

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 for Environment and CRZ clearance for 'Expansion of notified Multi-product SEZ by adding 1840 Ha notified SEZ with existing approved area of 6641.2784 ha to make it 8481.2784 ha at Mundra' by M/s Adani Ports and Special Economic Zone Ltd.

Ref : Environmental Clearance granted by Ministry of Environment, Forest and Climate Change, F. No. 10-138/2008-IA.III dated 12th February, 2020.

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.

Adani Ports and Special Economic Zone Ltd
Adani House,
PO Box No. 1
Mundra, Kutch 370 421
Gujarat, India
CIN: L63090GJ1998PLC034182

Tel +91 2838 25 5000
Fax +91 2838 25 51110
info@adani.com
www.adani.com

Environmental Clearance Compliance Report



Expansion of notified Multi-product
SEZ by adding 1840 Ha,
Mundra, Dist. Kutch, Gujarat

Adani Ports and SEZ Limited

For the period of
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 and CRZ Clearance		

M/s. Adani Ports and SEZ Limited has been granted Environmental / CRZ clearance vide letter no. 10-138/2008-IA.III, dated 12th February, 2020 for "Expansion of notified Multi-product SEZ by adding 1840 Ha notified SEZ with existing approved area of 6641.2784 ha to make it 8481.2784 ha at Mundra, Dist. Kutch (Gujarat)".

Activities / Facilities approved are as below:

Facilities / Components Approved	Total Approved Area (Ha)	Area (Ha) developed till 30.09.2024	Area under construction (Ha)
Port Back-up and related industrial developments (Requiring Waterfront)	187.22	--	0
Industrial Zone (Chemical, Textile & Apparel, Heavy/Light Engineering, Plastic, Cement)	978.64	--	359.82
Warehousing & Container Freight Station (CFS) Zone	88.33	9.6	0
Green / Renewable Energy	24.15	6.68	0
Open/Green Spaces	607 ^s	3.0	34.65
Facilities / Amenities & Utilities / Transportation	256.2	143.95	7.23
TOTAL AREA	1840	163	401.70

^sProposed greenbelt by APSEZ = 305 ha (16.6%) and by industrial units = 302 ha (16.4%)

Note:

Boundary wall is constructed along the project periphery. In some of areas level raising and area development of SEZ area, wherever required is also under progress.

*Inline to the APSEZ's request, Ministry of Commerce & Industry (MoCI) vide Gazette order dtd. 4th July 2019 has de-notified 46.6894 ha from total area of 8481.2784 Ha, thereby making resultant area of notified Multiproduct SEZ as 8434.5890 Ha.

**After that Inline to the APSEZ's request, Ministry of Commerce & Industry (MoCI) vide Gazette order dtd. 29th November, 2021 and 21st September, 2022 has de-notified 200.405 Ha from total area of 8434.5890 Ha, thereby making resultant area of notified Multiproduct SEZ as 8234.184 Ha. Copy of MoCI Gazette Notification dated 21st September, 2022 submitted during the previous compliance period Apr'22 to Sep'22.

adani

Ports and
Logistics

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

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

Status of the Conditions Stipulated in Environment and CRZ Clearance

**Compliance Report of
Environmental and CRZ
Clearance**

Status of the Conditions Stipulated in Environment and CRZ Clearance

Half yearly Compliance report of Environment and CRZ Clearance for "Expansion of notified Multi-product SEZ by adding 1840 Ha notified SEZ with existing approved area of 6641.2784 ha to make it 8481.2784 ha at Mundra, Dist. Kutch (Gujarat)" by M/s Adani Ports and Special Economic Zone Ltd. issued vide letter no. 10-138/2008-IA.III, dated 12th February, 2020.

Sr. No.	Conditions	Compliance Status as on 30.09.2024
(i)	This Environmental and CRZ Clearance for the said expansion shall be subject to the outcome of ongoing court cases.	<p>Point noted and will be complied</p> <p>SLP (Civil) no. 1526 of 2014</p> <ul style="list-style-type: none"> Vide order dated 14.07.2014, the Hon'ble Supreme Court directed MoEF&CC to complete the process of environmental clearance to the MSEZ project of APSEZ within eight weeks. MoEF&CC issued EC and CRZ clearance to the proposed project vide letter dated 15.07.2014. Hence, the SLP (Civil) no. 1526/2014 is deemed closed. Details of the same was submitted during the half yearly EC compliance report submission for the period Oct'21 to Mar'22. <p>SLP (Civil) no. 28788 of 2016</p> <ul style="list-style-type: none"> In view of the affidavits filed by MOEF, and Govt of Gujarat the High Court dismissed the petition on 18.02.2015. The petitioner filed a special leave to appeal before the Supreme Court of India, challenging the order dated 18.02.2015 of Gujarat High Court and the same is pending. Sunita Narayan committee was appointed to study the area. Report was prepared by committee and submitted to Hon'ble Supreme Court. Matter pending at Supreme court. Updated status details is attached as Annexure - 1. <p>APSEZ has taken/proposed following action:</p> <ul style="list-style-type: none"> APSEZ has submitted as part of their submission to the Committee that there are no presence of "Sand dunes", in APSEZ area, inline to the authenticated maps & report available for this area. The Committee visited Mundra on January 3 & 4, 2018 and the core issues to be examined by the Committee were (i) whether sand dunes are allotted in the forest land and whether APSEZL has destroyed/disturbed them and (ii) whether measurement of land was wrongly done? The Sunita Narain committee filed its report in the Hon'ble Supreme Court of India on 14.9.2018. The Committee heard representations from both the parties and concluded that the term "Dhuva" is not synonymous with shifting sand dune. The Committee concluded that there is no

Status of the Conditions Stipulated in Environment and CRZ Clearance

Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>incontrovertible evidence that Mor Dhuva was a sand dune and it cannot be said that M/s. APSEZL violated any conditions of the Environmental Clearance. With regards to the issue of measurement of land, the Committee stated that there was no credible evidence to show that Mor Dhuva was not part of the allotment to APSEZ and all measurements were done appropriately.</p>
(ii)	<p>Total area of Multi-product SEZ run by APSEZ Limited will be 8481.2784 ha after this expansion. The geo-coordinates of the additional piece of land (1840 ha) are 22°47'35.41" - 22°47'57.67"N and 69°40'6.15" - 69°32'46.58"E.</p>	<p>Point noted and complied with</p>
(iii)	<p>The proponent shall obtain, wherever applicable, separate Environmental Clearance including Risk Assessment for the Isolated Storage and Handling of Hazardous Chemicals under schedule 6(b) of the EIA Notification, 2006 and subsequent amendments thereto.</p>	<p>Not Applicable</p> <p>As per MoEF&CC Notification dated 13th June, 2019, Item 6(b) and the entries relating thereto has been omitted from EIA Notification – 2006. Hence Project under Category – 6(b) Isolated Storage and Handling of Hazardous Chemicals not attracts EIA Notification – 2006 and subsequent amendments thereafter.</p> <p>However, individual unit will obtain requisite permissions from regulatory authorities in line to EIA Notification, 2006 and subsequent amendments thereto if applicable.</p>
(iv)	<p>The proponent shall prepare and implement the Mangrove Conservation and Management Plan in consultation with the State Forest Department. This Plan shall be subject to monitoring by the third party. The implementation report and third-party audit report be submitted to the Regional Office,</p>	<p>Complied.</p> <p>Construction activities are completed and project is in operation phase.</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.

Status of the Conditions Stipulated in Environment and CRZ Clearance

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	MoEF&CC and the State Forest Department.	<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 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>Summary of Conservation of mangroves:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <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>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">Sr. No.</th> <th style="text-align: center;">Recommendations</th> <th style="text-align: center;">Compliance</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </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%	2019 to 2021 till March	GUIDE	2723	127	4.89%	Total		2723	629	--	Sr. No.	Recommendations	Compliance			
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Status of the Conditions Stipulated in Environment and CRZ Clearance

		<p>1. Mangrove mapping and monitoring in and around APSEZ</p>	<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 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. <p>Summary of Mangrove mapping and monitoring (from 2011 to 2021):</p> <table border="1" data-bbox="896 1656 1502 1948"> <thead> <tr> <th rowspan="2">Mangrove mapping Year</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>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>2596</td> <td>256</td> <td>10.94%</td> </tr> <tr> <td>2019 to 2021 till March</td> <td>2723</td> <td>127</td> <td>4.89</td> </tr> <tr> <td>Total</td> <td>2723</td> <td>629</td> <td>--</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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Status of the Conditions Stipulated in Environment and CRZ Clearance

Sr. No.	Conditions	Compliance Status as on 30.09.2024	
		2.	<p>Tidal observation in creeks in and around APSEZ</p> <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.	<p>Removal of Algal and Prosopis growth from mangrove areas</p> <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.	<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 - 2. Refer CSR report attached as Annexure - 3. <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</p>

Status of the Conditions Stipulated in Environment and CRZ Clearance

Sr. No.	Conditions	Compliance Status as on 30.09.2024
		<p>around APSEZ March 2021 to March 2023. The said work will be undertaken by NCSCM shortly.</p> <p>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>
(v)	<p>All the recommendations and mitigation measures as proposed in the Cumulative Impact Assessment report of Waterfront, SEZ and ancillary Developments along Mundra, Kutch District, Gujarat shall be complied in letter and spirit. Proper record of monitoring should be placed along with six monthly compliance report.</p>	<p>Complied.</p> <p>APSEZ is already complying, as per Environment Management Plan and further recommendations, applicable to APSEZ as mentioned in the EMP of Cumulative Impact Assessment Study Report, w.r.t. Traffic Management Plan, Ground water quality management, Salinity ingress programme, Air and Noise quality Management, Surface and Marine water quality management, Ecology and Biodiversity Management, Solid & Hazardous waste management, Socio-economic Management and Shoreline Management as per the progress of development within the boundary limits of APSEZ.</p> <p>The detailed compliance, applicable to APSEZ is attached as Annexure - 4.</p>
(vi)	<p>This environmental clearance is only for the Multi-product SEZ. Any other activity within the Multi-product SEZ would require separate environmental clearance, as applicable under EIA Notification, 2006 and subsequent amendments. For all individual units, environmental clearances, as applicable, shall be obtained from the respective regulatory authorities.</p>	<p>Point Noted and Complied with</p> <p>Separate environment clearance will be obtained by APSEZ or individual unit from regulatory authorities in line to EIA Notification, 2006 and subsequent amendments thereto if applicable.</p>
(vii)	<p>An Emergency Response Centre to be established to take care for prevention of and management of</p>	<p>Complied.</p> <p>Oil spill contingency response plan is being updated on regular basis and the same was last updated on 30.07.2022 is in place and</p>

Status of the Conditions Stipulated in Environment and CRZ Clearance

Sr. No.	Conditions	Compliance Status as on 30.09.2024
	<p>accidents, chemical spills etc. including that during transportation of chemicals with the arrangement of antidotes and necessary equipment.</p>	<p>implemented. The updated 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, ICGS and APSEZ, Mundra) were participated in this exercise. Details of the same is attached Annexure - 5</p> <p>Mock drills are conducted regularly by APSEZ. Last Oil Spill Mock drill was conducted on 03.05.2024. Oil Spill Mock Drill report is enclosed as Annexure - 5.</p>
(viii)	<p>All the provisions of the CRZ Notification, 2011 and subsequent amendments shall be strictly complied with, and in case of any change in scope of work, necessary recommendations from the concerned CZMA shall be obtained for further consideration by the concerned regulatory authority.</p>	<p>Point noted and will be complied with.</p> <p>CRZ Recommendations vide Letter No. ENV-10-2010-1601-E dated 27th March, 2012 obtained from GCZMA for Multi-Product SEZ for construction of Intake, Outfall pipeline and Desalination plant.</p> <p>Construction with respect to Desalination Plant, sea water intake and outfall system has not been started yet.</p>
(ix)	<p>The project proponent shall ensure that the project is in consonance with the new Coastal Zone Management Plan prepared by the State Government under the provisions of CRZ Notification, 2011 and subsequent amendments.</p>	<p>Point Noted and Complied with</p> <p>APSEZ ensures that the project is in consonance with the new Coastal Zone Management Plan prepared by the State Government under the provisions of CRZ Notification, 2011 and subsequent amendments.</p>

Status of the Conditions Stipulated in Environment and CRZ Clearance

Sr. No.	Conditions	Compliance Status as on 30.09.2024
(x)	On the project site physical HTL demarcation has to be compulsorily made with the help of Government of India organizations/Institutions.	<p>Point noted and being complied</p> <p>NCSCM has prepared authorized CRZ maps with HTL and CRZ Boundary as per the approved CZMP of Gujarat state under the provisions of CRZ Notification, 2011 and subsequent amendments. The same maps were submitted during the half yearly EC compliance report submission for the period Oct'21 to Mar'22.</p> <p>As per the approved map of CZMP Kutch region APSEZ has demarcated the HTL boundary line within APSEZ area. Photographs of the demarcated HTL boundary line were submitted along with the EC compliance report for the period Apr'23 to Sep'23.</p>
(xi)	No construction works other than those permitted in CRZ Notification shall be carried out in CRZ area.	<p>Point Noted and Will be complied with</p> <p>No construction works other than those permitted in CRZ Notification – 2011 will be carried out in CRZ area.</p>
(xii)	Non-vegetated mudflats must be clearly demarcated on the map and no artificial plantation to be undertaken on non-vegetated mudflats.	<p>Point Noted and Will be complied with</p> <p>CZMP of Gujarat state under the provisions of CRZ Notification, 2011 and subsequent amendments is finalized and published on website.</p> <p>No work other than those permitted in CRZ Notification – 2011 will be carried out in CRZ area.</p>
(xiii)	The temperature at the discharge point has to be monitored regularly and also the physico-chemical and biological parameters including benthic fauna and flora, primary and secondary productions as well as fishery populations has to be monitored regularly during the construction and operation phase by employing qualified persons.	<p>Point Noted and Will be complied with</p> <p>Construction with respect to Desalination Plant, sea water intake and outfall system has not been started yet.</p>
(xiv)	The project proponent	Point Noted and Will be complied with

Status of the Conditions Stipulated in Environment and CRZ Clearance

Sr. No.	Conditions	Compliance Status as on 30.09.2024
	shall report to the State Pollution Control Board about the compliance of the prescribed standards for all discharges from the Industrial Area into the sea	Construction with respect to Desalination Plant, sea water intake and outfall system has not been started yet.
(xv)	No New CETP shall be permitted in SEZ area.	<p>Point noted.</p> <p>CETPs of 67 MLD capacities has been approved as part of EC & CRZ Clearance dated 15th July, 2014. And same will serve the purpose of entire SEZ of 8481.2784 Ha area.</p> <p>No new CETP has been proposed as a part of said clearance.</p>
(xvi)	Periodic monitoring of coastal water shall be carried out at outfall location by the project proponent by establishing minimum 3 monitoring stations. Proper record of monitoring should be placed along with six monthly compliance report.	<p>Point noted and will be complied</p> <p>Construction with respect to Desalination Plant, sea water intake and outfall system has not been started yet.</p>
(xvii)	Fund allocation of Rs. 12.50 Crore for Corporate Environment Responsibility (CER) shall be made as per Ministry's O.M. No. 22-65/2017-IA.III dated 1 st May, 2018 for various activities therein. The report having activity wise detail along with the time frame shall be submitted to this Ministry and its concerned regional office within 3 months.	<p>Point noted and will be Complied with</p> <p>The report having activity wise detail along with the time frame was submitted to the MoEF&CC along with EIA / EMP Report.</p> <p>Fund will be allocated and spent on yearly basis in line with the actual cost spent for respective years on development of common infrastructure facilities within 1840 Ha MSEZ area.</p> <p>However, Adani Foundation – CSR arm of Adani Group is doing various Environment Sustainability Projects in surrounding villages and communities. Details of activities carried out by Adani Foundation during compliance period are as below.</p> <p>EARLIER ENVIRONMENT SUSTAINABILITY PROJECTS</p> <ul style="list-style-type: none"> • Miyawaki Forest Development, Nana Kapaya - Plantation of 5880 saplings of different 42 species is completed which will result in dense forest within 2 years • Smruti Van – Plantation more than 47,000 sapling with more than 115 species through Miyawaki methodology.

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		<ul style="list-style-type: none"> • Ecosystem Restoration, Guneri – Grassland ecosystem restoration and mangrove conservation in 40 Ha area over a period of 4 years. The site visit and soil samplings conducted by GES team. Regular bimonthly meeting conducted to assess the annual phase wise growth of ongoing activities Multi-Species Mangrove Park - Adani Foundation at Mundra's initiated multi-species plantation of mangroves in Kutch association with GUIDE. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hectore 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, • 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. • Mangroves Biodiversity Park within one year Home biogas - Under Gram Utthan Project, Adani Foundation is supporting home biogas to farmers to Uthhan Villages phase wise. Total 325 farmers are supported with Biogas as sustainable environment protection. Current year FY 2023-24 upto Sep'23 process to facilitate 258 Gobardhan unit through Govt. • As per SORI use of biogas each farmer can save Rs.23400/year. <p>Water Conservation Projects –</p> <p>Water Conservation Projects completed during last Compliance period:</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="657 1270 1437 1585"> <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" data-bbox="678 1684 1412 1869"> <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 Restrengthen ing-Nana Kapaya</td> <td>1</td> <td>Water Storage Capacity increased by 48000 Cum</td> <td>60 + farmer's 120+Acre Area of Agri land can be Irrigated</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 Restrengthen ing-Nana Kapaya	1	Water Storage Capacity increased by 48000 Cum	60 + farmer's 120+Acre Area of Agri land can be Irrigated
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		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 Checkdamat Bhujpur	1	prevent water runoff into seaside.	35 farmers' 120+Acre Area of Agri land can be Irrigated	
		<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 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers. • New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum. • Roof Top Rainwater Harvesting 145 Nos. (40 Nos. current FY 2022-23) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family. • Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil. • Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date. • Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which borewell depth 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>Please refer Annexure – 3 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 are spent during the current FY 2024-25 till Sep'24.</p> <p>During the FY 2023-24 INR 11.66 lakh spent under the Corporate Environment Responsibility (CER) projects Mega Plantation in 1.0 ha area of Bhujpur Village Panchayat area. Copy of the same is attached as Annexure – 4.</p> <p>Please refer Annexure – 3 for full details of CSR activities carried out by Adani Foundation in the Kutch 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>					
xviii)	No groundwater	Complied.					

Status of the Conditions Stipulated in Environment and CRZ Clearance

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	extraction is permitted. The project proponent shall obtain the necessary permission from the competent authority for use of surface water for the project.	No ground water is used during construction & operation stage of the project. Current sources of water are through GWIL and desalination plant of APSEZ. Average, water consumption for entire APSEZ area is 5.34 MLD during the compliance period Apr'24 to Sep'24.															
(xix)	The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.	<p>Complied.</p> <p>Consolidated Consent & Authorization (CC&A) obtained from SPCB for development of 8481.27 Ha notified SEZ area @ Mundra. The present in-force CtOs are mentioned below.</p> <table border="1" data-bbox="646 829 1443 1050"> <thead> <tr> <th>S. No.</th> <th>Permission</th> <th>Project</th> <th>Ref. No. / Order No.</th> <th>Valid till</th> </tr> </thead> <tbody> <tr> <td align="center">1</td> <td>CTE-Amendment for Validity Extension</td> <td>Multi-Product SEZ</td> <td>CTE 122249 -</td> <td>15.07.2025</td> </tr> <tr> <td align="center">2</td> <td>(CC&A) - Renewal Cum Amendment renewal</td> <td>Multi-Product SEZ</td> <td>AWH 122250 -</td> <td>21.08.2027</td> </tr> </tbody> </table> <p>GPCB has granted CTE-Amendment for Validity Extension vide CTE No.-122249 Valid upto: 15/07/2025. Consolidated Consent & Authorization (CC&A) – Renewal Cum Amendment renewal order granted vide Consent No. AWH-122250 Valid upto: 21/08/2027. Copy of CTE-Amendment & Consolidated Consent & Authorization (CC&A) – Renewal Cum Amendment were submitted during the previous compliance period Apr'22 to Sep'22.</p> <p>All the hazardous wastes generated from project is being managed in line with Hazardous and other Waste Management Rules, 2016.</p>	S. No.	Permission	Project	Ref. No. / Order No.	Valid till	1	CTE-Amendment for Validity Extension	Multi-Product SEZ	CTE 122249 -	15.07.2025	2	(CC&A) - Renewal Cum Amendment renewal	Multi-Product SEZ	AWH 122250 -	21.08.2027
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(xx)	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the Industrial area	<p>Complied.</p> <p>Ambient Air Quality (considering one location within the project site and outside project site @ an angle of 120°) covering upwind and downwind directions are being carried out through NABL accredited and MoEF&CC authorized 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>Air sampling locations & frequency: 10 nos. (twice a week)</p> <table border="1" data-bbox="587 1743 1422 1887"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>Min.</th> <th>Max.</th> <th>Avg.</th> <th>Perm. Limit\$</th> </tr> </thead> <tbody> <tr> <td>PM₁₀</td> <td>µg/m³</td> <td align="center">30.61</td> <td align="center">85.42</td> <td align="center">61.11</td> <td align="center">100</td> </tr> </tbody> </table>	Parameter	Unit	Min.	Max.	Avg.	Perm. Limit\$	PM ₁₀	µg/m ³	30.61	85.42	61.11	100			
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Status of the Conditions Stipulated in Environment and CRZ Clearance

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	at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.	PM _{2.5}	µg/m ³	12.84	40.13	24.84	60
		SO ₂	µg/m ³	7.13	26.63	14.30	80
		NO ₂	µg/m ³	9.63	28.00	18.77	80
		⁵ as per NAAQ standards, 2009 Values recorded confirms to the stipulated standards.					
		Please refer Annexure - 6 for detailed analysis reports. Approx. INR 6.11 Lakh is spent for all environmental monitoring activities including ambient air quality monitoring during the FY 2024-25 till Sep'24 for overall APSEZ, Mundra. Please refer Annexure - 7 Environmental Expenditure details for FY 2024-25 (till Sep'24).					
(xxi)	The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured/recorded to ensure the water balance as projected by the project proponent. The record shall be submitted to the concerned Regional Office of the Ministry along with six monthly monitoring reports.	Complied. The quantity of fresh water, water recycling and rainwater harvesting is being recorded and maintained. The data of water consumption, wastewater generation and treated water recycling is also being submitted to SPCB on monthly basis as part of the online submission – Monthly Patrak as well as yearly environmental statement (Form-V). The acknowledgement copy of the Environmental Statement (Form V) of FY 2023-24 is attached as Annexure - 8 . Complied Groundwater recharge cannot be done at the project site since the entire project is in the intertidal / sub tidal areas. Rainwater within project area is managed through storm water drainage. We have installed Rainwater recharge bore well (4 Nos.) within our township to recharge ground water. During FY 2024-25 (till Sep'24) Approx. 7.31 ML of rainwater has been recharged to increase the ground water table. We have also connected roof top rainwater duct of operational building (Tug berth building within MPT) with u/g water tank for utilization of collected rainwater for gardening / horticulture purpose. Details of the same submitted in previous compliance period.					

