID. No.	24/07/Water/APL-0004		

TEST RESULTS:

Sr. No.	Parameters	Test Method Permissible	Unit of Measurement	Results
19.	Selenium (as Se)	IS 3025(Part 56):2003	mg/L	BDL(MDL:0.01)
20.	Nickel (as Ni)	APHA 24th Ed.,2023,3111-B	mg/L	BDL(MDL:0.02)
21.	Cyanide (as CN)	IS 3025(Part 27):1986	mg/L	BDL(MDL:0.05)
22.	Fluoride (as F)	IS 3025(Part 60):2008	mg/L	0.58
23.	Dissolved Phosphate (as P)	APHA 24th Ed.,2023,4500-P, D	mg/L	0.52
24.	Sulphide as S	APHA 24th Ed.,2023,4500 S ² F	mg/L	0.86
25.	Phenolic Compound	IS 3025(Part 43):2020	mg/L	BDL(MDL:0.01)
26.	Bio Assay test (%)	IS:6582-1971	%	90 % survival of fish after 96 hrs. in 100% effluent
27.	Manganese (as Mn)	APHA 24th Ed.,2023, 3500 Mn B	mg/L	BDL(MDL:0.1)
28.	Iron (as Fe)	IS 3025(Part 53):2003	mg/L	0.222
29.	Vanadium (as V)	APHA 24th Ed.,2023-3500 – V	mg/L	N.D.
30.	Nitrate (as NO ₃ -N)	APHA 24th Ed.,2023,4500 NO ₃ -B	mg/L	0.6

Remarks: BDL= Below Detection Limit, MDL = Minimum Detection Limit

Opinion & Interpretation (If required):

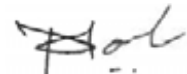
*****End of Report *****

Checked By



(Nilesh C. Patel)
(Sr. Chemist)

Authorized By



(Nitin B. Tandel)
(Technical Manager)

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UERL/CHM/F-2/05

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