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		<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 as per increased in coastal belt of Mundra as per Government Figures.</p> <p>Our water conservation work is as below. Below tabulated Water Conservation Projects completed during Compliance period FY 2023-24:</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="688 1524 1403 1814"> <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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		<ul style="list-style-type: none"> 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>Please refer Annexure – 3 for full details of CSR activities carried out by Adani Foundation in the Kutch region.</p>
xxii)	Provide LED lights in their offices and residential areas.	<p>Complied.</p> <p>LED lighting are being used at various common areas of SEZ as well office buildings and residential townships.</p> <p>It may be noted that the individual industrial units will also be encouraged for provision of LED lights in their offices and other areas.</p>
xxiii)	Used LEDs shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible. Energy conservation measures should be as per Bureau of Energy Efficiency (BEE) standards.	<p>Complied.</p> <p>Used LEDs are collected and sent for recycling through authorized e-waste collection agency.</p> <p>APSEZ has installed & commissioned 8.8 MW roof top solar plants within APSEZ and Township premises. APSEZ has also installed and commissioned 12 MW windmill and whatever electricity generated is being supplied to grid.</p> <p>In additionally 10.4 MW capacity of windmill has been installed by Adani New Energy and as now total capacity of windmill energy is 22.4 MW existed in APSEZ premises.</p> <p>Energy audit of port user buildings of MSEA (including the details about building materials and technology etc.) is carried out once every three years. The most recent audit was conducted during 18th to 20th Jan-2022 by M/s. ECO ENERGY SOLUTION and report of the same was submitted to Chief Electrical officer, Gandhinagar. The Energy Audit report was submitted during the half yearly EC compliance report for the period Oct'21 to Mar'22.</p> <p>Energy Conservation through Installation of Motion Sensor (Occu switch) & AC Temp. controls in few of the buildings are provided.</p>

Status of the Conditions Stipulated in Environment and CRZ Clearance

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		<p>Measures for energy conservation are incorporated at design stage. Few of the buildings in MSTPL are designed as green building. Some features of the same are as below.</p> <ul style="list-style-type: none"> • Used fly ash based cement and bricks • Special types of glasses were used which gives maximum sunlight and less heat • VOC free paint used certified by CII (Certificate of Indian Industries) • Water flow reducer installed in the entire building <p>It may be noted that the individual industrial units will also be encouraged for taking various initiatives with respect to energy conservation (such as LED lightings, installation of renewable energy sources, utilization of energy efficient fixtures etc.).</p>
xxiv)	<p>The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for Standard Operating Procedures (SOP) to have proper checks and balances and to bring into focus any infringements/ deviation/violation of the environmental/ forest/ wildlife norms/conditions. The company shall have defined system of reporting infringements/ deviation/ violation of the environmental/ forest/ wildlife norms /conditions and/ or shareholders/stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.</p>	<p>Complied.</p> <p>Environment Policy duly approved by the Board of Directors is in place and updated copy of Environment Policy was submitted during the EC compliance report submission for the period Apr'23 to Sep'23.</p>

Status of the Conditions Stipulated in Environment and CRZ Clearance

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(xxv)	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	<p>Complied.</p> <p>M/s 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 Chief Executive Officer (CEO) and the CEO directly reports to the top management. The updated Environment Management Cell Organogram is attached as Annexure - 9.</p>
xxvi)	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	<p>Will be complied.</p> <p>The last self/internal environment audit was carried out by HO Environment Team on 8th to 10th May, 2023 for the period Apr'22 to Sep'22 compliance period. The Copy of the same was submitted along with EC compliance report submission for the period Apr'23 to Sep'23.</p> <p>No nonconformity is observed during internal self-environment audit and as per improvement suggestion for timely conducting the mangrove mapping study by GUIDE has been done during the compliance period Apr'23 to Sep'23. Please refer condition no. iv of EC & CRZ compliance report for further details.</p> <p>Third party environmental audit was carried out by recognized agency M/s. Marwadi University, Rajkot a GPCB approved schedule-1 auditor for the compliance period Oct'22 to Mar'23 and no non-compliance found during EC compliance verification. The copy EC compliance letter with GPCB order for schedule-1 auditor was submitted along with EC Compliance report submission for the period Apr'23 to Sep'23.</p> <p>Next external environment audit will be carried out after three years as mentioned in the condition.</p>

Annexure – 1

Legal Matters- Mudra: November 2024

S.No	Case Detail (No., Parties to the Case, Filed at and on)	Case Brief (Matter)	Last Status (As on.....)	Current Status as on 28.11.2023	Obligation (if any)	Action Taken/Proposed	Remarks (Here we can mention the updates that happened during the intervening period. Depending upon what you need to disclose i.e Comprehensively/brief))
1	<p>SLP 28788 of 2016 Pravinsinh Bhurabhai Chauhan Vs State of Gujarat & Others</p> <p>Petitioner 1. PRAVINSINGH BHURABHA CHAUHAN</p> <p>Respondent 2. State of Gujarat 3. APSEZ 4. MoEF&CC, New Delhi</p>	<ul style="list-style-type: none"> Public Interest Litigation was filed before the Hon'ble Gujarat High Court by Mr. Pravinsingh Bhurubha Chauhan alleging, presence of Sand dunes in the APSEZ project area. APSEZ has submitted its representation that no Sand dunes are present in the project area and 	Tentatively listed on 09.12.2024	Matter pending Hon'ble at Supreme Court.		<ul style="list-style-type: none"> APSEZ has already submitted as part of their submission to the Committee that there are no presence of "Sand dunes", in APSEZ area, inline to the authenticated maps & report available for this area. The Committee visited Mudra on January 3 & 4, 2018 and the core issues to be examined by the Committee were (i) whether sand dunes are allotted in the forest land and whether APSEZL has destroyed/disturbed 	

	<p>5. MOC&I, New Delhi</p> <p>6. Collector, Bhuj</p> <p>7. Principal Secretary, Gujarat</p>	<p>same was also verified during the site visit carried out by the Committee, constituted by Collector, Kutch on 25.07.2014 and by Regional Office of MoEF&CC, Bhopal on 25.09.2014.</p> <ul style="list-style-type: none"> Hon'ble High Court of Gujarat had dismissed the PIL filed by the Petitioner, vide their order dtd. 18.02.2015 stating that, "There is no need of constituting a new committee to look into the alleged violations as there is already a committee constituted by the ministry and a report by the same committee 				<p>them and (ii) whether measurement of land was wrongly done? The Sunita Narain committee filed its report in the Hon'ble Supreme Court of India on 14.9.2018.</p> <ul style="list-style-type: none"> The Committee heard representations from both the parties and concluded that the term "Dhuva" is not synonymous with shifting sand dune. The Committee concluded that there is no incontrovertible evidence that Mor Dhuva was a sand dune and it cannot be said that M/s. APSEZL violated any conditions of the Environmental Clearance. With regards to the issue of measurement of land, the Committee stated that there was no credible evidence to show that Mor Dhuva was not part of the allotment to APSEZ and all measurements were done appropriately. 	
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		<p>has also been submitted"</p> <ul style="list-style-type: none">• Later on Special Leave Petition was filed in Supreme Court by the Petitioner vide dated 26.10.2015 against the above said order of the Hon'ble High Court of Gujarat• In view of above, Hon'ble Supreme Court vide their order dated 23.08.2017, had requested the earlier formed Sunita Narayan Committee to relook in to this matter and submit their report.• Committee had visited the site on 3/4.01.2018 and has submitted their detailed report					
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		<p>to Hon'ble Supreme Court.</p> <ul style="list-style-type: none"> • Further, based on the findings of the report, the subject land is not classified as Sand dune and therefore allegations are not correct. 					
2.	Kheti Vikas Seva Trust Vs Uoi & Others CA 9124 of 2011 in WPPIL 12 of 2011	<ul style="list-style-type: none"> • The writ petition has been dismissed by the Gujarat High Court on 17th April 2015. • The Hon'ble Supreme Court of India on 18.3.2016 dismissed the appeal against the said order dated 17th April, 2015 of the Gujarat High Court. • However, an application was filed by the petitioner 	N.A	Matter pending before Gujarat High Court (not listed since 2021)		<ul style="list-style-type: none"> •The committee of Mr. Claude Alvaris, Mr. Subrata Maity and Deputy Conservator of Forest, kachchh was appointed and the committee submitted its report on 7.6.2016. The committee suggested various measures like replanting of mangroves in 5333 ha area, GCZMA to re-examine the entire proposal of APSEZL in line with CRZ notification, measures to safeguard Bocha Island and annual uploading of satellite images by APSEZL. •APSEZL has challenged the recommendations of the committee stating 	

		<p>alleging non-compliance of an order of the Gujarat HC dated 12th July 2011 prohibiting the cutting of mangroves and other forests during the pendency of the petition without permission of the state forest and environment department in relation to the writ petition. The said Writ Petition before the Gujarat High Court has been disposed of by common order dated 05.09.2022.</p> <ul style="list-style-type: none"> • Further, a Civil Application No. 1 of 2011 in CA 9124 of 2011 				<p>that it has exceeded its terms of reference and APSEZL has already done mangrove reforestation and is in compliance with the Environment Clearance dated 18.9.2015. the Sunita Narain Committee recommendations have already been captured in the EC conditions and the company is in compliance of the same.</p>	
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		<p>was filed against APSEZ and APL for initiation of contempt proceedings.</p> <ul style="list-style-type: none">• The court ordered the CA to be listed with another matter (WPPIL 121 of 2021)					
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Annexure – 2

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 – 3



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 (Studnets) + 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

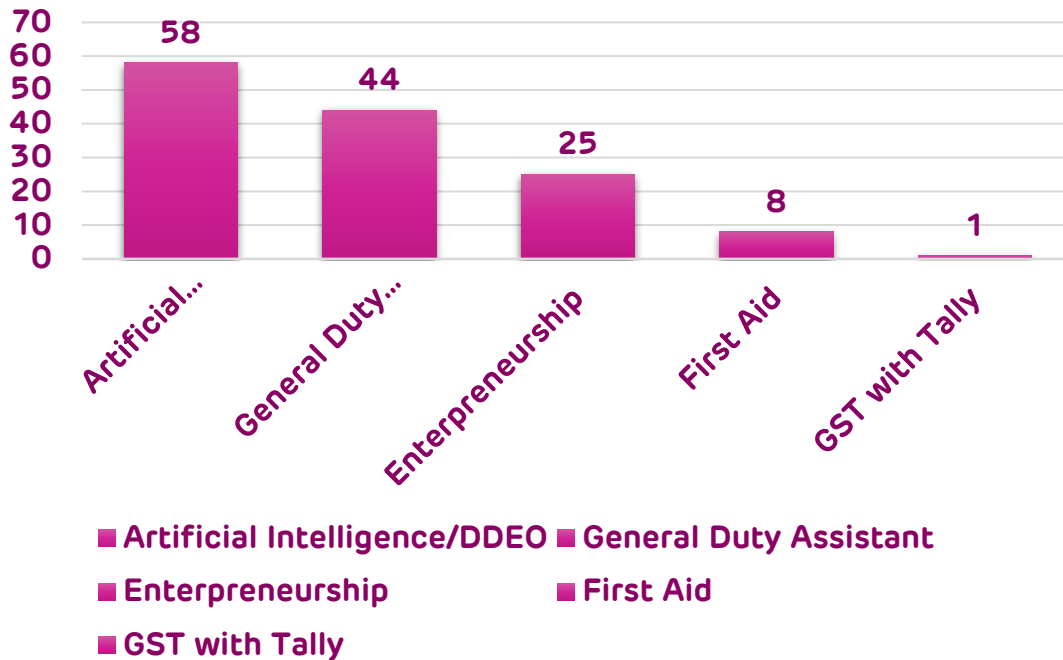


Adani Skill Development Centre (ASDC) plays a pivotal role in empowering individuals through skill enhancement. By offering a wide range of training programs, ASDC aims to bridge the gap between industry requirements and workforce capabilities. This initiative not only helps individuals stay adaptable 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.

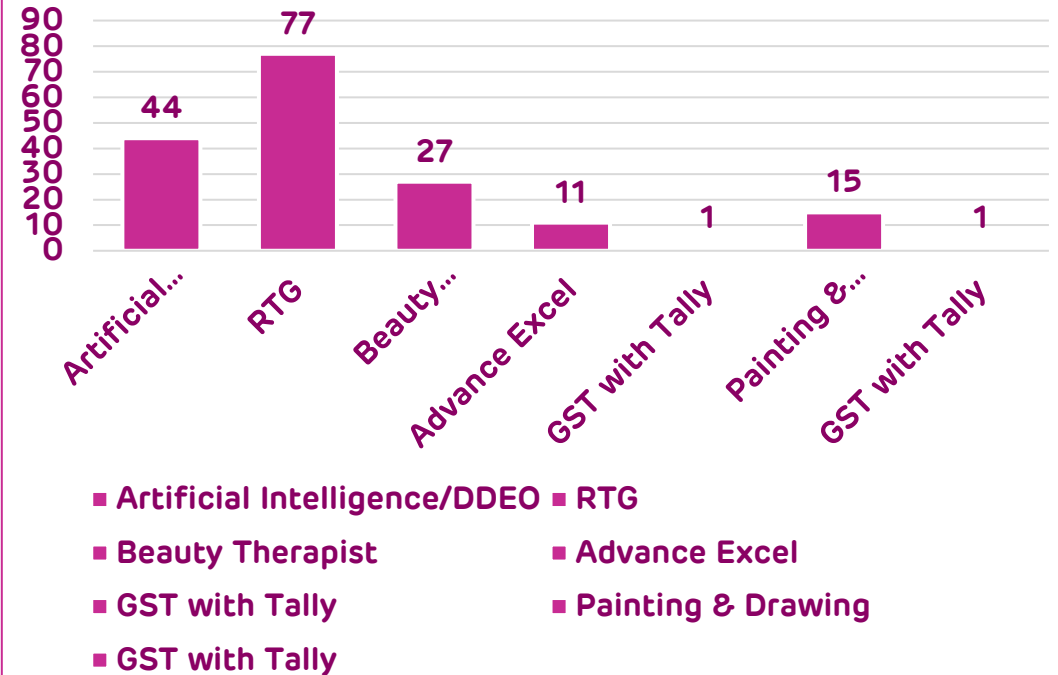
Empowering Youth : Impact of ASDC in Mundra and Bhuj Center

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.

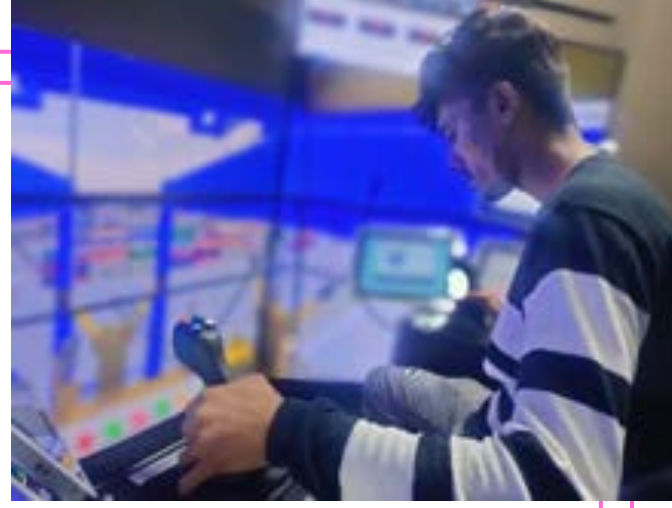
Percentage of Students in course, Bhuj



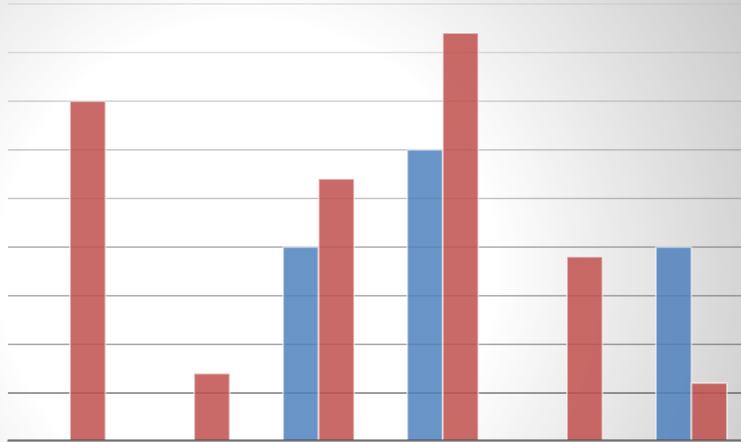
Percentage of Students in course, Mundra



Some glimpse of ASDC Mundra and Bhuj



Half Yearly Target Vs Achievement Bhuj



■ Target

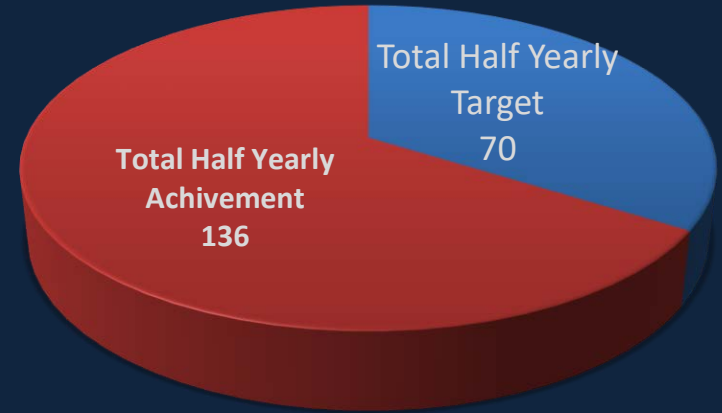
■ Achivement

Apr May Jun Jul Aug Sep

0 0 20 30 0 20

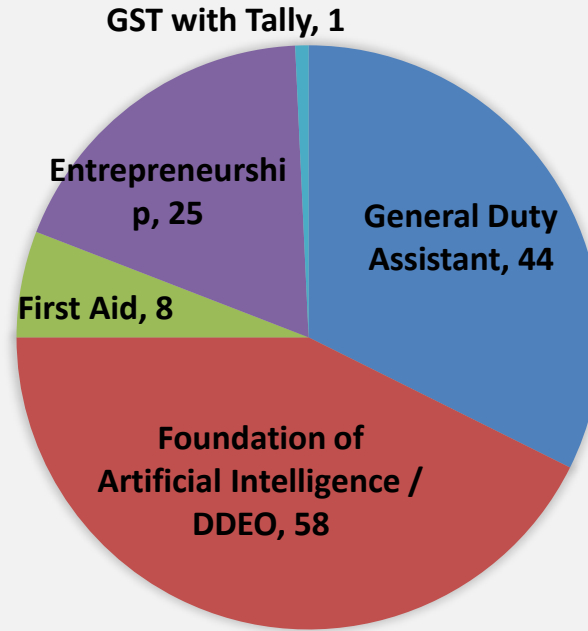
35 7 27 42 19 6

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

સાથે સમાજ, સાથે સમાજ
કરણ આયસિલ Kutub Anshika Follow us Dt. 2 August 2024 03



અનુશાસનનું પાલન લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન

1 કલાક આયોજાઈ | ભુજ ખાતે આદાણી સ્ટીલ ડેવલપમેન્ટ કંપનીની યોજાઈ રહેલા અનુશાસનનું પાલન લક્ષ્યસિદ્ધિનું પ્રથમ સોપાન કાર્યક્રમનું આયોજન કરવામાં આવ્યું હતું. આ કાર્યક્રમમાં કાર્યના અગ્રણી સ્ટાફ સહિતના કાર્યકર્તાઓ હાજરી રાખીને આયોજનમાં ભાગ લીધો હતો.

■ **ભુજ આદાણી સ્ટીલ ડેવલપમેન્ટ કંપનીના આયોજીત આ કાર્યક્રમમાં કાર્યના અગ્રણી સ્ટાફ સહિતના કાર્યકર્તાઓ હાજરી રાખીને આયોજનમાં ભાગ લીધો હતો.**

આ કાર્યક્રમના અંતર્યામી રીજીસ્ટ્રાર ડૉ. હરજીત સિંઘ દ્વારા આયોજીત આ કાર્યક્રમમાં કાર્યના અગ્રણી સ્ટાફ સહિતના કાર્યકર્તાઓ હાજરી રાખીને આયોજનમાં ભાગ લીધો હતો.

જવાબોની જીવનશૈલી અનુરૂપ રાંધણ કલા વિકાસ માટે રજા બહેનોએ તાલીમ લીધી



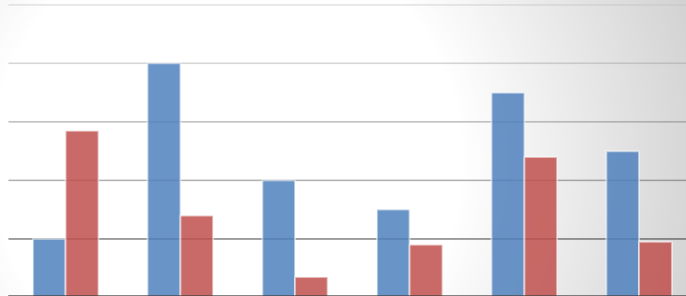
■ **કલા આયોજાઈ** | ભુજ ખાતે આદાણી સ્ટીલ ડેવલપમેન્ટ કંપનીના આયોજીત આ કાર્યક્રમમાં કાર્યના અગ્રણી સ્ટાફ સહિતના કાર્યકર્તાઓ હાજરી રાખીને આયોજનમાં ભાગ લીધો હતો.

આમાં અણક ખાતે આદાણી સ્ટીલ ડેવલપમેન્ટ કંપનીના આયોજીત આ કાર્યક્રમમાં કાર્યના અગ્રણી સ્ટાફ સહિતના કાર્યકર્તાઓ હાજરી રાખીને આયોજનમાં ભાગ લીધો હતો.

હોપી મથસં ડે : માતૃત્વની વાસ્તવ્યમૂર્તિએ કૌશલ્ય ઉજાગર કરી ટીકરીને પગભર કરી

આ કાર્યક્રમના અંતર્યામી રીજીસ્ટ્રાર ડૉ. હરજીત સિંઘ દ્વારા આયોજીત આ કાર્યક્રમમાં કાર્યના અગ્રણી સ્ટાફ સહિતના કાર્યકર્તાઓ હાજરી રાખીને આયોજનમાં ભાગ લીધો હતો.

Half Yearly Target Vs Achievement Mundra



■ Target

■ Achivement

Apr May Jun Jul Aug Sep

20 80 40 30 70 50

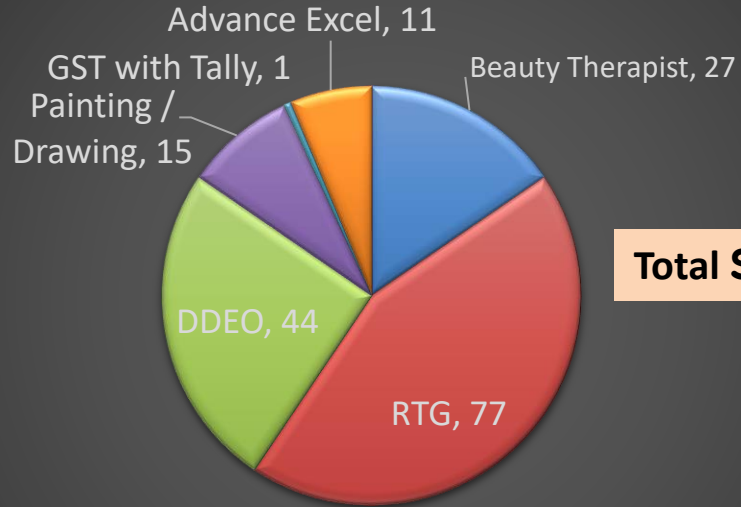
57 28 7 18 48 19

Yearly Target Vs Achievement Mundra



■ Total Half Yearly Target ■ Total Half Yearly Achivement

Job Role Wise Details Mundra



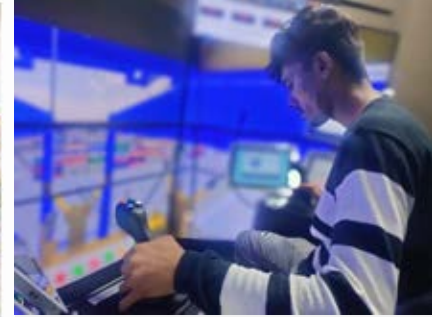
Total Students = 177

- 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 ઉદ્દઘાટન 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 એપીસેકના 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 મે 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 કોઈ-નેશન યુવા રોજગારીને પ્રાધન્ય આપતા અનેક કાર્યક્રમોમાં પ્રવૃત્ત છે. તાજેતરમાં અદાણી સ્કિલ ડેવલપમેન્ટ સેન્ટર મુન્દ્રા દ્વારા નવી બેચના ઉદ્દઘાટન 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.



વધારો કરવાનું છે. ધોરણ ૧૦ બાદ આઈટીઆઈ અથવા ધોરણ ૧૨ ઉત્તીર્ણ કરનાર વિદ્યાર્થીઓ એએસડીસીમાં સફળતાપૂર્વક તાલીમ લઈ રોજગાર સક્ષમ બની શકે છે. કચ્છ ક્ષેત્રે સિમ્લિટ ડિવિઝન આપી તેમની કૌશલ્ય વિકાસમાં

મંગલી આત્મનિર્ભર બન્યા છે. નવી બેચમાં 80 ટકા ઉમેદવારો કચ્છ જિલ્લાના અને અન્ય ૨૦ 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 રમેસ કંપનીના ઉપચીફ ઓફીસરોનો સમાવેશ થાય છે. મુખ્ય અતિથિ તરીકે અદાણી પોર્ટ સેક્ટના એચઆર હેડ રનેહાશીષ ભટ્ટાચાર્યએ અદાણી પોર્ટ ખાતે આરટીકે 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 કોઈ-નેશન યુવા રોજગારીને પ્રાધન્ય આપતા અનેક કાર્યક્રમોમાં પ્રવૃત્ત છે. તાજેતરમાં અદાણી સ્કિલ ડેવલપમેન્ટ સેન્ટર મુન્દ્રા દ્વારા નવી બેચના ઉદ્દઘાટન 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 યુવાધનને રોજગાર સક્ષમ બનાવવાના વધારો કરવાનું છે. ધોરણ ૧૦ બાદ આઈટીઆઈ અથવા ધોરણ ૧૨ ઉત્તીર્ણ કરનાર વિદ્યાર્થીઓ એએસડીસીમાં સફળતાપૂર્વક તાલીમ લઈ રોજગાર સક્ષમ બની શકે છે. કચ્છ ક્ષેત્રે સિમ્લિટ ડિવિઝન આપી તેમની કૌશલ્ય વિકાસમાં

કચ્છ માટે ભંડોળ ઉપલબ્ધ કરવાશે. એએસડીસી દ્વારા છેલ્લા ૨ વર્ષમાં અદાણી પોર્ટ ખાતે આરટીકે કેન ઓપરેશન ટ્રેડમાં ૧૨૦ ઉમેદવારોને સફળતાપૂર્વક તાલીમ આપવામાં આવી છે, જેમાંથી ૮૦ ઉમેદવારો અદાણી પોર્ટ પર જ નોકરીઓ મેળવી આત્મનિર્ભર બન્યા છે. નવી બેચમાં 80 ટકા ઉમેદવારો કચ્છ જિલ્લાના અને અન્ય ૨૦ 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 – 4

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		

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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 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

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								<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.

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									<p>Summary of Mangrove mapping and monitoring (from 2011 to 2021):</p> <table border="1" data-bbox="1640 724 1997 1414"> <thead> <tr> <th data-bbox="1640 724 1740 911" rowspan="2">Mangrove mapping Year</th> <th data-bbox="1740 724 1845 911" rowspan="2">Mangrove cover total Area (Ha.)</th> <th colspan="2" data-bbox="1845 724 1997 813">Mangrove cover area Increased</th> </tr> <tr> <th data-bbox="1845 813 1908 911">Ha. c.</th> <th data-bbox="1908 813 1997 911">%</th> </tr> </thead> <tbody> <tr> <td data-bbox="1640 911 1740 959">2011</td> <td data-bbox="1740 911 1845 959">2094</td> <td data-bbox="1845 911 1908 959">-</td> <td data-bbox="1908 911 1997 959">-</td> </tr> <tr> <td data-bbox="1640 959 1740 1094">2011 to 2016-17</td> <td data-bbox="1740 959 1845 1094">2340</td> <td data-bbox="1845 959 1908 1094">246</td> <td data-bbox="1908 959 1997 1094">11.75 %</td> </tr> <tr> <td data-bbox="1640 1094 1740 1256">2017 to 2019 till March</td> <td data-bbox="1740 1094 1845 1256">2596</td> <td data-bbox="1845 1094 1908 1256">256</td> <td data-bbox="1908 1094 1997 1256">10.94 %</td> </tr> <tr> <td data-bbox="1640 1256 1740 1414">2019 to 2021 till March</td> <td data-bbox="1740 1256 1845 1414">2723</td> <td data-bbox="1845 1256 1908 1414">127</td> <td data-bbox="1908 1256 1997 1414">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
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									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 						

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								<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

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		• Refer CSR report attached as Annexure - 2.											
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. 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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	<p>communities is met through Narmada water supply system to some extent, but largely depending on the ground water 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>						<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="1398 922 2011 1203"> <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" data-bbox="1398 1260 2011 1369"> <thead> <tr> <th>Sr. No.</th> <th>Project</th> <th>Unit</th> <th>Outcome</th> <th>Impact</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </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	-	Sr. No.	Project	Unit	Outcome	Impact					
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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 1444 760">1</td> <td data-bbox="1444 565 1654 760">Check dam Restrengthening-Nana Kapaya</td> <td data-bbox="1654 565 1709 760">1</td> <td data-bbox="1709 565 1831 760">Water Storage Capacity increased by 48000 Cum</td> <td data-bbox="1831 565 2018 760">60 + farmer's 120+Acre Area of Agri land can be Irrigated</td> </tr> <tr> <td data-bbox="1390 760 1444 979">2</td> <td data-bbox="1444 760 1654 979">Recharge Borewell</td> <td data-bbox="1654 760 1709 979">21</td> <td data-bbox="1709 760 1831 979">Reduce Salinity ingress, and preventing water run</td> <td data-bbox="1831 760 2018 979">150+ farmer's 260+ Acre Area of Agri land for Irrigated</td> </tr> <tr> <td data-bbox="1390 979 1444 1141">3</td> <td data-bbox="1444 979 1654 1141">Pipe Culvert at Checkdamat Bhujpur</td> <td data-bbox="1654 979 1709 1141">1</td> <td data-bbox="1709 979 1831 1141">prevent water runoff into seaside.</td> <td data-bbox="1831 979 2018 1141">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. 	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 Checkdamat 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"> • New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum. • Roof Top Rainwater Harvesting 145 Nos. (40 Nos. current FY 2022-23) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family. • Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil. • Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date. • Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which borewell depth 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</p>

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							activities which also includes water conservation projects as mentioned above.
3.3	It is estimated that about 60,000 m ³ /day (60 MLD) of sewage will be generated from the APSEZ facility when the project is fully developed.	No Impact	Seven sewage treatment plants with an aggregate 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.	APSEZ is permitted to develop decentralized sewage 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.	APSEZ	As and When Required	<p>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 individual member units.</p> <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 conforming 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</p>

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							development. Existing wastewater treatment facilities will be augmented, or new plants will be developed on modular basis considering future requirement.
4	Air quality management Plan						
4.1	Although all 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	APSEZ and 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	All existing and 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.	APSEZ And Other Industries	Continual Process	<p>APSEZ has been granted requisite permissions from 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)</p>

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			<p>are monitoring the ambient air quality on regular intervals as per 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</p>				<p>Frequency: Twice in a week</p> <table border="1" data-bbox="1396 597 2011 932"> <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> <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> </tbody> </table> <p>^s 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</p>	Parameter	Unit	Min	Max	Average	Per m. Limit ^s	PM ₁₀	µg/m ³	30.61	87.52	64.53	100	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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			as per CPCB directive.				<p>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> <p>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.</p>
				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	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

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				quality management goals.			<ul style="list-style-type: none"> • 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> <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.

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							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.
4.2	Release of 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	Health Impact	APSEZ has 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	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>Following safeguard measures are taken by APSEZ for 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

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	asthma and COPD etc. among the local communities.		water sprinkling on road and other open areas, regular cleaning of 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,				<ul style="list-style-type: none"> 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, 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"> <thead> <tr> <th>Parameter</th> <th>Unit</th> <th>GPC B Limit</th> <th>Min</th> <th>Max</th> <th>Avrg.</th> </tr> </thead> <tbody> <tr> <td>PM</td> <td>mg/N m³</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>	Parameter	Unit	GPC B Limit	Min	Max	Avrg.	PM	mg/N m 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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							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 SPCB officials on regular basis.
			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	An internal Coal Dust Management Working Group shall be formed by APSEZ to effectively coordinate the approach to coal dust management and monitoring	APSEZ and Other Industries, Concerned Stake holders, District Administration*	Long Term	<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. 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>

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			<p>coal and other dry bulk cargo and Wagon loading and truck loading 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</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) • 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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			and EC conditions, the relative air pollution impacts due to release 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	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	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	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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	sulphur content. As per the international best practices, these marine diesel engines are designed to meet MARPOL regulations with NOX emissions less than 14.4 gram/Kwhr of engine. Due to lower stack heights of the marine diesel engine, ship emissions often gets		anchored at the port are adopting the MARPOL4 regulations.	explore the possibility of providing shore power to the ships at the port to reduce idling stage ship emissions.			

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	dispersed in the local environment and might pose risk of fumigation 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	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	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>

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	when the facility is fully developed.			robust contractor environmental policy to ensure that Bharat Stage VI emission norms are adopted by all their contractors and sub-contractors.			Electrification of Rail Corridor from Dhrub Railway Station to Adipur Railway Station has completed and movement started by electric locomotive. It will lead to reduce the gaseous emission and increase efficiency of transportation by rail.
5	Noise emissions						
5.1	Noise emissions are envisaged from port operations, industrial operations and power plants in the study area. Any increase in	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	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	APSEZ	Continual Process	Below Safeguard measures are already taken for abatement of noise emissions. <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. 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.

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	noise levels beyond three decibels from the background levels would be perceived as noise nuisance (USEPA) ⁷ .		greenbelt is being developed by APSEZ to further reduce any 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	by APSEZ at facility boundary to address the community grievances, when ever 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.			<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> <table border="1" data-bbox="1396 719 2011 998"> <thead> <tr> <th>Noise</th> <th>Unit</th> <th>Leq Min</th> <th>Leq Maxn</th> <th>Leq Avr.</th> <th>Leq Perm. Limit^s</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>^s 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</p>	Noise	Unit	Leq Min	Leq Maxn	Leq Avr.	Leq Perm. Limit ^s	Day Time	dB(A)	57.90	69.60	64.42	75	Night Time	dB(A)	52.60	64.80	61.21	70
Noise	Unit	Leq Min	Leq Maxn	Leq Avr.	Leq Perm. Limit ^s																				
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			facilities.				confirmed by APSEZ as well as SPCB on regular basis. Further, till date APSEZ has not received any grievances/notice for noise issues from any of the stakeholders.
				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.	APSEZ	Continual Process	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. Last committee meeting was conducted on dated 20.11.2024 and below were the point of discussion for way forward. <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.

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							<ul style="list-style-type: none"> 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>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	Level -1	As per the master plan of APSEZ, 67 MLD of wastewater is expected to be generated from the fully developed scenario, for which necessary permissions to set up	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	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</p>

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	bodies.		decentralized CETPs of various capacities 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	permits. Remaining treated wastewater shall be utilized for horticulture purpose.			<p>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> <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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			utilization for greenbelt development within the 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	Storm water runoff from the			There are provision of drains around coal stack yard to carry to runoff water to dump ponds. This water is

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			monsoon from coal storage yards is collected in sedimentation ponds (dump pond) to remove any residual dust particulates for further disposal into sea	facility during the first rain shall be sampled and analyzed for the 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.	APSEZ	Continual	<p>either used for dust suppression or after sedimentation (to remove residual dust), is allowed disposal to sea.</p> <p>Presently 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 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"> <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> </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
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Temperature	oC	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	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	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.</p>																								

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			desalination 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.	screens near mangrove areas 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.			<p>Summary of marine water for the last six months is as mentioned above.</p> <p>The same practice will be continued in future also as per direction by MoEF&CC as well as GPCB.</p> <p>Monitoring will be focused near ecological sensitive area in case of need to carryout capital dragging near such areas.</p>
7	Groundwater quality and salinity ingress						

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7.1	While 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	Level-2	APSEZ is not 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.	A dedicated 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	<p>Present source of water for various project activities is desalination plant of APSEZ and/or through Gujarat Water Infrastructure Limited (GWIL) and same is sufficient to meet the present water demand.</p> <p>APSEZ does not draw any ground water.</p> <p>The desalination plant of additional capacities will be installed on modular basis considering future development and requirement.</p>

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	TDS and 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	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</p>

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			possibility of 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				<p>in current year 1.11 mtr ground water table increased 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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			that the 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"> <thead> <tr> <th data-bbox="1423 646 1472 751">Sr. No.</th> <th data-bbox="1472 646 1671 751">Project</th> <th data-bbox="1671 646 1724 751">Unit</th> <th data-bbox="1724 646 1839 751">Outcome</th> <th data-bbox="1839 646 2011 751">Impact</th> </tr> </thead> <tbody> <tr> <td data-bbox="1423 751 1472 943">1</td> <td data-bbox="1472 751 1671 943">Check dam Restrengthening-Nana Kapaya</td> <td data-bbox="1671 751 1724 943">1</td> <td data-bbox="1724 751 1839 943">Water Storage Capacity increased by 48000 Cum</td> <td data-bbox="1839 751 2011 943">60 + farmer's 120+Acre Area of Agri land can be Irrigated</td> </tr> <tr> <td data-bbox="1423 943 1472 1162">2</td> <td data-bbox="1472 943 1671 1162">Recharge Borewell</td> <td data-bbox="1671 943 1724 1162">21</td> <td data-bbox="1724 943 1839 1162">Reduce Salinity ingress, and preventing water run</td> <td data-bbox="1839 943 2011 1162">150+ farmer's 260+ Acre Area of Agri land for Irrigated</td> </tr> <tr> <td data-bbox="1423 1162 1472 1325">3</td> <td data-bbox="1472 1162 1671 1325">Pipe Culvert at Checkdamat Bhujpur</td> <td data-bbox="1671 1162 1724 1325">1</td> <td data-bbox="1724 1162 1839 1325">prevent water runoff into seaside.</td> <td data-bbox="1839 1162 2011 1325">35 farmers' 120+Acre Area of Agri land can be Irrigated</td> </tr> </tbody> </table>	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 Checkdamat 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"> • Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams. • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers. • New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum. • Roof Top Rainwater Harvesting 145 Nos. (40 Nos. current FY 2022-23) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family. • Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil. • Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date. • Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which borewell depth 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</p>

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							<p>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>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.</p>
				While the individual industries in the study area will continue to undertake ground water quality monitoring as per 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. Nos. of Location: 09</p>

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							Parameters	Unit	Min	Max	Average
				environmental clearances issued for the respective projects, a regional level ground water conservation committee can be formed under the guidance of state ground water board and district Administration.			Parameters	Unit	Min	Max	Average
							pH @ 25 ° C	--	7.11	8.54	7.84
							Salinity	ppt	0.90	18.38	4.08
							Oil & Grease	mg/L	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)
							Hydrocarbon	mg/L	Not Detected	Not Detected	Not Detected
							Lead as Pb	mg/L	0.01	0.02	0.02
							Arsenic as As	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)
							Nickel as Ni	mg/L	0.09	0.19	0.11
							Total Chromium as Cr	mg/L	0.00	0.00	#DIV/0!
							Cadmium as Cd	mg/L	0.03	0.12	0.06
							Mercury as Hg	mg/L	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)

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							Zinc as Zn	m g/L	0.07	0.14	0.10
							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>											

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							As mentioned above, presently, APSEZ has formed Internal Environment Monitoring Committee, involving Officials of APSEZ, Adani Power Limited and other 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	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	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	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

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	material, construction 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.		date.	there by avoiding ecological impacts.			<p>has also been recognized for Zero Waste to Landfill certification from reputed organization.</p> <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</p>

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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	APSEZ has made a 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.	The existing waste 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	stipulated by statutory authorities and same is also being confirmed by APSEZ as well SPCB on regular basis.
8.3	About 35 TPD (13,000 TPA) of solid	Level-2	As per the MSW Rules 2016 all the	Solid Waste Management Program shall be adopted and	All Industries	Continual Process	

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	waste would be generated from the proposed industrial areas located outside the APSEZ area.		industrial facilities and SEZs are required to adopt waste segregation facilities at the respective properties and non-recyclable waste shall be disposed to landfill sites.	implemented as per Municipal 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	Level -1	It is noted that the designated forest land is free from any native vegetation	APSEZ has approached concerned authorities for diversion of designated forest land. Suitable compensatory	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

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	area is applied for land diversion for various developmental activities. This might have certain level of changes in the biodiversity in the study area.		and comprises of 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	afforestation plan shall be 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			is being carried out through NABET accredited consultant.

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			species reported in 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.	when the project is fully developed.			
9.2	Mangrove conservation areas are located adjacent to	Level -1	No development activities will be undertaken within mangrove	Mangrove footprint and health status shall be	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)

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	the APSEZ area. Accidental discharges of industrial effluents into the marine environment would pose certain ecological risk.		conservation areas. 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	monitored annually			<p>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> <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.

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			Plantation scheme in the area as an alternative income generating activity for the people of the region.				<p>Summary of Conservation of mangroves:</p> <table border="1" data-bbox="1396 626 2011 1138"> <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>Ha.</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>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.</p>	Mangrove mapping Year	Monitoring Agency	Mangrove cover total Area (Ha.)	Mangrove cover area Increased		Ha.	%	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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							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

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									<p>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.</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

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									<p>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" data-bbox="1654 1304 1997 1408"> <tr> <td data-bbox="1654 1304 1753 1408">Mangrove</td> <td data-bbox="1753 1304 1852 1408">Mangrove cover</td> <td data-bbox="1852 1304 1997 1408">Mangrove cover area Increased</td> </tr> </table>	Mangrove	Mangrove cover	Mangrove cover area Increased
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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. 																										

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									<ul style="list-style-type: none"> 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 green fodder

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									<p>to 25 Villages. Project is covering total 15005 Cattles 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.

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							<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"> <ul style="list-style-type: none"> 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 and vulnerable ecosystem". The report for the same is attached as Annexure - 1. Refer CSR report attached as Annexure - 2. </td> </tr> </table> <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>		<ul style="list-style-type: none"> 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 and vulnerable ecosystem". The report for the same is attached as Annexure - 1. Refer CSR report attached as Annexure - 2.
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9.3	Outfall from the thermal	Level-1	A detailed marine hydro-dynamic and dispersion	All approved marine outfalls shall be monitored for salinity,	APSEZ and	Continual Process	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.		

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	power plants desalination and CETP would pose certain level of impact on the marine environment.		modelling of the study area 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	temperature and other designated parameters as per consent to establish issued by GPCB. Existing marine environmental monitoring program shall be continued.	Concerned Industry		<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 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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			status on monthly basis for the 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	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	<p>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.</p> <p>Dedicated horticulture department is maintaining and monitoring the terrestrial green belt development on regular basis to check the survival rate of plantation.</p> <p>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.</p>

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	green-cover/vegetation in the 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 a	Level-1	Dedicated townships are developed within APSEZ area with necessary community infrastructure such as hospital, school, recreational facilities, sewage treatment and waste collection facilities. Adani Foundation has been undertaking	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</p>

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	additional need for public infrastructure in the region.		various CSR programs under the 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				<p>requirement. Other infrastructure facilities have been developed for people are as follows.</p> <ul style="list-style-type: none"> • Multi-Specialty Hospital • 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>

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			allocation of appropriate budget.				<p><u>Last FY 2023-24 infrastructure development activities:</u></p> <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 Zaarapa – 2200+ Benefited. • Construction of Pipe Culvert – 400+ Benefited. • Construction of chain-link fencing at Mangra village – 300 people benefited. • Gaushala Shed at Zarapara 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.

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							<ul style="list-style-type: none"> • Check dam Desilting and restoration at Nana Bhadiya – 100+ farmers benefited. • Renovation of Check dam at Pavadiyara village - 300 people benefited. • 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.

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							<ul style="list-style-type: none"> • commissioning of Community Training Centre at Shekhadiya. • Two Pond Deepening at Zarpara under Amrut Sarovar Yojna. • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan. • Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area. • JCB & Hitachi Machine Support for Pre-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.

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							<ul style="list-style-type: none"> Under Dignity of Drivers Project, Adani Foundation has constructed Resting Shed for Drivers entering in SEZ Premises. Total 50 beds are constructed, drinking water and sanitation plus recreational – TV Facilities. <p>Similar community development programs (based on need based assessment) will be continued in future as well with allocation of appropriate budget.</p>								
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	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>Benefited</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> </tbody> </table>	Utthan Initiatives	Benefited	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.
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	continue in future due to induced economic growth in the region.						Providing required resources and facilities Enabling joyful learning spaces Adani Students Development Center (ASDC) Introducing English as a Third Language Enhancing Reading Habits IT on Wheels Promote sports Teachers' & Sahayak Capacity Building Formation of Eco Club Day Celebrations & Collaboration with GoG	Sports Kit, Music Kit, TLM Kit, Science Kit provided in schools. Smart Class with Navneet software+ Bala painting + Activity base learning. 2 Adani Evening Education Center, 5 Adani Competitive Coaching Center, 5 Adani English Coaching Center Students: 5000+ Classes 1-4, Curriculum, Every Friday morning assembly in English Redding corner, 1000+ Oasis workshop, 162780 Books CICO, 100+ Schools partner from 10+ Country in International school library month (ISLM) 2 dedicative van, 2 IT instructors, 55 laptops, 34 schools, Empowering 4170 students, 200+ High schools' students 6 Students selected in District level sports school, Inspiring more 100 Students. Khel Maha Kumbh: 2000+ 3500+ Hours Capacity building program + Webinar + Diksha + 10 full days training. Plastic free village workshop: 1250+ Students, Environment Awareness program & Tree plantation in schools. Summer Camp: 6000+ Students Diwali Mela: 5500+ Students. 1400+ Parents participated.

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							<table border="1" data-bbox="1398 570 2011 716"> <tr> <td data-bbox="1398 570 1608 643">Mothers as catalyst in transformation</td> <td data-bbox="1608 570 2011 643">Mothers meet: 700+ Mothers Joined: 15000+ this year. (Meetings + Home Visit)</td> </tr> <tr> <td data-bbox="1398 643 1608 716">Strengthening Stakeholders</td> <td data-bbox="1608 643 2011 716">Support in Taluka, District & state level various initiative with DIRT, BRC, Strengthening SMC Committee.</td> </tr> </table> <ul data-bbox="1398 748 2011 1421" 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 Napking 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 	Mothers as catalyst in transformation	Mothers meet: 700+ Mothers Joined: 15000+ this year. (Meetings + Home Visit)	Strengthening Stakeholders	Support in Taluka, District & state level various initiative with DIRT, BRC, Strengthening SMC Committee.
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							<p>other leaders in year 2017-18. We explained people about the various topics i.e. importance of girl 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.

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							<ul style="list-style-type: none"> • To reduce malnutrition and anemia amongst Children 95 % & adolescent girls and pregnant & lactating women by 70 % in three years • Reduction IMR and MMR • 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 has 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>

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10.4	Due to economic growth 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	Level-2	Adani hospitals, Mundra is setup by 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.	APSEZ will explore other possibilities to augment the primary and secondary healthcare facilities in future depending on the growth scenario at APSEZ development.	APSEZ	Long Term	<p>Adani hospitals (Multi-specialty), Mundra is having 110 bed facility and same is setup by Adani group near Samudra township.</p> <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.

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	about 540 beds would be required.						<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. <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 Cataract Screening: 366 nos. of peoples 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.

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							<ul style="list-style-type: none"> • 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, <p>Previously Conducted Community Health Details:</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. <ul style="list-style-type: none"> • Cataract-Free Mundra: The initiative is a dedicated effort to eradicate cataract-related vision impairments specially focused on Senior citizen through Meticulous planning as below.

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							<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 ➤ 5 successful Operation <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.

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							<ul style="list-style-type: none"> • 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 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. • 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.

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							<ul style="list-style-type: none"> • 2222 –Economically Challenged patients have been supported for operation, OPD, IPD, Medicines and lab-test. • For Preventive health care General and multispecialty camps Pediatric camp, General Health camps in 7 villages and Super specialist camp which benefitted more than 4690 patients of Mundra & Mandvi Taluka. • Cattle Health Camp: Adani Foundation and Animal Husbandry department Veterinary Jointly organizing cattle health Awareness and vaccination programs in 24 Villages of our periphery villages 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.

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							APSEZ will explore other possibilities to augment the primary and secondary healthcare facilities in future depending on the future development at APSEZ.
10.5	<p>Due to rapid economic development in the region, 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</p>		<p>APSEZ has been giving preferences to people from 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</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>Last FY 2023-24 fishermen livelihood activities development activities:</u></p> <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).

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	45% of the total envisaged population in Mundra Taluk by the end of 2030.		livelihood options have been introduced by the Adani Skill Development Centre, Mundra. In these centres, 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.				<ul style="list-style-type: none"> • Educational Awareness Sessions: Through targeted awareness sessions in Fisherfolk Vasahats, 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+ Fisherfolk youth, paving the way for a brighter future. (115+ Fisherfolk youth employed)

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							<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 Vasahats 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 sherfolk 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.

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							<ul style="list-style-type: none"> • 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 have implemented this system for Navinal Fisherfolk, and so far, we have issued a total of 57 Sagar Mitra Cards." • 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.

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							<p>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."</p> <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

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							<ul style="list-style-type: none"> • 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> <p>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 – 9.</p>

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)	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-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):

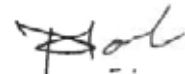
*****End of Report *****

Checked By



(Nilesh C. Patel)
(Sr. Chemist)

Authorized By



(Nitin B. Tandel)
(Technical Manager)

Page 2 of 2

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-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):

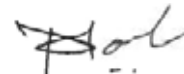
*****End of Report *****

Checked By



(Nilesh C. Patel)
(Sr. Chemist)

Authorized By



(Nitin B. Tandel)
(Technical Manager)

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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-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) 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
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):

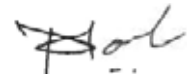
*****End of Report *****

Checked By



(Nilesh C. Patel)
(Sr. Chemist)

Authorized By



(Nitin B. Tandel)
(Technical Manager)

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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):

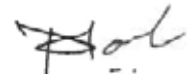
*****End of Report *****

Checked By



(Nilesh C. Patel)
(Sr. Chemist)

Authorized By



(Nitin B. Tandel)
(Technical Manager)

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Annexure – 5

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



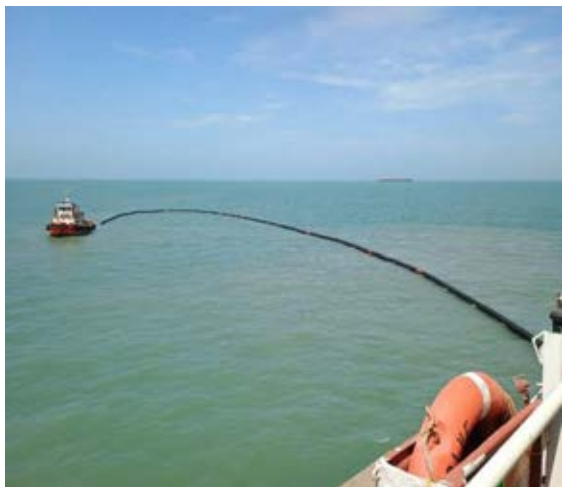
PR Drill snap – 03 May 2024

Area Level Pollution Response Exercise at IOCL SPM

Boom laying from Tug Ocean Citrine



J formation making in progress



Skimmer Operations



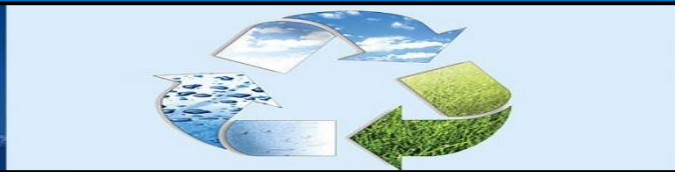
Area Level Pollution Response Team on Tug Ocean Citrine



De-briefing at Adani House



Annexure – 6



“Half Yearly Environmental Monitoring Reports “

For,
adani
Ports and
Logistics

M/S. ADANI PORTS & SEZ Limited.

Notified SEZ area, 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



RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	PUB ADANI HOUSE STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Apr-24		May-24		Jun-24			
			11-04-2024	27-04-2024	10-05-2024	24-05-2024	12-06-2024	26-06-2024		
1.	pH @ 25 ° C	--	7.33	7.42	7.51	7.48	7.28	7.24	6.5 to 9	IS 3025 (Part-11):2022
2.	Total Suspended Solids	mg/L	22	24	22	20	20	22	100	APHA 24th Ed.2023,2540 - D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	15	18	17.2	15.4	14.5	14.9	30	APHA 24th Ed.2023,5210-B
4.	Residual chlorine	mg/L	0.66	0.74	0.79	0.76	0.75	0.82	0.5 Min.	APHA 24th Ed.2023,4500-Cl-G
5.	Fecal Coliform	MPN Index/100ml	70	130	80	140	90	130	1000	IS 1622: 1981

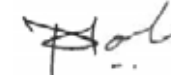
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RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	PUB ADANI HOUSE STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Jul-24		Aug-24		Sep-24			
			05-07-2024	24-07-2024	13-08-2024	24-08-2024	05-09-2024	20-09-2024		
1.	pH @ 25 ° C	--	7.34	7.19	7.12	7.18	7.22	7.28	6.5 to 9	IS 3025 (Part-11):2022
2.	Total Suspended Solids	mg/L	16	20	12	16	12	14	100	APHA 24th Ed.2023,2540 - D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	15.8	14.6	18.2	16.8	14	15.5	30	APHA 24th Ed.2023,5210-B
4.	Residual chlorine	mg/L	0.74	0.75	0.66	0.74	0.68	0.64	0.5 Min.	APHA 24th Ed.2023,4500-Cl-G
5.	Fecal Coliform	MPN Index/100ml	80	110	90	140	80	110	1000	IS 1622: 1981



Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	SAMUNDRA TOWNSHIP STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Apr-24		May-24		Jun-24			
			11-04-2024	27-04-2024	10-05-2024	24-05-2024	12-06-2024	26-06-2024		
1.	pH @ 25 ° C	--	7.39	7.38	7.19	7.24	7.45	7.33	6.5 to 9	IS 3025 (Part-11):2022
2.	Total Suspended Solids	mg/L	24	22	22	20	20	20	100	APHA 24th Ed.2023,2540 - D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	16	18	16.8	14.8	14.5	14.2	30	APHA 24th Ed.2023,5210-B
4.	Residual chlorine	mg/L	0.69	0.78	0.75	0.84	0.78	0.75	0.5 Min.	APHA 24th Ed.2023,4500-Cl-G
5.	Fecal Coliform	MPN Index/100ml	22	34	26	33	27	34	1000	IS 1622: 1981

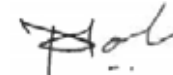
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RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	SAMUNDRA TOWNSHIP STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Jul-24		Aug-24		Sep-24			
			06-07-2024	24-07-2024	13-08-2024	24-08-2024	05-09-2024	20-09-2024		
1.	pH @ 25 ° C	--	7.25	6.79	7.1	7.14	7.53	7.42	6.5 to 9	IS 3025 (Part-11):2022
2.	Total Suspended Solids	mg/L	16	20	18	10	BDL(MDL:4.0)	14	100	APHA 24th Ed.2023,2540 - D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	14.5	15	14.6	14.8	11	16	30	APHA 24th Ed.2023,5210-B
4.	Residual chlorine	mg/L	0.76	0.84	0.64	0.68	0.74	0.88	0.5 Min.	APHA 24th Ed.2023,4500-Cl-G
5.	Fecal Coliform	MPN Index/100ml	26	33	27	34	26	33	1000	IS 1622: 1981



Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	North Gate STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Apr-24		May-24		Jun-24			
			11-04-2024	27-04-2024	10-05-2024	24-05-2024	12-06-2024	26-06-2024		
1.	pH @ 25 ° C	--	7.39	7.42	7.46	7.25	7.21	7.36	6.5 to 9	IS 3025 (Part-11):2022
2.	Total Suspended Solids	mg/L	22	18	20	20	20	22	100	APHA 24th Ed.2023,2540 - D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	14	16	14.8	15.2	16	16.8	30	APHA 24th Ed.2023,5210- B
4.	Residual chlorine	mg/L	0.68	0.74	0.72	0.76	0.81	0.74	0.5 Min.	APHA 24th Ed.2023,4500- Cl-G
5.	Fecal Coliform	MPN Index/100ml	60	80	70	90	60	80	1000	IS 1622: 1981

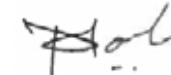
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RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	North Gate STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Jul-24		Aug-24		Sep-24			
			05-07-2024	24-07-2024	13-08-2024	24-08-2024	05-09-2024	20-09-2024		
1.	pH @ 25 ° C	--	7.26	6.9	7.38	7.44	7.27	7.24	6.5 to 9	IS 3025 (Part-11):2022
2.	Total Suspended Solids	mg/L	18	20	18	20	46	34	100	APHA 24th Ed.2023,2540 - D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	14	15	14.4	16.2	21	22	30	APHA 24th Ed.2023,5210-B
4.	Residual chlorine	mg/L	0.58	0.66	0.74	0.81	0.94	0.65	0.5 Min.	APHA 24th Ed.2023,4500-CI-G
5.	Fecal Coliform	MPN Index/100ml	50	70	60	80	50	70	1000	IS 1622: 1981



Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

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	ND	1.87	NOT DETECTED
26.	27-06-2024	37.91	20.75	13.97	16.20	ND	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...

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GPCB Recognized Environmental
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ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

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		Adani Guest 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
1.	01-04-2024	80.11	29.53	12.83	16.52	NOT DETECTED
2.	04-04-2024	84.26	30.71	14.32	18.11	--
3.	08-04-2024	79.46	28.47	13.11	17.54	--
4.	11-04-2024	75.27	25.39	12.85	17.03	--
5.	15-04-2024	77.36	27.17	13.26	16.59	--
6.	18-04-2024	73.91	25.48	12.26	15.86	--
7.	22-04-2024	76.84	26.97	12.79	16.44	--
8.	25-04-2024	80.49	28.66	14.52	17.16	--
9.	29-04-2024	82.35	30.42	13.73	16.85	--
10.	02-05-2024	77.39	26.19	13.05	15.89	--
11.	06-05-2024	75.19	25.42	12.73	17.42	--
12.	09-05-2024	78.27	27.49	13.26	16.38	--
13.	13-05-2024	80.52	29.71	14.25	17.36	--
14.	16-05-2024	78.64	27.47	13.64	16.83	--
15.	20-05-2024	74.38	26.16	12.39	16.37	--

Continue...

Name of Location		Adani Guest 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
16.	23-05-2024	76.73	28.64	13.56	16.98	--
17.	27-05-2024	79.62	30.11	14.01	17.63	--
18.	30-05-2024	75.2	26.85	12.69	15.63	--
19.	03-06-2024	80.12	28.47	14.14	17.21	--
20.	06-06-2024	78.63	27.91	13.85	16.32	--
21.	10-06-2024	75.94	25.38	13.11	15.83	--
22.	13-06-2024	77.53	27.15	13.52	16.14	--
23.	17-06-2024	71.28	24.39	12.25	15.47	--
24.	20-06-2024	68.88	23.64	11.85	14.98	--
25.	24-06-2024	51.25	19.64	9.31	12.46	--
26.	27-06-2024	47.49	17.83	8.65	10.94	--
27.	01-07-2024	44.75	16.94	8.87	10.68	NOT DETECTED
28.	04-07-2024	50.13	18.52	10.12	13.25	--
29.	08-07-2024	54.76	20.47	11.73	13.41	--
30.	11-07-2024	57.39	23.42	13.11	15.87	--
31.	15-07-2024	52.49	19.37	12.36	14.62	--

Continue...

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ISO 45001 : 2018
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Name of Location		Adani Guest 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
32.	18-07-2024	55.85	21.52	12.96	15.19	--
33.	22-07-2024	49.72	19.15	11.64	13.29	--
34.	25-07-2024	45.23	16.74	10.21	13.45	--
35.	29-07-2024	51.42	18.31	9.28	11.63	--
36.	01-08-2024	52.37	17.72	10.65	13.28	--
37.	05-08-2024	48.94	16.98	10.11	13.92	--
38.	08-08-2024	55.13	18.42	11.24	14.75	--
39.	12-08-2024	53.49	17.36	10.62	13.46	--
40.	15-08-2024	57.82	19.06	12.11	15.34	--
41.	19-08-2024	54.59	17.71	11.31	13.64	--
42.	22-08-2024	56.1	18.17	11.85	14.42	--
43.	26-08-2024	52.25	16.91	10.73	13.65	--
44.	29-08-2024	54.81	17.42	11.26	13.41	--
45.	02-09-2024	50.93	15.86	11.12	14.07	--
46.	05-09-2024	53.27	16.42	11.48	14.65	--
47.	09-09-2024	55.36	16.83	12.24	15.41	--

Continue...

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GPCB Recognized Environmental
Auditor (Schedule-11)

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Name of Location		Adani Guest 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
48.	12-09-2024	58.91	17.48	12.52	15.29	--
49.	16-09-2024	55.71	15.47	11.79	14.36	--
50.	19-09-2024	57.28	16.63	12.18	15.36	--
51.	23-09-2024	59.13	18.15	12.86	15.17	--
52.	26-09-2024	53.28	15.93	11.16	14.38	--
53.	30-09-2024	56.16	16.42	11.53	14.31	--
Permissible Value as per NAAQMS		100.0	60.0	80.0	80.0	2.0
Test Method		IS - 5182, Part- 23	UERL/AIR/ SOP/11	IS - 5182, Part - 2	IS - 5182, Part - 6	IS - 5182, Part - 10



Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		WTP- Nr. CETP				
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
1.	01-04-2024	80.15	37.82	18.27	22.74	NOT DETECTED
2.	04-04-2024	83.74	40.13	20.74	25.49	--
3.	08-04-2024	78.4	35.68	19.13	23.96	--
4.	11-04-2024	83.57	39.71	18.93	23.66	--
5.	15-04-2024	79.91	36.48	21.26	25.73	--
6.	18-04-2024	77.48	33.62	18.94	22.91	--
7.	22-04-2024	80.64	35.48	19.52	23.16	--
8.	25-04-2024	83.45	39.11	21.53	25.38	--
9.	29-04-2024	78.81	35.34	19.79	24.25	--
10.	02-05-2024	81.73	37.12	19.35	24.1	--
11.	06-05-2024	79.35	34.86	18.11	22.95	--
12.	09-05-2024	83.48	36.37	20.34	25.37	--
13.	13-05-2024	81.83	34.91	20.59	24.86	--
14.	16-05-2024	84.15	38.12	22.01	26.53	--
15.	20-05-2024	80.94	35.63	21.03	25.91	--

Continue...

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GPCB Recognized Environmental
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Certified Company

Name of Location		WTP- Nr. CETP				
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
16.	23-05-2024	77.64	32.78	18.23	22.89	--
17.	27-05-2024	79.62	34.14	19.81	23.46	--
18.	30-05-2024	82.25	36.66	21.45	26.51	--
19.	03-06-2024	80.41	36.52	19.75	23.21	--
20.	06-06-2024	82.74	37.11	21.23	25.37	--
21.	10-06-2024	80.16	35.1	20.12	24.81	--
22.	13-06-2024	78.64	32.75	19.38	23.37	--
23.	17-06-2024	73.28	31.25	19.13	22.61	--
24.	20-06-2024	75.13	33.68	20.43	23.55	--
25.	24-06-2024	55.21	29.75	17.24	20.53	--
26.	27-06-2024	47.63	26.18	15.74	18.95	--
27.	01-07-2024	44.75	22.48	13.73	16.37	NOT DETECTED
28.	04-07-2024	53.47	27.53	15.76	18.15	--
29.	08-07-2024	61.28	31.57	17.24	20.82	--
30.	11-07-2024	57.49	29.62	15.79	18.42	--
31.	15-07-2024	54.68	24.37	14.05	17.64	--

Continue...

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Consultant Organization

GPCB Recognized Environmental
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Name of Location		WTP- Nr. CETP				
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
32.	18-07-2024	63.15	27.21	17.51	20.38	--
33.	22-07-2024	56.63	25.86	15.13	18.65	--
34.	25-07-2024	49.84	20.84	13.27	16.86	--
35.	29-07-2024	43.77	17.65	12.83	16.14	--
36.	01-08-2024	51.38	20.73	12.65	15.48	--
37.	05-08-2024	56.29	23.64	13.11	16.83	--
38.	08-08-2024	50.94	22.48	12.85	15.93	--
39.	12-08-2024	54.18	21.85	13.37	16.45	--
40.	15-08-2024	60.31	25.02	14.71	17.32	--
41.	19-08-2024	58.62	24.38	14.24	16.98	--
42.	22-08-2024	53.29	22.43	13.11	16.27	--
43.	26-08-2024	51.48	21.14	12.83	15.38	--
44.	29-08-2024	59.19	23.1	14.15	17.11	--
45.	02-09-2024	52.73	21.24	12.92	15.38	--
46.	05-09-2024	50.91	19.89	11.67	14.58	--
47.	09-09-2024	53.17	21.63	12.57	15.44	--

Continue...

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Name of Location		WTP- Nr. CETP				
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
48.	12-09-2024	55.48	22.15	12.98	16.03	--
49.	16-09-2024	58.64	24.1	13.46	16.37	--
50.	19-09-2024	53.19	21.95	12.58	15.42	--
51.	23-09-2024	56.29	23.14	13.37	16.11	--
52.	26-09-2024	52.73	21.16	12.74	15.82	--
53.	30-09-2024	55.28	22.32	13.25	16.72	--
Permissible Value as per NAAQMS		100.0	60.0	80.0	80.0	2.0
Test Method		IS - 5182, Part- 23	UERL/AIR/ SOP/11	IS - 5182, Part - 2	IS - 5182, Part - 6	IS - 5182, Part - 10



Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		SAMUDRA TOWNSHIP – STP				
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
1.	01-04-2024	82.41	21.26	11.63	16.47	NOT DETECTED
2.	04-04-2024	80.25	18.37	10.56	15.11	--
3.	08-04-2024	83.75	21.96	12.11	17.62	--
4.	11-04-2024	78.89	19.47	10.95	15.31	--
5.	15-04-2024	85.13	22.29	12.23	17.39	--
6.	18-04-2024	81.37	18.92	10.84	15.46	--
7.	22-04-2024	84.72	20.47	11.65	16.24	--
8.	25-04-2024	79.15	18.36	10.28	15.77	--
9.	29-04-2024	83.52	22.10	12.42	17.13	--
10.	02-05-2024	80.13	20.52	10.83	15.48	--
11.	06-05-2024	82.64	21.89	12.64	16.49	--
12.	09-05-2024	79.28	20.16	11.42	15.63	--
13.	13-05-2024	77.83	18.35	10.74	15.12	--
14.	16-05-2024	83.26	21.74	12.69	15.97	--
15.	20-05-2024	80.81	19.79	12.18	17.02	--

Continue...

Name of Location		SAMUDRA TOWNSHIP – STP				
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
16.	23-05-2024	78.25	18.42	10.85	15.74	--
17.	27-05-2024	82.46	20.13	12.42	16.57	--
18.	30-05-2024	79.91	18.74	10.86	15.38	--
19.	03-06-2024	83.12	19.86	12.11	16.83	--
20.	06-06-2024	81.53	18.75	11.86	15.95	--
21.	10-06-2024	78.85	17.24	10.53	15.10	--
22.	13-06-2024	80.67	19.54	11.81	16.23	--
23.	17-06-2024	74.38	18.14	10.48	15.26	--
24.	20-06-2024	71.29	16.82	10.34	15.63	--
25.	24-06-2024	45.93	13.28	8.52	10.25	--
26.	27-06-2024	52.38	15.21	9.17	12.46	--
27.	01-07-2024	58.39	15.47	7.84	10.36	NOT DETECTED
28.	04-07-2024	68.15	15.39	9.74	12.35	--
29.	08-07-2024	73.29	19.12	12.45	15.86	--
30.	11-07-2024	65.13	17.56	10.37	13.89	--
31.	15-07-2024	69.35	19.05	11.36	15.58	--

Continue...

Name of Location		SAMUDRA TOWNSHIP – STP				
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
32.	18-07-2024	57.11	15.34	9.75	11.47	--
33.	22-07-2024	52.58	15.83	8.16	11.21	--
34.	25-07-2024	64.15	16.31	10.64	14.10	--
35.	29-07-2024	56.73	15.35	9.72	12.24	--
36.	01-08-2024	61.42	15.87	9.26	11.94	--
37.	05-08-2024	58.86	15.12	8.83	11.48	--
38.	08-08-2024	63.72	16.49	9.54	12.13	--
39.	12-08-2024	68.53	17.15	10.73	13.62	--
40.	15-08-2024	64.28	16.73	9.92	12.58	--
41.	19-08-2024	70.12	17.68	10.59	12.37	--
42.	22-08-2024	66.23	16.13	10.27	13.21	--
43.	26-08-2024	59.82	15.25	8.95	11.83	--
44.	29-08-2024	62.46	15.82	9.81	12.64	--
45.	02-09-2024	57.16	14.62	8.82	10.95	--
46.	05-09-2024	59.63	14.96	9.16	11.16	--
47.	09-09-2024	61.92	15.38	9.89	11.63	--

Continue...

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Name of Location		SAMUDRA TOWNSHIP – STP				
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
48.	12-09-2024	64.53	16.25	10.32	12.47	--
49.	16-09-2024	62.47	15.72	9.61	11.42	--
50.	19-09-2024	65.18	16.23	10.47	13.11	--
51.	23-09-2024	68.31	16.79	10.72	13.18	--
52.	26-09-2024	63.48	15.42	9.81	12.57	--
53.	30-09-2024	59.63	14.91	8.94	11.62	--
Permissible Value as per NAAQMS		100.0	60.0	80.0	80.0	2.0
Test Method		IS - 5182, Part- 23	UERL/AIR/ SOP/11	IS - 5182, Part - 2	IS - 5182, Part - 6	IS - 5182, Part - 10



Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
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
1.	01-04-2024	64.57	23.82	16.11	20.87	NOT DETECTED
2.	04-04-2024	67.19	26.48	15.83	20.36	--
3.	08-04-2024	71.54	28.12	18.75	23.47	--
4.	11-04-2024	69.86	25.74	17.42	21.55	--
5.	15-04-2024	64.86	24.75	15.79	20.38	--
6.	18-04-2024	70.36	26.48	18.26	23.51	--
7.	22-04-2024	68.95	25.85	16.37	20.95	--
8.	25-04-2024	71.24	28.74	18.47	23.24	--
9.	29-04-2024	70.42	27.54	17.61	22.42	--
10.	02-05-2024	68.26	25.85	16.38	21.19	--
11.	06-05-2024	70.61	27.94	18.52	23.64	--
12.	09-05-2024	67.3	24.75	16.13	21.48	--
13.	13-05-2024	68.91	25.17	17.51	21.97	--
14.	16-05-2024	71.27	28.1	18.14	23.31	--
15.	20-05-2024	67.53	25.13	17.42	21.83	--

Continue...

Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
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
16.	23-05-2024	64.83	23.88	15.73	20.63	--
17.	27-05-2024	66.39	26.13	17.05	22.54	--
18.	30-05-2024	64.13	24.65	15.98	20.82	--
19.	03-06-2024	70.12	24.81	16.58	21.73	--
20.	06-06-2024	67.63	23.86	15.94	20.81	--
21.	10-06-2024	69.12	24.35	16.74	21.85	--
22.	13-06-2024	66.82	22.69	15.62	20.54	--
23.	17-06-2024	64.18	21.74	14.68	18.81	--
24.	20-06-2024	61.85	21.37	15.12	18.75	--
25.	24-06-2024	32.75	15.84	11.36	15.32	--
26.	27-06-2024	39.68	18.53	12.45	15.98	--
27.	01-07-2024	35.28	15.73	9.84	12.37	NOT DETECTED
28.	04-07-2024	43.57	18.21	11.62	14.54	--
29.	08-07-2024	41.48	16.74	10.57	13.61	--
30.	11-07-2024	47.52	17.38	13.25	17.43	--
31.	15-07-2024	54.28	18.74	14.17	18.42	--

Continue...

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Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
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
32.	18-07-2024	57.13	20.62	16.31	19.86	--
33.	22-07-2024	48.42	17.48	14.85	17.42	--
34.	25-07-2024	45.39	15.68	12.35	15.59	--
35.	29-07-2024	41.93	15.57	10.21	14.13	--
36.	01-08-2024	42.46	14.91	10.89	13.43	--
37.	05-08-2024	45.28	15.63	11.42	13.97	--
38.	08-08-2024	47.15	15.89	12.18	15.21	--
39.	12-08-2024	43.85	14.81	11.63	13.47	--
40.	15-08-2024	50.13	16.35	13.07	15.99	--
41.	19-08-2024	47.63	15.42	12.1	15.31	--
42.	22-08-2024	50.34	16.79	13.28	16.12	--
43.	26-08-2024	42.16	14.85	11.41	13.85	--
44.	29-08-2024	47.39	16.12	12.74	15.31	--
45.	02-09-2024	40.81	13.47	10.52	13.49	--
46.	05-09-2024	43.27	14.83	11.32	13.14	--
47.	09-09-2024	41.59	13.78	10.85	12.99	--

Continue...

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Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
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
48.	12-09-2024	43.26	14.57	11.05	13.25	--
49.	16-09-2024	46.19	15.73	12.47	15.21	--
50.	19-09-2024	44.47	14.38	11.54	13.27	--
51.	23-09-2024	48.61	16.11	12.73	15.27	--
52.	26-09-2024	46.38	15.42	12.13	15.02	--
53.	30-09-2024	44.26	13.52	11.62	13.49	--
Permissible Value as per NAAQMS		100.0	60.0	80.0	80.0	2.0
Test Method		IS - 5182, Part- 23	UERL/AIR/ SOP/11	IS - 5182, Part - 2	IS - 5182, Part - 6	IS - 5182, Part - 10



Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		AIR STRIP				
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
1.	01-04-2024	83.35	33.41	19.64	23.15	0.12
2.	04-04-2024	80.12	29.75	18.89	21.97	0.11
3.	08-04-2024	82.57	31.94	19.37	22.69	0.12
4.	11-04-2024	85.14	35.25	21.43	26.04	0.11
5.	15-04-2024	80.47	33.32	20.11	25.42	0.11
6.	18-04-2024	76.05	30.74	18.68	21.47	0.12
7.	22-04-2024	82.37	32.46	19.51	22.94	0.12
8.	25-04-2024	85.42	35.17	21.31	26.12	0.11
9.	29-04-2024	81.31	31.47	20.24	24.37	0.12
10.	02-05-2024	79.63	29.19	17.84	21.91	0.11
11.	06-05-2024	81.35	31.48	19.36	23.42	0.12
12.	09-05-2024	80.11	30.29	20.14	24.57	0.11
13.	13-05-2024	78.52	28.64	18.28	22.16	0.11
14.	16-05-2024	75.49	27.1	17.21	21.91	0.11
15.	20-05-2024	81.15	29.89	19.34	23.42	0.12

Continue...

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Name of Location		AIR STRIP				
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
16.	23-05-2024	77.49	27.54	17.12	21.83	0.11
17.	27-05-2024	81.43	31.71	19.84	23.17	0.12
18.	30-05-2024	83.35	32.69	20.31	24.55	0.12
19.	03-06-2024	81.27	30.13	18.92	21.35	0.12
20.	06-06-2024	78.36	28.75	17.43	21.84	0.11
21.	10-06-2024	81.41	30.19	19.42	23.14	0.12
22.	13-06-2024	80.15	29.63	18.64	22.83	0.12
23.	17-06-2024	77.46	27.1	17.42	20.38	0.11
24.	20-06-2024	74.39	25.91	16.57	19.79	0.11
25.	24-06-2024	61.38	22.52	14.31	17.84	0.03
26.	27-06-2024	54.98	19.65	11.85	15.23	0.05
27.	01-07-2024	51.63	18.37	11.49	14.21	NOT DETECTED
28.	04-07-2024	58.71	20.86	12.86	16.45	0.04
29.	08-07-2024	63.75	21.64	15.42	19.76	0.06
30.	11-07-2024	72.39	23.48	17.35	20.88	0.04
31.	15-07-2024	73.95	26.22	18.51	22.24	0.07

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Name of Location		AIR STRIP				
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
32.	18-07-2024	69.87	23.75	15.48	19.73	0.05
33.	22-07-2024	72.36	25.94	16.59	19.11	0.03
34.	25-07-2024	66.48	22.36	14.37	18.63	NOT DETECTED
35.	29-07-2024	63.57	20.39	11.87	14.31	NOT DETECTED
36.	01-08-2024	58.14	20.05	12.63	15.82	NOT DETECTED
37.	05-08-2024	62.39	21.37	13.48	16.14	0.05
38.	08-08-2024	65.13	22.35	14.12	18.06	0.05
39.	12-08-2024	60.32	20.86	13.25	16.28	0.05
40.	15-08-2024	64.74	22.11	14.59	17.36	0.05
41.	19-08-2024	67.42	23.61	14.96	18.1	0.05
42.	22-08-2024	69.31	24.13	15.11	18.74	0.05
43.	26-08-2024	62.64	22.25	13.21	16.47	NOT DETECTED
44.	29-08-2024	65.38	23.56	14.28	17.42	NOT DETECTED
45.	02-09-2024	60.13	20.93	13.15	16.69	NOT DETECTED
46.	05-09-2024	64.38	21.63	13.75	16.91	NOT DETECTED
47.	09-09-2024	62.19	20.85	12.79	15.68	NOT DETECTED

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Name of Location		AIR STRIP				
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
48.	12-09-2024	65.11	23.19	13.88	16.13	0.05
49.	16-09-2024	68.38	24.83	14.57	17.42	0.05
50.	19-09-2024	64.59	22.38	13.71	16.54	0.05
51.	23-09-2024	66.72	24.15	14.24	17.8	0.05
52.	26-09-2024	63.5	22.12	13.72	16.36	NOT DETECTED
53.	30-09-2024	65.18	23.42	14.31	17.13	NOT DETECTED
Permissible Value as per NAAQMS		100.0	60.0	80.0	80.0	2.0
Test Method		IS - 5182, Part- 23	UERL/AIR/ SOP/11	IS - 5182, Part - 2	IS - 5182, Part - 6	IS - 5182, Part - 10



Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Ambient Air Quality Monitoring

Name of Location		SV2			
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
1.	01-04-2024	71.28	21.63	10.16	15.92
2.	04-04-2024	68.84	19.57	10.73	15.69
3.	08-04-2024	65.38	20.13	11.53	17.36
4.	11-04-2024	69.26	18.74	10.11	15.89
5.	15-04-2024	72.47	20.83	11.24	16.48
6.	18-04-2024	74.11	21.37	10.95	16.52
7.	22-04-2024	68.41	20.47	11.29	15.23
8.	25-04-2024	63.85	18.77	10.85	15.12
9.	29-04-2024	66.31	19.76	10.12	16.32
10.	02-05-2024	68.52	19.73	11.21	15.05
11.	06-05-2024	71.31	20.88	11.93	15.12
12.	09-05-2024	69.42	19.26	11.04	16.31
13.	13-05-2024	66.37	18.87	10.86	15.16
14.	16-05-2024	64.92	17.65	10.52	15.88
15.	20-05-2024	65.28	18.11	10.79	16.01

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Name of Location		SV2			
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
16.	23-05-2024	67.53	20.10	11.25	15.31
17.	27-05-2024	64.39	17.84	10.86	15.78
18.	30-05-2024	67.54	19.86	11.12	16.44
19.	03-06-2024	66.39	18.10	10.87	14.29
20.	06-06-2024	69.73	18.65	11.87	15.38
21.	10-06-2024	65.49	18.15	11.64	15.10
22.	13-06-2024	63.40	17.32	10.42	14.38
23.	17-06-2024	58.93	15.85	9.85	13.25
24.	20-06-2024	60.38	16.52	10.63	14.57
25.	24-06-2024	34.83	13.29	7.84	10.62
26.	27-06-2024	30.61	12.84	7.13	9.79
27.	01-07-2024	35.86	15.29	7.25	9.63
28.	04-07-2024	38.41	16.92	8.10	11.38
29.	08-07-2024	43.59	18.14	8.58	10.72
30.	11-07-2024	41.20	15.48	7.14	9.91
31.	15-07-2024	45.68	16.27	9.52	11.44

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Name of Location		SV2			
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
32.	18-07-2024	43.29	15.73	8.87	10.39
33.	22-07-2024	40.65	15.12	8.21	11.03
34.	25-07-2024	45.18	16.42	9.14	11.59
35.	29-07-2024	39.74	15.12	7.73	10.14
36.	01-08-2024	40.93	15.11	7.82	10.47
37.	05-08-2024	42.84	15.81	8.15	11.21
38.	08-08-2024	46.83	16.32	8.52	11.69
39.	12-08-2024	43.72	15.79	7.95	10.31
40.	15-08-2024	46.13	16.68	8.73	11.25
41.	19-08-2024	49.37	17.14	8.97	11.64
42.	22-08-2024	47.42	16.83	8.77	10.98
43.	26-08-2024	44.61	15.49	7.69	10.81
44.	29-08-2024	46.39	16.10	8.42	11.36
45.	02-09-2024	42.37	15.75	8.14	11.08
46.	05-09-2024	41.28	14.91	7.84	10.41
47.	09-09-2024	43.27	15.48	8.37	11.15

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Name of Location		SV2			
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
48.	12-09-2024	45.63	16.15	9.10	12.21
49.	16-09-2024	43.83	15.61	8.46	10.62
50.	19-09-2024	45.38	15.94	8.98	10.87
51.	23-09-2024	48.14	16.73	9.19	12.10
52.	26-09-2024	43.29	14.78	8.13	10.85
53.	30-09-2024	45.18	15.27	8.48	11.14
Permissible Value as per NAAQMS		100.0	60.0	80.0	80.0
Test Method		IS - 5182, Part- 23	UERL/AIR/ SOP/11	IS - 5182, Part - 2	IS - 5182, Part - 6



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...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Location Name		PUB / Adani House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		02-10-2023	02-11-2023	04-12-2023	01-01-2024	01-02-2024	04-03-2024
1	22:00 to 23:00	57.4	60.5	59.7	58.6	59.2	60.7
2	23:00 to 24:00	55.8	63.2	61.3	61.7	60.3	58.4
3	24:00 to 01:00	53.9	61.4	62.3	63.3	62.9	60.7
4	01:00 to 02:00	58.6	64.8	61.9	61.9	60.3	62.1
5	02:00 to 03:00	59.3	60.1	59.7	59.5	57.8	60.5
6	03:00 to 04:00	53.8	58.2	57.6	57.4	56.3	61.3
7	04:00 to 05:00	56.3	57.5	56.3	56.3	56.8	58.6
8	05:00 to 06:00	55.6	59.3	57.5	58.1	57.3	58.1

Night Time	<70 dB (A)
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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 Guest House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		17-04-2024	22-05-2024	18-06-2024	20-07-2024	17-08-2024	17-09-2024
1	06:00 to 07:00	57.6	58.7	58.9	57.6	58.2	59.4
2	07:00 to 08:00	59.4	60.3	61.3	59.7	60.3	61.5
3	08:00 to 09:00	60.3	59.8	60.3	61.4	60.9	63.4
4	09:00 to 10:00	64.6	62.4	63.2	60.8	62.4	64.7
5	10:00 to 11:00	66.4	65.4	64.6	62.2	63.6	64.2
6	11:00 to 12:00	65.7	66.8	65.2	64.6	63.1	65.7
7	12:00 to 13:00	64.2	65.3	64.3	65.3	64.5	67.1
8	13:00 to 14:00	65.2	64.2	65.8	64.9	65.4	66.4
9	14:00 to 15:00	66.6	65.4	64.3	63.6	66.7	65.6
10	15:00 to 16:00	63.2	64.6	65.8	65.6	65.4	64.8
11	16:00 to 17:00	65.6	65.1	64.2	63.8	64.5	65.7
12	17:00 to 18:00	64.3	63.8	62.9	63.5	64.3	65.1
13	18:00 to 19:00	65.5	63.4	62.5	64.1	65.2	64.3
14	19:00 to 20:00	64.4	65.1	64.3	66.2	65.6	64.7
15	20:00 to 21:00	63.1	62.8	63.8	63.5	62.5	62.3
16	21:00 to 22:00	60.1	60.3	59.8	60.3	61.5	60.7
Day Time		<75 dB (A)					

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Location Name		Adani Guest House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		17-04-2024	22-05-2024	18-06-2024	20-07-2024	17-08-2024	17-09-2024
1	22:00 to 23:00	60.5	60.6	59.9	58.4	57.9	58.1
2	23:00 to 24:00	62.4	61.7	60.4	59.4	59.1	58.8
3	24:00 to 01:00	61.4	63.3	62.4	61.8	59.6	60.4
4	01:00 to 02:00	63.8	62.8	63.1	63.5	60.5	62.6
5	02:00 to 03:00	62.3	62.4	61.4	62.3	61.9	62.4
6	03:00 to 04:00	60.1	61.8	60.8	61.7	62.2	61.3
7	04:00 to 05:00	61.3	60.2	58.7	59.3	60.3	59.7
8	05:00 to 06:00	61.4	59.8	58.3	59.5	59.3	57.6

Night Time	<70 dB (A)
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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		WTP- Nr. CETP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		03-04-2024	04-05-2024	05-06-2024	03-07-2024	03-08-2024	03-09-2024
1	06:00 to 07:00	63.1	62.8	61.5	60.8	60.2	59.5
2	07:00 to 08:00	65.6	64.9	63.7	64.1	63.5	59.9
3	08:00 to 09:00	67.1	67.3	64.8	66.1	64.8	61.7
4	09:00 to 10:00	65.8	66.7	63.4	64.7	66.5	62.4
5	10:00 to 11:00	65.7	64.9	66.2	67.4	65.2	64.6
6	11:00 to 12:00	67.4	65.7	65.4	64.3	66.7	66.1
7	12:00 to 13:00	65.2	66.3	67.2	65.9	66.3	65.4
8	13:00 to 14:00	64.5	65.4	64.9	63.6	64.8	64.7
9	14:00 to 15:00	67.1	66.8	65.2	64.6	63.7	65.6
10	15:00 to 16:00	65.9	64.2	67.8	65.8	64.7	65.2
11	16:00 to 17:00	65.4	66.1	65.4	65.1	65.4	63.6
12	17:00 to 18:00	65.8	65.8	67.1	67.3	66.3	65.1
13	18:00 to 19:00	65.1	63.2	65.3	64.5	64.3	65.7
14	19:00 to 20:00	63.8	62.3	64.3	65.2	62.8	64.4
15	20:00 to 21:00	60.3	60.6	61.8	63.4	62.7	63.5
16	21:00 to 22:00	60.5	62.4	61.7	61.9	61.3	60.8
Day Time		<75 dB (A)					

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Location Name		WTP- Nr. CETP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		03-04-2024	04-05-2024	05-06-2024	03-07-2024	03-08-2024	03-09-2024
1	22:00 to 23:00	60.9	60.2	59.8	58.9	59.3	60.5
2	23:00 to 24:00	63.4	61.8	60.6	61.3	60.6	59.4
3	24:00 to 01:00	62.3	63.6	62.7	61.7	62.4	60.6
4	01:00 to 02:00	61.4	62.4	61.4	62.5	61.4	63.4
5	02:00 to 03:00	60.5	62.5	62.7	61.7	63.1	61.7
6	03:00 to 04:00	62.3	60.4	61.5	60.4	62.3	61.4
7	04:00 to 05:00	61.6	62.3	59.8	60.2	59.7	60.3
8	05:00 to 06:00	58.3	60.1	60.3	59.7	58.8	58.2

Night Time	<70 dB (A)
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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		SAMUDRA TOWNSHIP – STP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		06-04-2024	11-05-2024	08-06-2024	06-07-2024	07-08-2024	07-09-2024
1	06:00 to 07:00	62.5	61.7	63.1	63.5	61.9	60.3
2	07:00 to 08:00	63.8	63.4	60.8	65.2	63.2	62.4
3	08:00 to 09:00	64.5	65.8	62.3	64.7	64.3	65.4
4	09:00 to 10:00	67.4	65.6	65.8	66.4	65.2	64.3
5	10:00 to 11:00	66.3	67.2	64.6	65.2	67.5	66.3
6	11:00 to 12:00	65.4	66.5	67.3	66.8	64.5	65.8
7	12:00 to 13:00	66.6	65.4	65.4	64.5	65.9	64.3
8	13:00 to 14:00	65.4	64.3	66.7	65.4	66.3	66.1
9	14:00 to 15:00	65.9	64.3	63.4	66.2	65.2	64.8
10	15:00 to 16:00	65.3	65.9	66.3	63.4	64.5	63.2
11	16:00 to 17:00	66.7	64.3	65.2	64.7	63.7	65.5
12	17:00 to 18:00	65.7	65.2	63.2	65.1	64.5	64.7
13	18:00 to 19:00	68.3	64.3	65.8	63.3	65.8	66.5
14	19:00 to 20:00	64.6	66.7	65.9	64.8	63.2	65.3
15	20:00 to 21:00	64.6	65.3	64.3	62.6	63.7	64.2
16	21:00 to 22:00	61.8	61.7	62.3	60.1	60.4	62.3
Day Time		<75 dB (A)					

Continue...

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

Location Name		SAMUDRA TOWNSHIP – STP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		06-04-2024	11-05-2024	08-06-2024	06-07-2024	07-08-2024	07-09-2024
1	22:00 to 23:00	58.7	58.1	58.4	59.2	58.8	59.3
2	23:00 to 24:00	60.1	59.3	58.8	59.6	59.3	60.8
3	24:00 to 01:00	59.7	60.4	59.4	60.4	59.9	62.3
4	01:00 to 02:00	62.3	61.8	62.6	61.4	62.3	61.6
5	02:00 to 03:00	61.3	61.4	61.5	63.1	62.6	63.5
6	03:00 to 04:00	59.8	62.4	61.8	61.3	61.2	62.1
7	04:00 to 05:00	60.2	60.7	60.3	58.7	60.4	61.7
8	05:00 to 06:00	57.8	58.3	59.1	58.2	58.3	59.9

Night Time	<70 dB (A)
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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		SAMUDRA TOWNSHIP CUSTOMER CARE					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		09-04-2024	14-05-2024	12-06-2024	09-07-2024	10-08-2024	11-09-2024
1	06:00 to 07:00	58.3	60.1	60.8	61.7	60.7	61.6
2	07:00 to 08:00	59.5	61.5	62.3	63.9	61.6	63.7
3	08:00 to 09:00	61.8	63.4	64.7	66.4	63.5	64.2
4	09:00 to 10:00	64.2	64.8	64.3	63.8	64.8	66.8
5	10:00 to 11:00	64.8	66.8	66.1	64.7	65.4	64.3
6	11:00 to 12:00	64.2	65.3	64.8	67.0	65.8	63.5
7	12:00 to 13:00	65.9	66.7	67.3	65.4	66.2	67.1
8	13:00 to 14:00	67.2	65.8	66.2	65.7	65.3	65.7
9	14:00 to 15:00	63.7	65.1	64.8	65.9	64.8	65.3
10	15:00 to 16:00	64.6	63.7	64.6	65.3	65.7	64.7
11	16:00 to 17:00	65.2	65.4	66.5	66.8	65.3	64.8
12	17:00 to 18:00	63.4	64.5	65.2	64.2	65.1	65.8
13	18:00 to 19:00	64.1	63.6	63.2	61.9	64.3	65.3
14	19:00 to 20:00	66.4	64.3	64.7	62.4	63.8	64.4
15	20:00 to 21:00	62.8	62.9	63.1	64.3	65.1	65.5
16	21:00 to 22:00	58.5	59.2	59.8	62.3	61.5	61.9
Day Time		<75 dB (A)					

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Location Name		SAMUDRA TOWNSHIP CUSTOMER CARE					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		09-04-2024	14-05-2024	12-06-2024	09-07-2024	10-08-2024	11-09-2024
1	22:00 to 23:00	61.1	60.8	60.2	60.5	60.2	61.6
2	23:00 to 24:00	63.3	62.7	61.7	60.2	61.4	59.1
3	24:00 to 01:00	62.6	64.1	62.8	61.6	62.4	60.8
4	01:00 to 02:00	60.8	62.4	63.8	62.8	61.9	63.5
5	02:00 to 03:00	63.2	61.8	63.2	62.5	63.4	62.3
6	03:00 to 04:00	61.7	61.9	62.1	63.2	62.7	63.5
7	04:00 to 05:00	61.4	59.6	61.8	60.5	61.2	60.5
8	05:00 to 06:00	60.4	59.8	60.3	59.8	59.2	60.1

Night Time	<70 dB (A)
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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		AIR STRIP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		13-04-2024	18-05-2024	15-06-2024	13-07-2024	13-08-2024	14-09-2024
1	06:00 to 07:00	60.8	61.3	63.2	62.8	62.3	63.7
2	07:00 to 08:00	62.7	63.2	65.4	65.1	64.8	63.2
3	08:00 to 09:00	64.6	64.7	66.4	64.7	63.4	65.1
4	09:00 to 10:00	66.8	66.2	67.8	65.5	64.5	65.6
5	10:00 to 11:00	65.1	64.6	65.4	65.4	66.8	66.8
6	11:00 to 12:00	64.8	67.3	68.7	68.2	65.4	64.2
7	12:00 to 13:00	68.3	67.8	65.8	67.5	65.9	66.5
8	13:00 to 14:00	66.7	65.4	67.8	65.8	66.3	63.9
9	14:00 to 15:00	65.2	66.2	65.5	66.4	65.2	64.7
10	15:00 to 16:00	66.4	64.9	63.8	67.1	67.4	66.5
11	16:00 to 17:00	63.8	64.7	65.1	65.4	66.4	66.1
12	17:00 to 18:00	66.5	65.2	66.8	66.4	64.5	65.3
13	18:00 to 19:00	63.8	65.5	65.1	65.1	64.8	66.8
14	19:00 to 20:00	65.1	63.8	65.9	64.8	63.4	65.5
15	20:00 to 21:00	65.4	64.1	64.5	62.5	63.8	64.1
16	21:00 to 22:00	62.3	61.8	62.2	64.1	62.2	62.4
Day Time		<75 dB (A)					

Continue...

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Location Name		AIR STRIP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		13-04-2024	18-05-2024	15-06-2024	13-07-2024	13-08-2024	14-09-2024
1	22:00 to 23:00	58.8	58.2	58.5	59.7	59.5	58.7
2	23:00 to 24:00	59.8	60.4	58.8	58.5	59.8	60.4
3	24:00 to 01:00	60.3	62.9	61.5	59.4	60.3	61.7
4	01:00 to 02:00	62.5	61.3	61.8	62.1	62.2	63.8
5	02:00 to 03:00	60.7	63.2	62.5	60.5	61.7	61.2
6	03:00 to 04:00	62.3	62.4	61.4	60.2	60.4	62.6
7	04:00 to 05:00	60.7	61.4	60.5	58.7	59.6	61.2
8	05:00 to 06:00	59.6	60.2	59.6	58.1	57.8	59.7

Night Time	<70 dB (A)
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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		SV2					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		27-04-2024	31-05-2024	20-06-2024	31-07-2024	31-08-2024	28-09-2024
1	06:00 to 07:00	57.4	58.1	58.7	58.1	57.8	58.5
2	07:00 to 08:00	59.4	60.4	59.5	60.6	59.8	60.1
3	08:00 to 09:00	60.7	62.4	61.8	64.2	63.2	62.5
4	09:00 to 10:00	62.4	63.8	63.4	66.5	63.7	63.1
5	10:00 to 11:00	61.5	65.4	63.9	64.3	64.2	65.7
6	11:00 to 12:00	64.3	66.3	65.8	66.2	65.7	66.8
7	12:00 to 13:00	65.2	64.2	66.8	65.7	64.8	65.3
8	13:00 to 14:00	63.9	63.7	65.4	65.4	65.2	66.7
9	14:00 to 15:00	63.8	65.1	66.7	66.2	64.3	65.3
10	15:00 to 16:00	62.7	63.2	64.3	63.9	64.9	65.3
11	16:00 to 17:00	60.5	61.2	64.2	65.3	63.4	65.6
12	17:00 to 18:00	61.6	60.4	63.4	64.1	62.7	64.4
13	18:00 to 19:00	62.7	63.4	60.6	65.5	63.1	63.2
14	19:00 to 20:00	63.4	62.7	63.4	63.2	62.6	60.7
15	20:00 to 21:00	61.8	61.5	62.7	60.6	61.2	60.4
16	21:00 to 22:00	60.7	59.7	60.1	59.1	59.3	58.5
Day Time		<75 dB (A)					

Continue...

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Location Name		SV2					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		27-04-2024	31-05-2024	20-06-2024	31-07-2024	31-08-2024	28-09-2024
1	22:00 to 23:00	58.8	59.2	59.5	58.7	58.2	59.8
2	23:00 to 24:00	58.1	60.6	61.3	60.2	59.7	61.3
3	24:00 to 01:00	60.4	62.4	62.5	61.5	60.4	60.3
4	01:00 to 02:00	62.3	61.8	62.1	62.4	62.1	62.1
5	02:00 to 03:00	61.8	62.7	61.3	60.7	61.8	59.8
6	03:00 to 04:00	60.4	61.1	59.4	60.3	59.9	59.6
7	04:00 to 05:00	58.6	59.8	58.7	59.5	60.5	57.7
8	05:00 to 06:00	57.2	57.7	57.2	58.4	58.8	58.2

Night Time	<70 dB (A)
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Test Method	IS: 9989 : 1981
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Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Stack Monitoring					
Monitoring Period: April - 2024 to September - 2024					
Sr. No.	Parameter	Unit	Adani Hospital DG Set	GPCB LIMIT	Method of Test
			Aug-24		
			13-08-2024		
1	Particulate Matter	mg/Nm ³	19.13	150	IS 11255 (Part - 1)
2	Sulfur Dioxide as SO ₂	ppm	7.18	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	25.46	50	IS 11255 (Part - 7)

Sr. No.	Parameter	Unit	WTP Nr CETP D.G.Set No. S-1 (380 KVA)	GPCB LIMIT	Method of Test
			Sep-24		
			28-09-2024		
1	Particulate Matter	mg/Nm ³	19.6	150	IS 11255 (Part - 1)
2	Sulfur Dioxide as SO ₂	ppm	5.8	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	25.47	50	IS 11255 (Part - 7)



Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

Results of Stack Monitoring

Monitoring Period: **April - 2024 to September - 2024**

Sr. No.	Parameter	Unit	Adani House D.G.Set No. S-1 (750 KVA)	GPCB LIMIT	Method of Test
			Sep-24		
			12-09-2024		
1	Particulate Matter	mg/Nm ³	20.84	150	IS 11255 (Part - 1)
2	Sulfur Dioxide as SO ₂	ppm	9.1	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	25.42	50	IS 11255 (Part - 7)

Sr. No.	Parameter	Unit	D.G.Set No. S-2 (500 KVA –PUB)	GPCB LIMIT	Method of Test
			Sep-24		
			12-09-2024		
1	Particulate Matter	mg/Nm ³	19.15	150	IS 11255 (Part - 1)
2	Sulfur Dioxide as SO ₂	ppm	8.1	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO _x	ppm	32.26	50	IS 11255 (Part - 7)



Nikunj D. Patel
(Chemist)




Jaivik S. Tandel
(Manager - Operations)

RESULTS OF CETP INLET WATER

SR.NO.	TEST PARAMETERS	UNIT	CETP INLET						GPCB Permissible Limit CETP Inlet	TEST METHOD
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24		
			04-04-2024	24-05-2024	27-06-2024	31-07-2024	06-08-2024	12-09-2024		
1.	pH @ 27 ° C	--	7.44	7.24	7.25	7.6	7.69	7.86	6.5 to 8.5	IS 3025(Part 11):2022
2.	Temperature	°C	30.5	31.5	31	30	30	30	--	IS 3025(Part 9):2023
3.	Colour	Pt. Co. Scale	80	70	70	60	60	50	100	IS 3025(Part 4):2021
4.	Total Suspended Solids	mg/L	58	48	86	44	70	74	800	APHA 24th Ed.2023,2540 –D
5.	Oil & Grease	mg/L	4	4.5	4	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)	20	IS 3025(Part 39):2021
6.	Phenolic Compound	mg/L	0.56	0.62	0.55	BDL(MDL:2.0)	BDL(MDL:0.1)	BDL(MDL:0.1)	2	IS 3025(Part 43):2022
7.	Fluoride	mg/L	1.11	1.18	1.06	1.2	0.81	1.65	2	APHA 24th Ed.2023,4500 F, D
8.	Iron as Fe	mg/L	0.168	0.149	0.144	BDL(MDL:0.1)	0.39	0.145	3	IS 3025(Part 53):2003,
9.	Zinc as Zn	mg/L	0.111	0.122	0.134	0.06	0.079	BDL(MDL:0.05)	15	IS 3025(Part 49):1994
10.	Trivalent Chromium	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	By Calculation
11.	Sulphide	mg/L	0.68	0.58	0.62	0.61	BDL(MDL:0.05)	0.9	2	APHA 24th Ed.2023,4500 S ² F

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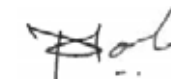
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ISO 45001 : 2018
Certified Company

SR.NO.	TEST PARAMETERS	UNIT	CETP INLET						GPCB Permissible Limit CETP Inlet	TEST METHOD
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24		
			04-04-2024	24-05-2024	27-06-2024	31-07-2024	06-08-2024	12-09-2024		
12.	Ammonical Nitrogen	mg/L	42.2	38.9	15.3	25.8	19.2	21.5	50	IS 3025(Part 34):1988,
13.	BOD (3 days at 27 °C)	mg/L	120	130	128	123	81	65	1000	IS 3025(Part 44):2023
14.	COD	mg/L	404.5	434.4	272	410	270.4	216.9	2000	IS 3025(Part 58):2023
15.	Chloride (as Cl) -	mg/L	814.6	846.2	490	813.1	822.9	684.8	1000	IS 3025(Part 32):1988
16.	Sulphate (as SO ₄)	mg/L	54	62	56	143.4	100.6	254.3	1000	IS 3025(Part 24):2022
17.	Total Dissolved Solids	mg/L	1648	1670	810	1904	1892	1860	2100	APHA 24th Ed.2023,2540- C
18.	Total Residual Chlorine	mg/L	0.68	0.74	BDL(MDL:0.1)	0.74	BDL(MDL:0.2)	0.84	2	IS 3025(Part 26):2021
19.	Copper as Cu	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	0.0574	BDL(MDL:0.05)	BDL(MDL:0.05)	3	IS 3025(Part 42):1992



Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

RESULTS OF CETP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	CETP OUTLET						GPCB Permissible Limit CETP Outlet	TEST METHOD
			Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24		
			04-04-2024	24-05-2024	27-06-2024	31-07-2024	06-08-2024	12-09-2024		
1.	pH @ 27 ° C	--	7.42	7.22	7.24	7.56	7.75	8.03	6.0 – 9.0	IS 3025(Part 11):2022
2.	Temperature	°C	30	31.5	31	30	30	30	Shall not exceed more than 5 °C above received water temperature	IS 3025(Part 9):2023
3.	Colour	Pt. Co. Scale	40	40	40	50	50	50	100	IS 3025(Part 4):2021
4.	Total Suspended Solids	mg/L	22	26	9	10	14	10	100	APHA 24th Ed.2023,2540 –D
5.	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
6.	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
7.	Fluoride	mg/L	1.05	1.14	1	1.15	1.24	1.2	2	APHA 24th Ed.2023,4500 F, D
8.	Iron as Fe	mg/L	0.124	0.133	0.118	BDL(MDL:0.1)	0.182	BDL(MDL:0.1)	3	IS 3025(Part 53):2003,
9.	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)	BDL(MDL:0.05)	15	IS 3025(Part 49):1994
10.	Trivalent Chromium	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	By Calculation

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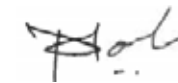
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SR.NO.	TEST PARAMETERS	UNIT	CETP OUTLET						GPCB Permissible Limit CETP Inlet	TEST METHOD	
			Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24			
			10-10-2023	22-11-2023	26-12-2023	23-01-2024	02-02-2024	04-03-2024			
11.	Sulphide	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	2	APHA 24th Ed.2023,4500 S ² F
12.	Ammonical Nitrogen	mg/L	26.6	28.3	2.5	4.5	3.4	1.2		50	IS 3025(Part 34):1988,
13.	BOD (3 days at 27 °C)	mg/L	26	29	31	39	40	28		100	IS 3025(Part 44):2023
14.	COD	mg/L	84.2	96.4	82	130	134.2	92.2		250	IS 3025(Part 58):2023
15.	Chloride (as Cl ⁻)	mg/L	804	812.4	670.2	784	788.4	650.8		1000	IS 3025(Part 32):1988
16.	Sulphate (as SO ₄)	mg/L	52	56	50	129.2	116.7	246.2		1000	IS 3025(Part 24):2022
17.	Total Dissolved Solids	mg/L	1642	1662	1674	1780	1800	1852		2100	APHA 24th Ed.2023,2540- C
18.	Total Residual Chlorine	mg/L	0.66	0.74	0.52	0.74	0.72	0.92		1	IS 3025(Part 26):2021
19.	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
20.	Bio Assay test (%)	%	90 % survival of fish after 96 hrs. in 100% effluent	90 % survival of fish after 96 hrs. in 100% effluent	90 % survival of fish after 96 hrs. in 100% effluent	90 % survival of fish after 96 hrs. in 100% effluent	90 % survival of fish after 96 hrs. in 100% effluent	90 % survival of fish after 96 hrs. in 100% effluent		90 % survival of fish after 96 hrs. in 100% effluent	IS:6582-1971



Mr. Nilesh Patel
Sr. Chemist

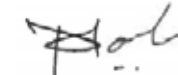
Mr. Nitin Tandel
Technical Manager

RESULTS OF BOREHOLE WATER SAMPLE

Sr. No	Parameters	Method	Unit	14-06-2024	14-06-2024	14-06-2024	14-06-2024
				Nr. PUB Building.	Nr. CETP	Nr.flyover bridge	Dhrub
1	pH @ 25 ° C	IS 3025(Part 11)1983	--	7.11	8.54	7.58	7.96
2	Salinity	APHA 24th Ed.,2023,2520 B	ppt	18.38	1.9	7.1	1.68
3	Oil & Grease	IS 3025(Part39)1991, Amd. 2	mg/L	BDL(MDL:5.0)	BDL(MDL:5.0)	BDL(MDL:5.0)	BDL(MDL:5.0)
4	Hydrocarbon	GC/GCMS	mg/L	Not Detected	Not Detected	Not Detected	Not Detected
5	Lead as Pb	IS 3025 (PART 47) 1994	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	0.018	BDL(MDL:0.01)
6	Arsenic as As	APHA 24th Ed.,2023,3114-C	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)
7	Nickel as Ni	IS 3025 (PART 54) 2003	mg/L	BDL(MDL:0.02)	0.115	0.192	BDL(MDL:0.02)
8	Total Chromium as Cr	IS 3025 (PART 52) 2003	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)
9	Cadmium as Cd	IS 3025(PART 41) 1992	mg/L	0.111	0.06	0.123	BDL(MDL:0.003)
10	Mercury as Hg	APHA 24th Ed.,2023, 3112-B	mg/L	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)
11	Zinc as Zn	IS 3025(PART 49) 1994	mg/L	0.065	BDL(MDL:0.05)	0.141	BDL(MDL:0.05)
12	Copper as Cu	IS 3025 (PART 42) 1992	mg/L	BDL(MDL:0.05)	0.114	0.13	BDL(MDL:0.05)
13	Iron as Fe	IS 3025(PART 53) 2003	mg/L	0.138	0.187	0.133	0.124
14	Insecticides/Pesticides	USEPA 8081 B	µg/L	Absent	Absent	Absent	Absent
15	Depth of Water Level from Ground Level	--	meter	2.1	2.15	2.15	2.15



Mr. Nilesh Patel
Sr. Chemist

Mr. Nitin Tandel
Technical Manager

RESULTS OF SOIL SAMPLE

SR.NO.	TEST PARAMETERS	UNIT	14-06-2024	14-06-2024	14-06-2024	14-06-2024
			24/06/Soil/APL-0001	24/06/Soil/APL-0002	24/06/Soil/APL-0003	24/06/Soil/APL-0004
1	pH	--	8.56	8.56	8.42	9.14
2	Nitrogen as N	%	0.19	0.44	0.39	0.52
3	Phosphorus as P	mg/kg	1256.4	710.4	870.5	5090.6
4	Potassium as K	mg/kg	44.5	1258	232.5	160.8
5	Baron as B	mg/kg	1.82	1.96	2.18	3.11
6	Calcium as Ca	mg/kg	334.2	3260.8	1031.2	432
7	Magnesium as Mg	mg/kg	158.6	5584.2	502.6	102.3
8	Iron as Fe	%	0.74	1.42	0.88	1.12
9	Moisture	%	0.28	1.02	0.31	1.65
10	Organic Matter	%	0.84	1.59	1.28	1.48
11	Cation exchange capacity (CEC)	meq/100gm	10.1	14.9	10.55	10.36
12	TVC	CFU/gm	2.5x10 ⁶	2.7 x 10 ⁶	2.5 x 10 ⁶	2.1 x 10 ⁶
13	Cadmium as Cd	mg/kg	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)
14	Thorium as Th	mg/kg	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)
15	Antimony as Sb	mg/kg	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)
16	Arsenic as As	mg/kg	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)	BDL(MDL:1.0)

Continue...

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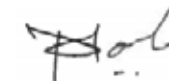
ISO 9001 : 2015
Certified Company

ISO 45001 : 2018
Certified Company

17	Lead as Pb	mg/kg	9.58	9.38	16.88	7.41
18	Chromium as Cr	mg/kg	3.11	9.18	3.46	4.31
19	Cobalt as Co	mg/kg	10.02	10.62	8.84	9.86
20	Copper as Cu	mg/kg	8.24	11.58	31.08	16.84
21	Nickel as Ni	mg/kg	12.4	15.11	13.34	14.65
22	Manganese and Mn	mg/kg	402.2	228.6	220.1	180.85
23	Vanadium as V	mg/kg	7.49	8.39	8.76	7.85



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 (PM10)	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	1-30 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 ₂	mg/Nm ³	4 mg/Nm ³
3	Oxides of Nitrogen NO _x	mg/Nm ³	5 mg/Nm ³

CETP water			
Sr. No.	Test Parameter	Unit	MDL
1	pH @ 27 ° C	--	2
2	Temperature	0C	5
3	Colour	Pt. Co. Scale	5
4	Total Suspended Solids	mg/L	4
5	Oil & Grease	mg/L	2
6	Phenolic Compound	mg/L	0.1
7	Fluoride	mg/L	0.2
8	Iron as Fe	mg/L	0.1
9	Zinc as Zn	mg/L	0.05
10	Trivalent Chromium	mg/L	0.05
11	Sulphide	mg/L	0.05
12	Ammonical Nitrogen	mg/L	2
13	BOD (3 days at 27 0C)	mg/L	1
14	COD	mg/L	2
15	Chloride (as Cl) ⁻	mg/L	1
16	Sulphate (as SO ₄)	mg/L	1
17	Total Dissolved Solids	mg/L	4
18	Total Residual Chlorine	mg/L	0.1
19	Copper as Cu	mg/L	0.05
20	Bio Assay test (%)	%	--
STP OUTLET			

QCI-NABET Accredited EIA
Consultant Organization

GPCB Recognized Environmental
Auditor (Schedule-11)

ISO 9001 : 2015
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ISO 45001 : 2018
Certified Company

Sr. No.	Test Parameter	Unit	MDL
1	pH @ 25 ° C	--	2
2	Total Suspended Solids	mg/L	4
3	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	1
4	Residual chlorine	mg/L	0.1
5	Fecal Coliform	MPN Index/100ml	

Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client

M/s. Adani Power Limited, Mundra

Village: Tunda & Siracha,

: Tal. Mundra, Dist.: Kutch.

GUJARAT – 370 435.

Month of Monitoring

: April - 2024

Name of Location

: Village - Siracha

ID No.

: URA/ID/A-24/04/001

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/04/2024	55.2	21.4	15.5	20.6		--
2.	05/04/2024	55.5	27.2	14.2	18.3		--
3.	09/04/2024	54.9	26.8	12.7	16.1	17.4	BDL
4.	12/04/2024	58.0	25.8	17.3	23.8		--
5.	16/04/2024	52.7	20.5	15.1	21.5		--
6.	19/04/2024	70.6	30.7	18.6	24.2		--
7.	23/04/2024	59.9	27.4	13.6	18.9		--
8.	30/04/2024	49.4	18.5	16.5	22.4		--
Average		57.0	24.8	15.4	20.7		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, PM₁₀ – IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ – IS: 5182 (Part 2), 2001, NO_x – IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : April - 2024

Name of Location : Village – Kandagara

ID No. : URA/ID/A-24/04/002

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/04/2024	64.6	26.2	13.7	17.5		--
2.	05/04/2024	70.1	22.1	11.4	15.2		--
3.	09/04/2024	54.9	19.7	16.7	22.9	22.1	BDL
4.	12/04/2024	64.2	17.1	18.3	25.7		--
5.	16/04/2024	42.6	25.2	15.3	21.4		--
6.	19/04/2024	63.2	24.4	13.5	20.1		--
7.	23/04/2024	50.5	19.5	19.4	26.8		--
8.	30/04/2024	61.6	21.7	17.3	23.7		--
Average		59.0	22.0	15.7	21.7		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, PM₁₀– IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂– IS: 5182 (Part 2), 2001, NO_x– IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : April - 2024

Name of Location : Village - Wandh

ID No. : URA/ID/A-24/04/003

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/04/2024	58.1	26.1	16.8	22.3		--
2.	05/04/2024	64.8	31.2	14.6	19.4		--
3.	09/04/2024	64.0	30.5	18.0	22.4	26.1	BDL
4.	12/04/2024	67.4	27.2	17.3	23.1		--
5.	16/04/2024	51.2	28.7	15.7	21.3		--
6.	19/04/2024	63.2	29.4	13.5	17.3		--
7.	23/04/2024	66.1	31.9	19.1	25.7		--
8.	30/04/2024	75.2	29.4	18.4	24.8		--
Average		63.7	29.3	16.7	22.0		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : April - 2024

Name of Location : Nr.20 MLD Plant

ID No. : URA/ID/A-24/04/004

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	18/04/2024	70.2	32.4	19.5	24.2	32.6	BDL
Average		70.2	32.4	19.5	24.2	32.6	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : April - 2024

Name of Location : Nr. Shantiniketan - 1

ID No. : URA/ID/A-24/04/005

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	18/04/2024	64.3	26.7	15.6	19.7	29.6	BDL
Average		64.3	26.7	15.6	19.7	29.6	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client

M/s. Adani Power Limited, Mundra

Village: Tunda & Siracha,

Tal. Mundra, Dist.: Kutch.

GUJARAT – 370 435.

Month of Monitoring

: August - 2024

Name of Location

: Village - Siracha

ID No.

: URA/ID/A-24/08/001

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/08/2024	Due to Rainfall Monitoring not Performed					
2.	06/08/2024	50.9	25.5	12.1	18.2	13.8	BDL
3.	09/08/2024	Due to Rainfall Monitoring not Performed					
4.	13/08/2024	59.1	27.3	9.2	12.4	--	--
5.	16/08/2024	Due to Rainfall Monitoring not Performed					
6.	20/08/2024	47.9	26.4	10.7	13.5	--	--
7.	23/08/2024	41.8	21.5	12.6	15.7	--	--
8.	27/08/2024	Due to Rainfall Monitoring not Performed					
9.	30/08/2024	Due to Rainfall Monitoring not Performed					
Average		49.9	25.2	11.2	15.0	--	--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, PM₁₀ – IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ – IS: 5182 (Part 2), 2001, NO_x – IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

UniStar Environment &
Research Labs Pvt. Ltd.



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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : August - 2024

Name of Location : Village – Kandagara

ID No. : URA/ID/A-24/08/002

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/08/2024	Due to Rainfall Monitoring not Performed					
2.	06/08/2024	52.4	26.0	11.6	17.0	17.2	BDL
3.	09/08/2024	Due to Rainfall Monitoring not Performed					
4.	13/08/2024	61.6	29.6	10.2	12.4	--	--
5.	16/08/2024	Due to Rainfall Monitoring not Performed					
6.	20/08/2024	54.0	22.3	13.8	15.2	--	--
7.	23/08/2024	40.5	21.4	10.3	13.8	--	--
8.	27/08/2024	Due to Rainfall Monitoring not Performed					
9.	30/08/2024	Due to Rainfall Monitoring not Performed					
Average		52.1	24.8	11.5	14.6	--	--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, PM₁₀– IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂– IS: 5182 (Part 2), 2001, NO_x– IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

UniStar Environment &
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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : August - 2024

Name of Location : Village - Wandh

ID No. : URA/ID/A-24/08/003

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/08/2024	Due to Rainfall Monitoring not Performed					
2.	06/08/2024	50.0	25.8	15.7	19.2	17.8	BDL
3.	09/08/2024	Due to Rainfall Monitoring not Performed					
4.	13/08/2024	67.5	29.3	11.4	17.6	--	--
5.	16/08/2024	Due to Rainfall Monitoring not Performed					
6.	20/08/2024	55.8	28.6	11.7	14.3	--	--
7.	23/08/2024	50.5	27.0	12.6	15.7	--	--
8.	27/08/2024	Due to Rainfall Monitoring not Performed					
9.	30/08/2024	Due to Rainfall Monitoring not Performed					
Average		56.0	27.7	12.9	16.7	--	--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : August - 2024

Name of Location : Nr.20 MLD Plant

ID No. : URA/ID/A-24/08/004

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	12/08/2024	60.2	23.6	13.8	19.6	21.2	BDL
Average		60.2	23.6	13.8	19.6	21.2	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : August - 2024

Name of Location : Nr. Shantiniketan - 1

ID No. : URA/ID/A-24/08/005

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	12/08/2024	47.6	20.5	10.7	17.5	20.3	BDL
Average		47.6	20.5	10.7	17.5	20.3	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5} - Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client

M/s. Adani Power Limited, Mundra

Village: Tunda & Siracha,

Tal. Mundra, Dist.: Kutch.

GUJARAT – 370 435.

Month of Monitoring

: July - 2024

Name of Location

: Village - Siracha

ID No.

: URA/ID/A-24/07/001

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/07/2024	Due to Rainfall Monitoring not Performed					
2.	05/07/2024	55.7	24.4	14.3	19.4	12.3	BDL
3.	09/07/2024	Due to Rainfall Monitoring not Performed					
4.	12/07/2024	50.1	16.4	12.7	15.9		--
5.	16/07/2024	Due to Rainfall Monitoring not Performed					
6.	19/07/2024	Due to Rainfall Monitoring not Performed					
7.	23/07/2024	Due to Rainfall Monitoring not Performed					
8.	26/07/2024	Due to Rainfall Monitoring not Performed					
9.	30/07/2024	Due to Rainfall Monitoring not Performed					
Average		52.9	20.4	13.5	17.7		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, PM₁₀ – IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ – IS: 5182 (Part 2), 2001, NO_x – IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : July - 2024

Name of Location : Village – Kandagara

ID No. : URA/ID/A-24/07/002

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/07/2024	Due to Rainfall Monitoring not Performed					
2.	05/07/2024	53.3	26.7	13.7	18.1	18.5	BDL
3.	09/07/2024	Due to Rainfall Monitoring not Performed					
4.	12/07/2024	55.4	20.8	15.0	17.5		--
5.	16/07/2024	Due to Rainfall Monitoring not Performed					
6.	19/07/2024	Due to Rainfall Monitoring not Performed					
7.	23/07/2024	Due to Rainfall Monitoring not Performed					
8.	26/07/2024	Due to Rainfall Monitoring not Performed					
9.	30/07/2024	Due to Rainfall Monitoring not Performed					
Average		54.3	23.8	14.4	17.8		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, PM₁₀– IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂– IS: 5182 (Part 2), 2001, NO_x– IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : July - 2024

Name of Location : Village - Wandh

ID No. : URA/ID/A-24/07/003

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/07/2024	Due to Rainfall Monitoring not Performed					
2.	05/07/2024	60.7	26.2	15.6	19.5	19.7	BDL
3.	09/07/2024	Due to Rainfall Monitoring not Performed					
4.	12/07/2024	51.0	25.4	14.0	17.3		--
5.	16/07/2024	Due to Rainfall Monitoring not Performed					
6.	19/07/2024	Due to Rainfall Monitoring not Performed					
7.	23/07/2024	Due to Rainfall Monitoring not Performed					
8.	26/07/2024	Due to Rainfall Monitoring not Performed					
9.	30/07/2024	Due to Rainfall Monitoring not Performed					
Average		55.9	25.8	14.8	18.4		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : July - 2024

Name of Location : Nr.20 MLD Plant

ID No. : URA/ID/A-24/07/004

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	15/07/2024	58.2	25.2	15.6	22.1	28.9	BDL
Average		58.2	25.2	15.6	22.1	28.9	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : July - 2024

Name of Location : Nr. Shantiniketan - 1

ID No. : URA/ID/A-24/07/005

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	15/07/2024	49.8	18.9	13.8	18.5	24.3	BDL
Average		49.8	18.9	13.8	18.5	24.3	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client

M/s. Adani Power Limited, Mundra

Village: Tunda & Siracha,

Tal. Mundra, Dist.: Kutch.

GUJARAT – 370 435.

Month of Monitoring

: June - 2024

Name of Location

: Village - Siracha

ID No.

: URA/ID/A-24/06/001

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	04/06/2024	61.7	29.4	13.2	18.5		--
2.	07/06/2024	60.9	28.1	17.9	24.2		--
3.	11/06/2024	53.4	27.3	15.8	21.1		--
4.	14/06/2024	59.4	28.2	16.3	23.7		--
5.	18/06/2024	45.9	23.0	12.8	16.5	15.1	BDL
6.	21/06/2024	54.8	21.4	15.2	19.7		--
7.	25/06/2024	Due to Rainfall Monitoring not Performed					
8.	28/06/2024	Due to Rainfall Monitoring not Performed					
Average		56.0	26.2	15.2	20.6		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, PM₁₀ – IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ – IS: 5182 (Part 2), 2001, NO_x – IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : June - 2024

Name of Location : Village – Kandagara

ID No. : URA/ID/A-24/06/002

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	04/06/2024	50.6	22.0	16.5	21.8		--
2.	07/06/2024	60.5	26.5	15.6	17.2		--
3.	11/06/2024	71.5	31.5	18.9	26.3		--
4.	14/06/2024	54.2	22.1	16.4	22.5		--
5.	18/06/2024	48.8	25.5	15.9	20.7	20.6	BDL
6.	21/06/2024	56.9	24.7	14.7	16.5		--
7.	25/06/2024	Due to Rainfall Monitoring not Performed					
8.	28/06/2024	Due to Rainfall Monitoring not Performed					
Average		57.1	25.4	16.3	20.8		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, PM₁₀– IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂– IS: 5182 (Part 2), 2001, NO_x– IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

UniStar Environment &
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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : June - 2024

Name of Location : Village - Wandh

ID No. : URA/ID/A-24/06/003

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	04/06/2024	62.5	27.0	17.9	20.4		--
2.	07/06/2024	54.1	28.8	19.5	23.6		--
3.	11/06/2024	54.9	32.0	16.2	19.7		--
4.	14/06/2024	68.5	35.5	17.2	22.9		--
5.	18/06/2024	52.5	23.6	12.7	16.7	21.3	BDL
6.	21/06/2024	62.0	26.9	15.8	21.3		--
7.	25/06/2024	Due to Rainfall Monitoring not Performed					
8.	28/06/2024	Due to Rainfall Monitoring not Performed					
Average		59.1	29.0	16.6	20.8		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

UniStar Environment & Research Labs Pvt. Ltd.



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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : June - 2024

Name of Location : Nr.20 MLD Plant

ID No. : URA/ID/A-24/06/004

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	17/06/2024	61.3	27.1	15.6	24.1	32.1	BDL
Average		61.3	27.1	15.6	24.1	32.1	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : June - 2024

Name of Location : Nr. Shantiniketan - 1

ID No. : URA/ID/A-24/06/005

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	17/06/2024	55.7	22.6	13.8	19.4	26.7	BDL
Average		55.7	22.6	13.8	19.4	26.7	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client

M/s. Adani Power Limited, Mundra

Village: Tunda & Siracha,

Tal. Mundra, Dist.: Kutch.

GUJARAT – 370 435.

Month of Monitoring

: May - 2024

Name of Location

: Village - Siracha

ID No.

: URA/ID/A-24/05/001

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	03/05/2024	56.9	28.3	14.3	19.8		--
2.	07/05/2024	53.1	17.7	16.2	21.6	17.6	BDL
3.	10/05/2024	65.1	24.1	18.2	25.3		--
4.	14/05/2024	58.3	26.7	15.9	22.6		--
5.	17/05/2024	51.5	16.1	14.5	19.2		--
6.	21/05/2024	60.9	24.0	17.3	23.5		--
7.	24/05/2024	68.4	31.9	13.7	17.2		--
8.	28/05/2024	56.8	28.0	19.5	26.8		--
9.	31/05/2024	50.1	31.6	16.5	24.1		--
Average		57.9	25.4	16.2	22.2		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, PM₁₀ – IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ – IS: 5182 (Part 2), 2001, NO_x – IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : May - 2024

Name of Location : Village – Kandagara

ID No. : URA/ID/A-24/05/002

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	03/05/2024	68.5	34.4	16.1	22.6		--
2.	07/05/2024	50.0	29.6	14.4	18.3	22.6	BDL
3.	10/05/2024	66.7	32.4	12.1	16.5		--
4.	14/05/2024	52.9	29.8	17.4	23.8		--
5.	17/05/2024	70.8	38.2	20.6	28.1		--
6.	21/05/2024	55.0	33.5	18.2	24.9		--
7.	24/05/2024	53.6	27.8	14.3	21.1		--
8.	28/05/2024	50.2	25.0	19.2	26.5		--
9.	31/05/2024	67.7	33.0	17.5	24.3		--
Average		59.5	31.5	16.6	22.9		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, PM₁₀– IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂– IS: 5182 (Part 2), 2001, NO_x– IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : May - 2024

Name of Location : Village - Wandh

ID No. : URA/ID/A-24/05/003

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	03/05/2024	53.9	23.7	14.3	18.9		--
2.	07/05/2024	56.0	31.5	18.2	24.3	28.9	BDL
3.	10/05/2024	54.8	30.4	17.6	23.6		--
4.	14/05/2024	70.4	30.3	19.3	26.3		--
5.	17/05/2024	73.2	37.5	15.5	21.1		--
6.	21/05/2024	63.7	23.4	13.8	18.5		--
7.	24/05/2024	52.4	28.4	18.9	23.6		--
8.	28/05/2024	73.8	31.9	20.1	27.3		--
9.	31/05/2024	62.3	27.8	16.5	22.4		--
Average		62.3	29.4	17.1	22.9		--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client

M/s. Adani Power Limited, Mundra

Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring

: September - 2024

Name of Location

: Village - Siracha

ID No.

: **URA/ID/A-24/09/001**

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	03/09/2024	56.0	29.9	14.2	16.7	--	--
2.	06/09/2024	40.4	20.7	11.7	14.2	--	--
3.	10/09/2024	54.4	25.6	15.2	19.5	--	--
4.	13/09/2024	47.1	24.4	13.0	16.9	15.2	BDL
5.	17/09/2024	55.4	21.1	12.8	15.4	--	--
6.	20/09/2024	64.5	29.0	10.5	13.9	--	--
7.	24/09/2024	60.2	27.0	13.7	16.2	--	--
8.	27/09/2024	56.3	26.3	15.6	17.8	--	--
Average		54.3	25.5	13.3	16.3	--	--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, PM₁₀ – IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ – IS: 5182 (Part 2), 2001, NO_x – IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : September - 2024

Name of Location : Village – Kandagara

ID No. : URA/ID/A-24/09/002

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	03/09/2024	50.5	24.6	10.2	14.5	--	--
2.	06/09/2024	56.3	27.4	11.2	14.6	--	--
3.	10/09/2024	54.5	22.4	14.8	18.5	--	--
4.	13/09/2024	45.8	26.2	12.7	15.3	18.9	BDL
5.	17/09/2024	57.4	30.8	15.6	19.8	--	--
6.	20/09/2024	61.4	26.3	13.5	16.9	--	--
7.	24/09/2024	70.6	33.6	12.7	16.4	--	--
8.	27/09/2024	49.4	21.5	14.3	17.5	--	--
Average		55.7	26.6	13.1	16.7	--	--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, PM₁₀– IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂– IS: 5182 (Part 2), 2001, NO_x– IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : September - 2024

Name of Location : Village - Wandh

ID No. : URA/ID/A-24/09/003

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	03/09/2024	54.2	30.5	13.3	18.5	--	--
2.	06/09/2024	52.6	28.1	16.2	19.6	--	--
3.	10/09/2024	60.1	30.4	15.4	17.1	--	--
4.	13/09/2024	57.1	30.3	13.0	15.7	19.8	BDL
5.	17/09/2024	71.3	34.1	14.9	20.6	--	--
6.	20/09/2024	64.3	29.0	12.7	15.2	--	--
7.	24/09/2024	55.9	24.7	17.6	19.8	--	--
8.	27/09/2024	58.5	26.3	14.9	18.5	--	--
Average		59.2	29.2	14.8	18.1	--	--

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009 Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : September - 2024
Name of Location : Nr.20 MLD Plant
ID No. : **URA/ID/A-24/09/004**

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	16/09/2024	67.6	25.9	15.2	22.4	25.8	BDL
Average		67.6	25.9	15.2	22.4	25.8	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

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Monthly Average Report

AMBIENT AIR MONITORING

Name and Address of Client : M/s. Adani Power Limited, Mundra
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

Month of Monitoring : September - 2024

Name of Location : Nr. Shantiniketan - 1

ID No. : URA/ID/A-24/09/005

Sr. No.	Sampling Date	Concentration in Ambient Air ($\mu\text{g}/\text{m}^3$)					
		PM ₁₀ $\mu\text{g}/\text{M}^3$	PM _{2.5} $\mu\text{g}/\text{M}^3$	Sulphur Dioxide (SO ₂) $\mu\text{g}/\text{M}^3$	Nitrogen Dioxide (NO ₂) $\mu\text{g}/\text{M}^3$	Ozone (O ₃) $\mu\text{g}/\text{M}^3$	Mercury (Hg) $\mu\text{g}/\text{M}^3$
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	16/09/2024	58.4	23.5	12.8	19.4	22.6	BDL
Average		58.4	23.5	12.8	19.4	22.6	BDL

Remark: Calibrated equipment & instruments were used during monitoring & analysis of above identified sample.

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, PM₁₀ - IS: 5182 (Part 23), 2006, PM_{2.5}- Guidelines by CPCB (Vol-1), SO₂ - IS: 5182 (Part 2), 2001, NO_x - IS: 5182 (Part 6), 2006, Hg: AAS by VGA Method -3112 B APHA 22 Edison & Hg: 2 ppb O₃: IS – 5182 (Part 9) 2009Ozone BDL limit: 5 $\mu\text{g}/\text{m}^3$

UniStar Environment &
Research Labs Pvt. Ltd.



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MARINE MONITORING REPORT

April 2024 - September 2024



Submitted to

Adani Power Ltd. (APL), Mundra

Village Tunda & Sirach

Taluka Mundra

District Kutch- 370 435

Gujarat

Prepared By:

M/s. UniStar Environment and Research Labs. Pvt. Ltd.

215 - Royal Arcade, Near GIDC Office, Char Rasta, Vapi,

District Valsad - 396 195

Gujarat

PREFACE

Adani Power Ltd., Mundra (APL, Mundra) is coal-based Thermal Power plant located near village Tunda and Siracha, Taluka Mundra District Kutch, Gujarat. with capacity of 4620 MW in Phased manner. Currently, APL is a largest coal based Thermal power plant in private sector in INDIA. APL-Mundra has commissioned the first supercritical 660 MW unit (Phase III) in the country. This is also the World's First supercritical technology project to have received the 'Clean Development Mechanism (CDM) Project' certification from United Nations Framework Convention on Climate Change (UNFCCC). Currently, the total power production capacity of the APL-Mundra has increased to 4620 MW.

APL-Mundra has engaged **M/s. UniStar Environment and Research Labs Pvt. Ltd., Vapi** to **carry out the** seasonal Marine Monitoring Study along with the seawater intake and outfall (discharge) channels of Mundra power plant. This marine monitoring study involved the assessment of Physio-chemical parameters at the earlier prescribed locations. The distribution and diversity of marine flora and fauna were assessed through water sampling from sub-tidal regions. Furthermore, the distribution of the benthic community was evaluated from the sediment samples collected along the sub-tidal and inter-tidal regions. The overall objective of this study is to monitor the status of prevailing ecology along the intake and discharge (outfall) channels, in terms of water and sediment quality through assessment of physico-chemical parameters and marine biota. This marine monitoring report provides a comprehensive analysis of the Data obtained through a monitoring study undertaken during April 2024 and September 2024.

Date: 29/10/2024

M/S. UniStar Environment and Research Labs Pvt. Ltd.

White House, Char Rasta,

Vapi-396 191

Approved by



Mr. Jaivik Tandel
(Authorized By)

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1. INTRODUCTION

1.1 OVERVIEW

Adani Power Limited (APL-Mundra) is an imported coal-based thermal power plant located near village Tunda and Siracha, Taluka Mundra, District Kutch, Gujarat, India. APL-Mundra is the largest single location private coal-based power plant in India. Mundra plant capacity is 4620 MW, comprising of 9 units with 4 units of 330 MW (Phase I and II) and 5 units of 660MW (Phase III and IV). The 330 MW units are based on subcritical technology and the 660 MW units are based on supercritical technology. APL-Mundra has created history by synchronizing the first supercritical technology-based 660 MW generating unit. This is not only the first super-critical generating unit in the country but also the fastest project implementation ever by any power developer in the country. The Power plant is situated within “Adani Port Special Economic Zone LTD.” APSEZL, closed to the sea but out of CRZ area. The sea is perennial source of cooling water & other utility for the power plant.

M/S. UniStar Environment and Research Labs Pvt. Ltd., Vapi, India have carried out the routine Marine Monitoring Study in the vicinity of the APL-Mundra Mundra plant during **16th-17th April 2024** and **20th-21st September 2024**. The sampling was carried out along the integrated sea intake channel (2 stations) and at vicinity of discharge/outfall channel water mixing region (2 stations). These integrated intake and outfall channels were developed and maintained by Adani Port and SEZ (APSEZ). One station was situated in between these two locations. This assessment involves the collection of Physico-chemical parameters from 5 subtidal locations (Table 1). The distribution and diversity of marine microflora (phytoplankton and pigments) and fauna (zooplankton) were assessed from water samples collected from 5 subtidal stations (Table 1). The assemblage of the macrobenthic community was studied from 5 sub-tidal and 3 inter-tidal stations. The present report presents a detailed account of the results observed during the Marine Monitoring Study at the vicinity of the APL-Mundra during April 2024 and September 2024.

1.2 OBJECTIVES

- a) To analyses the Physico-chemical seawater parameter for understanding the water quality in the study area.
- b) Evaluation of the prevailing status of marine biota through the quantitative and qualitative analysis of marine flora (phytoplankton and pigments) and fauna (zooplankton and macrobenthos).
- c) To recommend adequate marine environmental management measures.

2. STUDY PROGRAM

2.1 STUDY PERIOD

The field investigations were carried out on 16th-17th April 2024 (pre-monsoon season) and 20th-21st September 2024 (post-monsoon season). The sampling strategy was planned in such a manner as to get a detailed characteristic of the marine environment of the study area. Sampling and analysis for the marine environment have been carried out by **M/s. UniStar Environment and Research Labs Pvt. Ltd, Vapi, India.**

2.2 SAMPLING LOCATIONS

Sampling was carried out at 5 subtidal stations and 3 intertidal transects along with the sea intake and outfall channels. Out of 5 subtidal stations, 2 were in the sea intake channel, 2 along the discharge mixing (outfall channel) region and remaining 1 in between these two locations. One intertidal station was located along the sea intake channel and 2 were along the discharge region. The detailed geographic coordinates of sampling stations are given in Table 1 and Figure 1.1.

Table 1: Geographic coordinates, water, and sediment parameters at the subtidal sampling stations, APL-Mundra during April 2024 and September 2024.

Station	Station code	Locations	Coordinates		Water Depth (in m)	
1	St-1	Intake point	22°48'30.50"N	69°32'57.84"E	3.9	3.8
2	St-2	Mouth of intake point	22°47'07.20"N	69°32'06.50"E	4.6	4.2
3	St-3	West port area	22°45'27.70"N	69°34'50.63"E	5.2	4.8
4	St-4	Outfall area	22°44'40.56"N	69°36'26.61"E	4.0	3.9
5	St-5	Outfall area	22°45'12.60"N	69°36'44.54"E	3.8	3.6

Table 2: Geographic coordinates, water, and sediment parameters at the intertidal sampling stations, APL-Mundra during April 2024 and September 2024.

Station	Station code	Tide Level	Coordinates		April 2024		September 2024	
					Intertidal exposed area	Sediment texture	Intertidal exposed area	Sediment texture
I	IT-1 (HW)	High Tidewater level	22°47'07.55" N	69°32'16.91" E	4.8 m	Silty sand	3.9 m	Silty sand
	IT-1 (LW)	Low Tide water level	22°47'06.38" N	69°32'11.62" E		Silty sand		Silty sand
II	IT-2 (HW)	High Tidewater level	22°45'58.72" N	69°34'35.41" E	3.9 m	Silty Sandy	3.6 m	Silty Sandy
	IT-2 (LW)	Low Tidewater level	22°45'57.74" N	69°34'35.05" E		Silty sand		Silty sand
III	IT-3 (HW)	High Tidewater level	22°44'52.21" N	69°36'41.64" E	4.2 m	Sandy	4.0 m	Sandy
	IT-3 (LW)	Low Tidewater level	22°44'51.23" N	69°36'39.28" E		Sandy		Sandy



Figure 1: Map of the study area illustrating the subtidal and intertidal sampling stations.

2.3 SAMPLING STRATEGY

2.3.1 Sampling frequency

A sampling at the subtidal stations was carried out during the flood to ebb tides. Surface and bottom water samples were collected in duplicate for assessing water quality and marine biota. Intertidal samples were collected in duplicate during low tide at each transect.

2.3.2 Sampling methodology

For estimation of Physico-chemical parameters and marine flora (phytoplankton and pigments), subsurface samples were collected using the Niskin water sampler (5 L capacity) with a mechanism for closing at the desired depth. Surface water samples were collected using a clean polyethylene bucket. Phytoplankton samples were collected in clean polyethylene bottles (1 L) fitted with inert cap liners and preserved with 4% Lugol's iodine solution. For pigment analysis, water samples were stored in clean, dark polyethylene cans (5 L). Chemical parameters samples were collected in polyethylene or glass bottles. Samples for phenol were collected in polyethylene or glass bottles and Petroleum Hydrocarbon samples collected in glass bottles. Dissolve oxygen (DO) and Biological Oxygen Demand (BOD) samples were collected in glass BOD bottles. The temperature was measured on the field with a calibrated thermometer. Analysis of other parameters was carried out in the laboratory.

For zooplankton, oblique hauls were made using Heron Tranter net attached with calibrated flow meter. Samples were stored in clean polyethylene bottles (0.5 L) and fixed with 5% formaldehyde.

For the analysis of macrobenthos, subtidal sediment samples were collected using a Van Veen grab covering an area of 0.04 m². Intertidal samples were collected using a metal quadrant. Samples were sieved with a 500 µ metal sieve and preserved with Rose Bengal-formalin solution and stored in plastic zip-lock bags.

2.4 SAMPLE ANALYSIS METHODS

2.4.1 Physico-chemical parameter:

Samples were analysed by using different analytical methods for estimations of Temperature, Turbidity, PH, Suspended Solid (SS), Salinity, DO, BOD, COD, Phosphate, Total nitrogen, Nitrite, Nitrate, Phenols and PHc. The samples collected during the field visit were brought to the laboratory for further analysis of physico-chemical parameters. The standard methods used for the analysis of water quality parameters are given in Table 3a, b.

2.4.2 Sediment Quality parameters:

Sediment texture, Petroleum Hydrocarbon (PHc), Phosphorus, Organic Carbon, Aluminium, Iron, Chromium, Nickel, Zinc, Lead, Copper, Cobalt, Cadmium, Mercury, Arsenic. The standard methods used for the analysis of each parameter.

2.4.3 Biological parameters:

2.4.3a Phytoplankton:

The Lugol's preserved samples were allowed to settle for 48-72 hrs. The identification and enumeration of phytoplankton cells were carried out under a compound microscope using the Sedgwick Rafter slide. Species were identified to the genus level.

2.4.3b Phytoplankton pigments:

For the estimation of Chlorophyll *a* (Chl *a*) and Pheophytin, a known volume of field-collected water sample was filtered through Whatman glass microfiber filters (GF/F). Then filter paper was macerated in 90% acetone and stored overnight in the dark at 4°C. For estimation of Chl *a* fluorescence of the extract was measured using Turner Fluorometer. For phaeophytin fluorescence was measured after acidification with 0.1 N HCl.

2.4.3c Zooplankton:

Formalin preserved sample was divided into 4 equal portions using the Folsom Plankton Splitter. One portion of the samples was used to determine biomass using the volume displacement method. Another portion was used for enumeration and identification of (25-50%) faunal composition.

For the quantification of zooplankton, 4-5 ml of the sample was taken in a zooplankton counting chamber. The identification was carried out under Stereomicroscope. The zooplankton were identified at the group level.

2.4.3d Benthos:

For enumeration and identification of the macrobenthos, the organisms were handpicked using forceps and a paintbrush. After sorting, organisms were preserved in 10% formalin. Identification of the organisms was done to the group level under a stereomicroscope.

3 WATER QUALITY MONITORING

3.1 RESULT OF PHYSICO-CHEMICAL WATER PARAMETER ANALYSIS

The monsoonal influx plays an important role in controlling the variation in the physico-chemical characteristic. Surface and bottom water temperatures observed in the study area were in a range between 28.9°C to 30.2°C in April 2024 (Table 3a) and 29.0°C to 29.5°C during September 2024 (Table 3b). The water temperature generally varied in accordance with the prevailing air temperature, tidal activity, and seasonality. The pH of the water is generally buffering effect, influenced by the freshwater and anthropogenic discharge from land. The observed pH in the study area was in the range of 8.1 to 8.3 in April 2024 and 8.2 to 8.3 during September 2024. Seawater turbidity is the cloudiness caused by large numbers of individual particles such as very fine clay and minute marine organisms. This also varies seasonally due to intrusion of land runoff and/or sediment resuspension. The turbidity was in a range between 0.1 to 5 NTU in April and 1 NTU during September. The suspended solids generally constitute silt and clay eroded from the land or shore erosions and suspension of the benthic layers from the seabed. Anthropogenic discharges also contribute to suspended solids in the form of contaminants such as oil and solid waste in a polluted area. On a seasonal basis, high TSS in seawater could be observed during the active monsoon season. In the study area, TSS was 26.9 to 37.1 mg/L during April 2024 and 72.6 to 96.7 mg/ during September 2024. Salinity is an indicator of (saline or freshwater) water masses intrusion within the region. The salinity of seawater may vary with the riverine or inland influx, rains, or evaporation in the region. The salinity variation during the present sampling was 36.9 to 39.4 in April 2024 and 34.6 to 36.4 during September 2024.

High DO level is an indication of good oxidizing conditions in an aquatic environment. In unpolluted waters equilibrium is maintained through oxygen production during photosynthesis, dissolution from the atmosphere consumption by the respiration and decay of organic matter in a manner that DO levels are close to or above saturation value. The DO level of the study area was varied from 4.4 to 5.2 mg/L in April 2024 and 4.8 to 5.5 mg/L during September 2024. The average DO value was 5.2 mg/L (in April) and 5.1 (in September), which indicates the oxygenated conditions in the study region. BOD is generally indicating the effective consumption of oxidizable matter in that water body. The industrial effluents contain high BOD levels. Thus, high BOD is also an indication of the intrusion of industrial polluted effluent into natural waters. BOD levels in the study area were varied from 2.4 to 4.3 mg/L in April 2024 and 1.8 to 4.5 mg/L during September 2024. Dissolved phosphorus and nitrogen compounds serve as the nutrients for phytoplankton growth. The high nutrient concentrations in the seawater generally could be attributed to the

anthropogenic and industrial influx. This could lead to further eutrophication and further deterioration of the pristine ecosystem. In the present study, Phosphate concentration was range from 0.2 to 0.5 $\mu\text{mol/L}$ in April 2024 and 0.3 to 0.5 $\mu\text{mol/L}$ in September 2024. Nitrate concentration was range from 1.9 to 3.1 $\mu\text{mol/L}$ during April 2024 and 2.5 to 4.2 $\mu\text{mol/L}$ in September 2024. Nitrite concentration was range from 0.1 to 0.4 $\mu\text{mol/L}$ in April 2024 and 0.4 to 0.7 $\mu\text{mol/L}$ in September 2024. The Phenol compounds and PHc were not detected in the present investigation.

Table 3a: Water quality parameters reported during April 2024 and their test methods.

Sr. No.	Parameters	St-1		St-2		St-3		St- 4		St-5		Test Method Permissible
		S	B	S	B	S	B	S	B	S	B	
PHYSICAL QUALITY												
1	pH @ 25°C	8.3	8.3	8.1	8.3	8.1	8.2	8.2	8.2	8.2	8.1	IS 3025(Part 11)1983
2	Temperature (°C)	29.7	29.2	29.6	28.9	30.2	29.4	30.2	29.7	30	29.7	IS 3025(Part 9)1984
3	Turbidity (NTU)	1	1	1	1	0.1	1	0.1	1	5	1	IS 3025(Part 10)1984
CHEMICAL QUALITY												
1	Total Suspended Solids (mg/l)	26.9	32.9	27.2	37.1	26.9	33.2	27.3	34.1	26.9	33.1	APHA 24th Ed.,2023,2540- D
2	Salinity	38.6	38.6	36.9	37.8	38.6	37.9	37.1	38.2	39.2	39.4	By Calculation
3	Dissolved Oxygen (mg/l)	5.0	4.7	5.2	4.8	4.8	4.4	4.5	4.4	4.6	4.5	APHA 24th Ed.,2023,4500-O, B
4	Biochemical Oxygen Demand (BOD) (mg/l)	4.3	2.4	2.8	2.6	3	2.6	3.2	3	2.7	3.5	IS 3025(Part 44)1993Amd.01
5	Sulphate as SO ₄ (mg/l)	2354	2084	2412	2840	2140	2094	2460	2176	2230	2318	APHA 24th Ed.,2023,4500- SO ₄ E
6	Ammonical Nitrogen (µmol/l)	0.8	0.8	0.4	0.5	0.7	0.8	0.7	0.7	0.8	0.9	APHA 24th Ed.,2023,4500- NH ₃ B
7	Total Nitrogen (µmol/l)	6.2	7.4	5.8	7.0	6.8	8.1	5.6	7.0	7.4	8.9	By Calculation
8	PO ₄ ³⁻ -P (µmol/l)	0.4	0.2	0.3	0.4	0.3	0.2	0.2	0.4	0.4	0.5	APHA 24th Ed.,2023,4500 -P,D
9	(NO ₃ ⁻ -N) (µmol/l)	2.0	1.9	1.9	2.1	2.4	2.4	2.3	3.1	1.9	2.1	APHA 24th Ed.,2023,4500 NO ₃ -B
10	(NO ₂ ⁻ -N) Nitrite (µmol/l)	0.1	0.3	0.1	0.2	0.3	0.4	0.1	0.2	0.2	0.3	APHA 24th Ed.,2023,4500 NO ₂ B
11	Phenol (mg/l)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part 43):2020
12	PHc (ppb)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 24th ED,2023,5520 F

Note: St= Station
 S=Surface; B=Bottom
 BDL = Below Detection Limit and N.D. = Not detectable
 BDL(MDL:0.01)
 Turbidity= 0.1=1 to 10 NTU; 1=10 to 40 NTU; 5=40-100 NTU

Table 3b: Water quality parameters reported during September 2024 and their test methods.

Sr. No.	Parameters	St-1		St-2		St-3		St- 4		St-5		Test Method Permissible
		S	B	S	B	S	B	S	B	S	B	
PHYSICAL QUALITY												
1	pH @ 25°C	8.2	8.3	8.2	8.2	8.2	8.2	8.2	8.3	8.2	8.3	IS 3025(Part 11)1983
2	Temperature (°C)	29.5	29.0	29.5	29.0	29.0	29.5	29.0	29.5	29.5	29.5	IS 3025(Part 9)1984
3	Turbidity (NTU)	1	1	1	1	0.1	1	1	1	1	1	IS 3025(Part 10)1984
CHEMICAL QUALITY												
1	Total Suspended Solids (mg/l)	84.3	93.2	86.9	96.7	76.6	90.8	72.6	80.7	76.4	91.3	APHA 24th Ed.,2023,2540- D
2	Salinity	35.5	35.5	35.5	34.6	35.5	35.5	36.4	36.4	35.2	35.7	By Calculation
3	Dissolved Oxygen (mg/l)	5.4	4.9	5.5	5.0	5.1	5.0	4.8	5.2	5.2	5.1	APHA 24th Ed.,2023,4500-O, B
4	Biochemical Oxygen Demand (BOD) (mg/l)	4.4	2.8	3.6	1.8	2.6	4.5	3.8	4.0	3.3	3.2	IS 3025(Part 44)1993Amd.01
5	Sulphate as SO ₄ (mg/l)	1917	2036	1762	1832	1843	1980	1762	1892	1612	2072	APHA 24th Ed.,2023,4500- SO ₄ E
6	Ammonical Nitrogen (µmol/l)	0.54	0.64	0.44	0.78	0.54	0.74	0.44	0.54	0.48	0.68	APHA 24th Ed.,2023,4500- NH ₃ B
7	Total Nitrogen (µmol/l)	7.7	8.3	7.3	7.7	8.2	9.4	9.5	8.2	7.4	9.8	By Calculation
8	PO ₄ ³⁻ -P (µmol/l)	0.4	0.5	0.4	0.5	0.3	0.3	0.4	0.4	0.4	0.4	APHA 24th Ed.,2023,4500 -P,D
9	(NO ₃ ⁻ -N) (µmol/l)	2.7	4.2	2.9	3.8	2.8	3.7	2.8	3.6	2.5	3.8	APHA 24th Ed.,2023,4500 NO ₃ -B
10	(NO ₂ ⁻ -N) Nitrite (µmol/l)	0.5	0.7	0.4	0.6	0.5	0.7	0.4	0.6	0.4	0.7	APHA 24th Ed.,2023,4500 NO ₂ B
11	Phenol (mg/l)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	IS 3025(Part 43):2020
12	PHc (ppb)	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 24th Ed.,2023,5520 F

Note: St= Station
 S=Surface; B=Bottom
 BDL = Below Detection Limit and N.D. = Not detectable
 BDL (MDL:0.01)
 Turbidity= 0.1=1 to 10 NTU; 1=10 to 40 NTU; 5=40-100 NTU

The sediment quality at different sampling stations was analysed only during April 2024 sampling. The results are presented in Table 4. The sediment in the subtidal region was mainly composed of silty sand to loamy sand. The Aluminium was not detected on the surface sediments of subtidal stations. The highest Cobalt content was recorded within range from 7.2 $\mu\text{g/g}$ (at St-1) to 7.0 $\mu\text{g/g}$ (St-5). At St-5, the highest Copper content (9.9 $\mu\text{g/g}$) was recorded, whereas the lowest was detected at St-4 (8.1 $\mu\text{g/g}$). The Zinc content was ranged from 8.6 $\mu\text{g/g}$ (St-1) to 16.1 $\mu\text{g/g}$ (St-3). In the subtidal stations, the phosphorus content was ranged from 376.1 $\mu\text{g/g}$ to 462.3 $\mu\text{g/g}$. Organic carbon content was ranged within 0.4 % to 0.8 %. The Chromium content of marine sediment was ranged from 6.8 $\mu\text{g/g}$ to 17.7 $\mu\text{g/g}$. The highest chromium content was recorded as 17.7 $\mu\text{g/g}$ at St-1. The highest Nickel content (21.6 $\mu\text{g/g}$) was recorded at St-5 and lowest (4.3 $\mu\text{g/g}$) at St-4. In the subtidal region, the highest Manganese content was recorded at St-1 (83.3 $\mu\text{g/g}$). The Iron content was higher at St-4 (1.6 %) and lower at St-3 (0.8%). The PHc, Arsenic & Mercury was not detected in the sediments during this study.

Table 4: Subtidal sediment quality parameters and their test methods.

No.	Parameters	SUBTIDAL SEDIMENT QUALITY($\mu\text{gm/gm}$)					Test Method Permissible
		St-1	St-2	St-3	St- 4	St-5	
1	Texture	Silty clay	Silty sand	Silty sand	Silty clay	Silty clay	--
2	Aluminium as Al%	2.7	1.9	N.D.	N.D.	N.D.	Spectrophometric Method
3	Cobalt as Co($\mu\text{g/g}$)	7.2	3.7	6.3	4.2	7.0	EPA 3050B :1996/7000B :2007
4	Copper as Cu($\mu\text{g/g}$)	9.7	8.5	9.1	8.1	9.9	EPA 3050B :1996/7000B :2007
5	Zinc as Zn	8.6	11.8	16.14	9.3	11.9	EPA 3050B :1996/7000B :2007
6	Mercury($\mu\text{g/g}$)	BDL	BDL	BDL	BDL	BDL	EPA 7471A Method
7	Phosphorous (Total)($\mu\text{g/g}$)	408	386	462.3	376.1	421.6	IS 10158B (Stannous Chloride Method)
8	C(Org.) %	0.8	0.6	0.6	0.4	0.5	IS: 2720 (Part 22):1972
9	Chromium($\mu\text{g/g}$)	17.7	14.0	8.7	6.8	8.4	EPA 3050B :1996/7000B :2007
10	Nickel($\mu\text{g/g}$)	9.3	15.8	21.6	4.3	21.1	EPA 3050B :1996/7000B :2007
11	Manganese	83.2	44.3	61.3	72.4	49.4	EPA 3050B :1996/7000B :2007
12	Iron%	1.1	0.9	0.8	1.6	1.0	EPA 3050B :1996/7000B :2007
13	PHc($\mu\text{g/g}$)	N.D.	N.D.	N.D.	N.D.	N.D.	APHA 24th ED,2023,5520 F
14	Arsenic($\mu\text{g/g}$)	BDL	BDL	BDL	BDL	BDL	EPA 1998, SW-846, Method 7061A 1992

Note: St= Station

BDL= Below Detectable Limit and N.D. = Not detectable

BDL (MDL: 0.05)

5 BIOLOGICAL PARAMETERS (BIODIVERSITY STUDY)

Marine ecosystems are subject to a multitude of direct human pressures, such as overexploitation, eutrophication, pollution, and species introductions. These stressors can have synergistic effects on marine ecosystems, altering its functioning. Anthropogenic involvements constantly compromise the health of the marine ecosystem by disturbing the ecological balance. Hence the assessment of the biotic components along with abiotic factors is an integral part of environmental assessment and monitoring study. During the present investigation at APL-Mundra, the abundance and distribution of marine organisms (Plankton and benthos) were studied as part of routine environmental monitoring.

5.1 PLANKTONIC FORMS

The name plankton is derived from the Greek word “planktons”, meaning “wanderer” or “drifter”. While some forms of plankton are capable of independent movement and can swim up to several hundred meters in a single day, their position is primarily determined by currents in the body of water they inhabit. As per definition, organisms classified as "plankton" are unable to resist ocean currents. Plankton is primarily divided into two broad functional groups i.e., Phytoplankton and Zooplankton.

5.1.1 Phytoplankton

Phytoplankton are microscopic, single-celled photosynthetic organisms that live suspended in all water niches, including oceans, freshwater, and marine niche. Like the terrestrial ecosystem where plants are an integral part of the ecosystem, phytoplankton play key role in the biogeochemistry of the oceans. As they are dependent on sunlight for energy, they mostly inhabit the euphotic zone. Therefore, they are responsible for production of half of the atmosphere’s oxygen and more than half of the primary production in the oceans. There are many species of phytoplankton, each of which has a characteristic shape, size, and function. Marine species of phytoplankton grow abundantly in oceans around the world and are the foundation of the marine food chain. Marine phytoplankton are the producing (autotrophic) component in the ocean. There are fourteen classes of phytoplankton. Each class of phytoplankton contains unique attributes in size, cell structure, nutrients, and function.

5.1.2 Zooplankton:

Zooplankton occupies second position in the food web of the marine niche. They are the primary consumer’s organisms and generally feed on phytoplankton or small, microscopic group of organisms for they are nutritional needs. They are incapable of making their own food from sun-

light or inorganic compounds, and feed on organisms or the remains of other organisms to get the energy necessary for survival.

5.2 SIGNIFICANCE OF PHYTO- AND ZOOPLANKTONS

Phytoplankton are vital to marine ecosystems. They are producers, or autotrophs, that form the foundation of most marine food webs. As photosynthetic organisms, they can convert solar energy into chemical energy and store it in form of sugars. They are responsible for half of the photosynthetic activity on the planet. The significance of zooplanktons is found in their role of transferring biological production from phytoplankton to large organisms in the marine food web and the seafloor. The microscopic protozoan, tunicates, copepods, and other crustaceans graze upon many phytoplankton species. These in turn become food for other animals further linking the food web. Therefore, variability in reproduction of copepods would affect the survival of young fish that feeds on them.

Table 5: Test methods for phytoplankton and zooplankton analysis.

Sr. no.	Test performed	Method
1	Phytoplankton	APHA, Edition 24 th , Part 10000, 10200 F
2	Chlorophyll <i>a</i> and Pheophytin	APHA, Edition 24 th , Part 10000, 10200 H (with some modification)
3	Zooplankton	APHA, Edition 24 th , Part 10000, 10200 G
4	Macro benthos	APHA, Edition 24 th , Part 10000,10500 A-10500 D

5.3 PHYTOPLANKTON DIVERSITY:

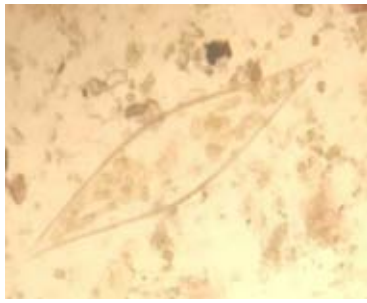
Phytoplankton sampling was carried out at 5 stations. At each station, water samples were collected from surface and bottom waters. During the sampling period the phytoplankton population in the coastal waters of APL-Mundra, was more diverse during the Pre-monsoon season (April 2024) than Post-monsoon (September 2024) (Table 6). However, the overall phytoplankton abundance was more during post-monsoon than the pre-monsoon season. The detailed species composition reported during both sampling period is given in Annexure I and II. In April 2024, the phytoplankton community was represented with a total of 31 phytoplankton genera belonging to diatoms (26 genera) and dinoflagellates (5 genera). Overall, 31 phytoplankton genera representing diatoms (28 genera) and dinoflagellate (3 genera) reported during September 2024 sampling.

Diatoms Species belonged to *Amphorprora* sp., *Asterionella* sp., *Bacillaria* sp., *Chaetoceros* sp., *Corethron* sp., *Coscinodiscus* sp., *Cyclotella* sp., *Cylindrotheca* sp., *Cymbella* sp., *Diploneis* sp., *Guinardia* sp., *Lauderia* sp., *Leptocylindrus* sp., *Licmophora* sp., *Lithodesmium* sp., *Navicula* sp., *Nitzschia* sp., *Odontella* sp., *Pinnularia* sp., *Pleurosigma* sp., *Pseudo-nitzschia* sp., *Rhizosolenia* sp., *Thalassiosira* sp. and *Thalassionema* sp. were common during both sampling period. Only 3 dinoflagellate genera i.e., *Ceratium*, *Prorocentrum* and *Protooperidinium* were reported during September 2024 as compared to April 2024 (5 genera).

The phytoplankton abundance in the study region was higher during the 134 to 218 cells x 10² L⁻¹ during September 2024 as compared to April 2024 (ranged from 87 to 161 cells x 10² L⁻¹). In April 2024, the highest phytoplankton abundance was observed at St-5 in the surface (161 cells x 10² L⁻¹). The lowest phytoplankton abundance (87 cells x 10² L⁻¹) was observed at St-3 in surface water. During September 2024, phytoplankton abundance was higher at St-5 in surface water (218 cells x 10² L⁻¹) and lowest at St-3 bottom water (134 cells x 10² L⁻¹). The diatom genera, *Coscinodiscus* (up to 42 cells x 10² L⁻¹) during September 2024 (Annexure I), whereas in April 2024, *Thalassiosira* (up to 22 cells x 10² L⁻¹) was also predominant along with *Coscinodiscus* (up to 22 cells x 10² L⁻¹) (Annexure II). The study shows that the marine water around was enriched with the diverse phytoplankton population during the same period.

Table 6: Different marine biological parameters (phytoplankton abundance, Chlorophyll a, Pheophytin concentrations) reported from the marine waters of APL-Mundra, during April 2024 and September 2024.

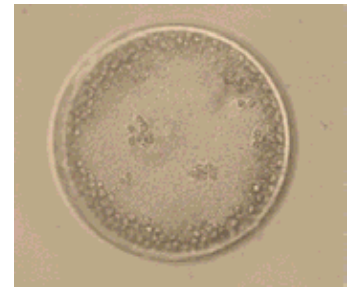
Parameter	Sampling period	Sampling Stations									
		St-1	St-1	St-2	St-2	St-3	St-3	St-4	St-4	St-5	St-5
		S	B	S	B	S	B	S	B	S	B
Phytoplankton (cells x 10 ² L ⁻¹)	April 2024	140	102	151	99	87	122	135	112	161	126
	September 2024	175	165	218	150	168	134	175	143	217	179
Chlorophyll a (µg/L)	April 2024	1.9	1.8	2.2	1.8	2	1.8	2.6	1.7	1.8	1.6
	September 2024	3.1	3.3	2.9	3.4	2.63	2.8	2.4	3	2.9	3.2
Phaeophytin (µg/L)	April 2024	1.2	0.9	1.1	0.9	1.3	0.9	1.3	0.9	0.9	0.8
	September 2024	1.6	1.4	1	1.2	0.9	1.2	0.9	1.02	1.1	1.2



Navicula sp.



Ceratium sp.



Coscinodiscus sp.



Chaetoceros sp.



Odontella sp.



Pleurosigma sp.

Figure 2: Microphotographs of phytoplankton reported in the coastal waters of APL-Mundra, during April 2024 and September 2024.

5.4 PHYTOPLANKTON PIGMENTS (CHLOROPHYLL *a* AND PHEOPHYTIN):

Marine phytoplankton contains essential as well as accessory pigments like that of terrestrial plants. Phytoplankton pigments capture sunlight. The resulting photosynthesis and its products, especially the oxygen and organic compounds, all rely on the light energy captured by the different phytoplankton pigments. Chlorophyll *a* is the major pigment for light harvesting, and plays a significant role in photosynthesis and photoprotection, by extending the light collection window and protecting the cell from the damage of high irradiance levels or high ultraviolet light exposure.

Algal chlorophyll forms a series of degradation products upon degradation. In addition to Chlorophyll the naturally occurring pigments in algal cells. The nature of these degradation products depends on which part of the chlorophyll molecule is affected. As chlorophyll degrades, the initial step is either the loss of the magnesium from the centre of the molecule or the loss of the phytol tail. This results in the formation of the molecule, phaeophytin. Depending on the parent molecule several distinct molecules like phaeophytins, chlorophyllides, and pheophorbides can be

produced. Thus, in addition to Chlorophyll *a* filtered seawater contains colour degradation products of phytoplankton pigments.

5.4a CHLOROPHYLL *a* AND PHAEOPHYTIN CONCENTRATIONS

The phytoplankton biomass distribution expressed in terms of Chlorophyll *a* (Chl-*a*) and Pheophytin at selected stations in the coastal region of APL-Mundra, is presented in Table 6. Overall, Chl-*a* and pheophytin concentration was more during the September 2024 (2.4 to 3.4 µg/L and 0.9 to 1.6 µg/L respectively) than the April 2024. The highest Chl-*a* and Pheophytin concentrations were observed at bottom waters of all stations and highest Chl-*a* (3.4 µg/L) was observed at bottom waters of ST-2. In April 2024, the Chl-*a* concentrations in the study region were ranged from 1.6 µg/L to 2.6 µg/L. The Pheophytin content was ranged from 0.8 µg/L to 1.3 µg/L.

The Chl-*a* and Pheophytin concentrations were more in the bottom water as compared to the bottom water during September 2024, whereas not trend was observed in April 2024. The variations observed between the surface and bottom waters could be due to several natural biological variability.

The concentration of Pheophytin is a measure of the dead cells and is an indirect indicator of biotic and abiotic stress conditions of the algae leading to a deterioration of Chl-*a*. The ratio from concentrations of Chl-*a* and Pheophytin in an aquatic ecosystem suggests a balance between the growth and mortality of phytoplankton life. In healthy environments, ratios of Chl-*a* to Pheophytin generally exceed 1.1. In the present study, this ratio was ranged from 1.9 to 2.9. The Chl-*a* and Pheophytin ratio showed marginally elevated levels in the surface waters as compared to the bottom waters. Overall, the ratios of Chl-*a* and Pheophytin concentration in the study region were generally high (>1), indicating that the appropriate conditions prevailed for the phytoplankton growth.

5.5 ZOOPLANKTON DIVERSITY:

Zooplankton standing stock in terms of population and biomass revealed substantial spatial and temporal variation (Table 7). Zooplankton population was more abundant during September 2024 (12.7 to 18.1 nos. $\times 10^3/100 \text{ m}^3$) to than April 2024 (8.0 to 14.3 nos. $\times 10^3/100 \text{ m}^3$). In April 2024, the maximum zooplankton population (14.3 nos. $\times 10^3/100 \text{ m}^3$) and biomass (2.0 ml/ 100 m^3) were recorded at St-4. The lowest zooplankton population (8.0 nos. $\times 10^3/100 \text{ m}^3$) and biomass (1.2 ml/ 100 m^3) (Figure 4) were observed at St-3. During September 2024, the maximum zooplankton population and biomass were observed at Station 5 (18.1 nos. $\times 10^3/100 \text{ m}^3$ and 2.7 ml/ 100 m^3 , respectively).

Overall, Copepods (60.0 to 75.9%) and copepod nauplii (13.0 to 13.6%) dominated the zooplankton assemblage during both sampling periods (Figure 3). Other zooplankton groups such as brachyuran crab larvae, anomuran crab larvae, decapod (shrimps), fish and shellfish eggs, fish larvae, gastropod larvae, chaetognaths, polychaete larvae, siphonophore, ostracods, Oikopleura, Amphipods and Lucifer were also reported at various concentrations. Different groups of identified zooplankton groups are represented in Annexure III.

Table 7: Density and biomass of various zooplankton and macrobenthos groups in the coastal waters at the APL-Mundra during April 2024 and September 2024.

Parameter	Sampling period	Sampling Stations				
		St-1	St-2	St-3	St-4	St-5
Zooplankton						
Population (nos.× 10 ³ /100 m ³)	April 2024	9.3	11.5	8.0	14.3	13.0
	September 2024	15.9	12.8	12.7	15.2	18.1
Biomass (ml./100 m ³)	April 2024	1.3	1.5	1.2	2.0	1.7
	September 2024	2.0	1.8	1.9	1.9	2.7
Macrobenthos						
Total abundance (nos./m ²)	April 2024	595	575	680	860	665
	September 2024	770	990	770	1210	910
Biomass (g/m ²)	April 2024	1.6	1.5	1.9	2.1	1.8
	September 2024	1.3	1.5	1.4	1.7	1.9

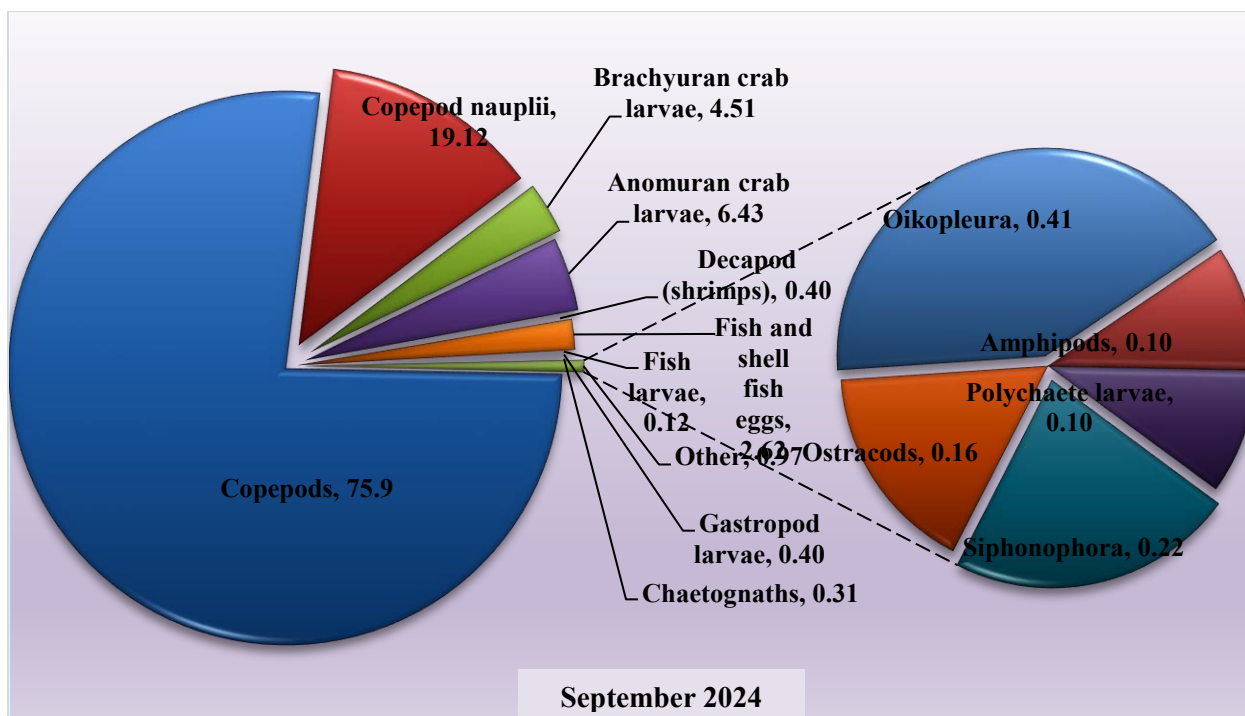
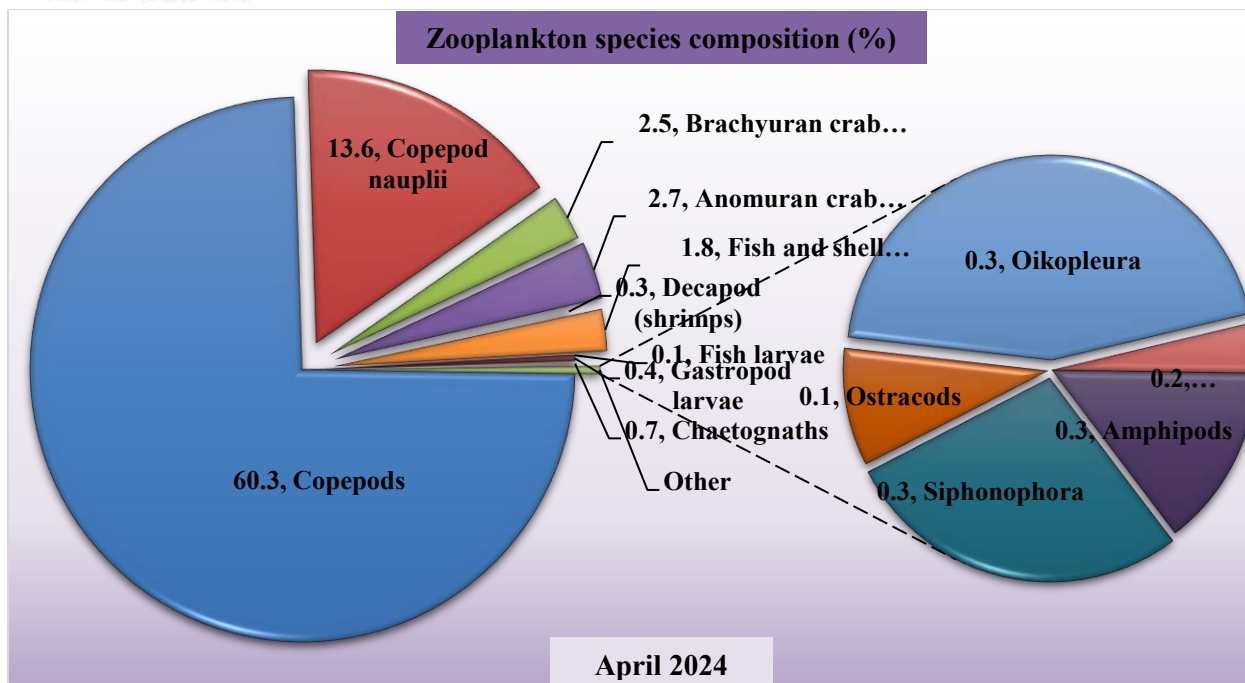


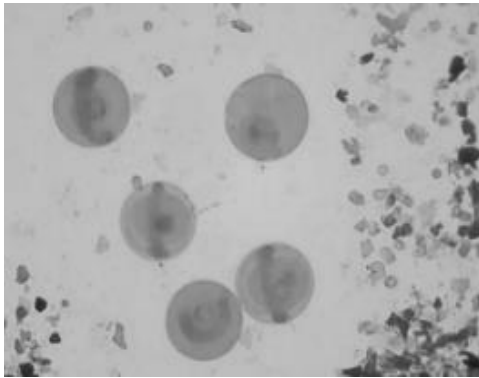
Figure 3: Percent composition of zooplankton groups reported from the marine waters of APL-Mundra during April 2024 and September 2024.



Fish Larvae



Copepods



Fish eggs



Crab larvae

Figure 4: Microphotographs of zooplankton reported along the APL-Mundra coast during April 2024 and September 2024.

5.6 Macrobenthic fauna

The benthic zone is the lowest ecological zone of a water body which usually involves the sediments at the seafloor. The benthic environment is divided into distinctive ecological zones based on depth, seafloor topography, and vertical gradients of physical parameters. These are the supralittoral, littoral, sublittoral, bathyal, abyssal, and hadal zones. The number of phyla and species of benthic animals exceeds those of pelagic species, at least partly because of the greater physical variety of benthic habitats. Benthic animals are separated into infaunal and epifaunal species, depending upon whether they live within sediments or on the surface of the seafloor, respectively. Size categories of the zoobenthos consist of the larger macrofauna (>1.0 mm), the small meiofauna which is characteristically found in sand and mud, and the microfauna which is made up mostly of protozoans.

Benthic organisms are morphologically different from those planktonic organisms. Many are adapted to live on the substrate (bottom). In benthic habitats, they can be considered dominant creatures. These organisms adapted to deep-water pressure so cannot survive in the upper parts of

the water column. Since light does not penetrate very deep ocean water, the benthic organisms often depend on the organic matter falling from the upper water column as their main energy source. This dead and decaying matter sustains the benthic food chain. The most benthic organisms are scavengers or detritivores. These organisms under being relatively stationary, are constantly exposed to changes undergoing in overlying water, and hence, respond very well to aquatic pollution. The macro benthos population is very sensitive to environmental perturbation and is highly influenced by the physicochemical characteristics of water, the nature of the substratum, food, predation, and other factors. The density of benthic invertebrates also fluctuates widely with the changes in the season.

5.6.1 Significance of macrobenthic organisms

The biomass of macrobenthic organisms in estuaries and coastal embayment is often high. It declines if communities affected by prolonged periods of poor water quality especially when anoxia and hypoxia are common. Burrowing and tube-building by deposit-feeding benthic organisms (bioturbation) help to mix the sediment and enhance the decomposition of organic matter. Nitrification and denitrification are also enhanced because a range of oxygenated and anoxic microhabitats are created. For example, the area of oxic-anoxic boundaries and the surface area available for diffusive exchange are increased by tube-building macrobenthos. The loss of benthic suspension-feeders can further enhance turbidity levels because these organisms filter suspended particles including planktonic algae, and they enhance sedimentation rates through bio deposition (i.e., voiding of their wastes and unwanted food). Changes in the macro fauna (and flora) cause changes in nutrient storage pools. Macro fauna is also important constituents of fish diets and thus are an important link for transferring energy and nutrients between trophic levels, also driving pelagic fish and crustacean production. For these reasons, the benthic organisms are extremely important indicators of environmental change.

5.6.2 Benthic Diversity

5.6.2a Subtidal region:

The macrobenthic population study revealed large spatiotemporal variation with the benthic population during the study period. Overall, more macrobenthos abundance and biomass were reported at subtidal stations than at intertidal stations. The macrobenthic abundance and biomass were more during the September 2024 than the April 2024 sampling. In April 2024, the macrobenthos density ranged from 575 no./m² to 860 nos./m² at sampling stations (Table 7). The biomass of the macrobenthic community in the study region was ranged from 0.7 g/ m² to 1.0 g/ m²

in the study region. The maximum abundance and biomass of benthic microorganisms was reported at St-4 (860 nos./m² and 2.1 g/m²). During September 2024, the macrobenthos density was ranged from 770 to 1260 nos./m². The macrobenthic biomass was ranged from 0.7 to 1.9 g/ m².

In species composition, Polychaete species (Phylum Annelida) belonging to the family Paraonidae, Pilargidae, Capitillidae, Cossuridae, Glyceridae, Ciratullidae, Nephthyida, Nereidae, Lumbriconeridae, Spionidae were abundant contributing ~75% to macrobenthic population during April 2024 (Annexure IV). In September 2024, species belongs to family Spionidae were not reported, whereas polychaete species contributed ~82% to macrobenthic population (Annexure IV).

Overall, the presence of Polychaete, Amphipods, and Nemerteans suggest the availability of food organisms for benthic predators in the area. The macrobenthic population reported during both studies reveals that the large spatial-temporal variation with the benthic population could be due to the change in bottom substratum.

5.6.2b Intertidal region

The sandy substratum with low organic matter affects the occurrence of the macrobenthic community in the intertidal region. In September 2024, the highest biomass was measured (0.05 g/m² to 0.2 g/m²) in the intertidal region (Annexure V). The highest density of macrobenthic organisms was reported at station IT-1 (LW) (224 nos./m²), whereas the lowest density was reported at Station IT-2 (HW) (124 nos./m²). During April 2024, the macrobenthic biomass was ranged from (0.08 to 0.4 g/m²). At St-1 (LW) the higher macrobenthic population (140 nos./m²) and biomass (0.4 g/m²) was reported. No macrobenthic community was observed at St-3 (HW and LW) may be due to sandy sediment during both sampling periods.



Polychaete sp.



Amphipod sp.

Figure 5: Microphotographs of macrobenthic organisms observed in the sediment samples collected in the vicinity of APL-Mundra during April 2024 and September 2024.

6 CONCLUSIONS

During this study, a diverse population of planktonic and benthic organisms was observed along the (APSEZ developed) integrated seawater intake and outfall channels. The diversified phytoplankton and zooplankton population during the pre-monsoon (April 2024) and post-monsoon season (September 2024) emphasises that the water conditions along the channels are favourable for their survival and growth.

The enriched planktonic flora and subtidal benthic fauna could support the fish population in this region, especially along the outfall channel region. Our recent fish bioassay study showed that the fish species *Mugil cephalus* had a 90% survival rate in absolute outfall water, which is consistent with these findings. These fishes for the bioassay study were collected from Kotdi Creek. The (90%) survival of the fish population in bioassay study and the diverse marine biota near outfall channel in the present study indicate that the abiotic characteristics, mainly temperature, of discharge water does not have the adverse biological impact. The scientifically designed 11 km-long outfall channel enables cooling of outfall water. Similarly, an aqueduct constructed over the Kotdi Creek avoids the mixing with outfall water and facilitates the natural flow of creek water as per the compliance condition. The overall physico-chemical and biological characteristics of the marine environment observed in the present seasonal study not significantly varied from the previous baseline marine monitoring study.

Table 8: Names of the Marine Monitoring Team Members

Sr. No.	Name of Person
1.	Mr. Vijay Thanki (Env. Chemist)
2.	Mr. Pravin Singh (Env. Chemist)
3.	Ms. Shweta A. Rana (Env. Microbiologist)
4.	Mr. Bhavin Patel (Env. Engineer)
5.	Dr. Sushant Sanaye (Marine Biologist)



PHOTOGRAPHS OF DIFFERENT TYPES OF SAMPLING

Annexures I: Phytoplankton abundance (cells×10²/L) at different sampling stations in the coastal waters of APL-Mundra during April 2024.

Phytoplankton Genera	Sampling Stations									
	St-1	St-1	St-2	St-2	St-3	St-3	St-4	St-4	St-5	St-5
	S	B	S	B	S	B	S	B	S	B
Diatoms										
<i>Amphiphora</i> sp.	2	2	3	0	2	2	2	1	4	4
<i>Asterionella</i> sp.	6	3	5	4	0	2	5	4	6	7
<i>Bacillaria</i> sp.	2	2	7	3	1	2	4	2	12	8
<i>Chaetoceros</i> sp.	3	5	8	3	3	7	4	2	11	6
<i>Corethron</i> sp.	2	1	2	1	1	1	2	0	1	1
<i>Coscinodiscus</i> sp.	18	14	22	9	13	12	21	18	20	16
<i>Cyclotella</i> sp.	3	2	2	1	1	1	2	1	8	4
<i>Cylindrotheca</i> sp.	3	2	1	1	1	3	1	1	3	2
<i>Cymbella</i> sp.	1	1	1	1	1	0	0	1	0	2
<i>Diplonis</i> sp.	1	1	1	1	1	2	1	1	2	1
<i>Ditylum</i> sp.	3	1	4	2	1	3	4	2	5	3
<i>Gunardia</i> sp.	3	1	5	5	2	3	2	3	1	2
<i>Lauderia</i> sp.	4	1	4	0	2	2	1	1	3	2
<i>Leptocylindrus</i> sp.	1	1	5	4	2	2	1	3	4	5
<i>Licmophora</i> sp.	4	2	3	1	1	0	1	2	5	1
<i>Lithodesmium</i> sp.	3	1	4	0	1	3	2	5	4	4
<i>Navicula</i> spp.	5	2	8	7	8	4	3	5	4	2
<i>Nitzschia</i> spp.	6	9	7	8	2	3	4	8	7	2
<i>Melosira</i> sp.	5	4	3	2	2	1	6	5	4	2
<i>Odontella</i> sp.	3	3	2	1	2	3	7	5	5	3
<i>Pinnularia</i> sp.	2	0	2	1	2	4	6	0	6	1
<i>Plurosigma</i> spp	9	8	11	5	11	12	4	5	4	4
<i>Pseudo-nitzschia</i> sp.	3	0	4	2	3	4	4	5	5	3
<i>Rhizosolenia</i> sp.	12	8	12	7	6	16	12	8	9	10
<i>Thalassionema</i> sp.	10	7	10	9	7	8	9	8	3	9
<i>Thalassiosira</i> sp.	22	17	8	11	6	16	20	10	18	15
Dinoflagellates										
<i>Scrippsiella</i> sp.	0	1	1	2	1	1	1	1	2	1
<i>Ceratium</i> sp.	1	0	1	3	1	1	2	2	1	2
<i>Gonyaulax</i> sp.	1	1	1	1	1	1	1	1	1	1
<i>Prorocentrum</i> sp.	1	2	1	2	1	1	1	1	1	1
<i>Protoperidinium</i> sp.	1	0	3	2	1	2	2	1	2	2
Total Phytoplankton (cells x 10² L⁻¹)	140	102	151	99	87	122	135	112	161	126

Note: S=surface; B=bottom; St=station

Annexures II: Phytoplankton abundance (cells×10²/L) at different sampling stations in the coastal waters of APL-Mundra during September 2024.

Phytoplankton Genera	Sampling Stations									
	St-1	St-1	St-2	St-2	St-3	St-3	St-4	St-4	St-5	St-5
	S	B	S	B	S	B	S	B	S	B
Diatoms										
Amphora sp.	1	2	1	3	6	1	0	1	5	4
Amphoprora sp.	0	1	1	1	2	3	2	2	1	0
Asterionella sp.	18	22	32	21	18	7	21	3	12	32
Bacillaria sp.	5	3	2	3	6	1	1	1	4	3
Chaetoceros sp.	3	1	0	0	3	4	0	1	2	7
Corethron sp.	0	1	1	1	2	1	2	2	2	1
Coscinodiscus sp.	20	33	42	21	22	15	24	18	37	23
Cyclotella sp.	1	3	7	1	1	3	1	2	4	3
Cylindrotheca sp.	2	0	3	1	4	0	2	5	1	3
Cymbella sp.	1	1	2	0	2	1	1	1	2	1
Diplonis sp.	1	2	1	2	1	2	1	2	2	4
Ditylum sp.	3	5	2	2	1	1	12	9	4	1
Gunardia sp.	14	12	18	15	9	7	2	10	18	0
Gyrosigma sp.	2	1	0	2	3	2	3	1	3	1
Lauderia sp.	0	2	1	1	1	1	2	2	1	0
Leptocylindrus sp.	6	2	2	3	1	2	0	0	2	3
Licmophora sp.	1	3	2	1	1	1	1	0	4	1
Lithodesmium sp.	1	1	0	2	1	5	3	9	5	4
Navicula spp.	23	13	11	6	11	3	16	11	13	16
Nitzschia spp.	5	12	26	17	22	11	12	8	23	20
Odontella sp.	22	20	21	9	10	6	17	11	21	15
Pinnularia sp.	6	1	0	2	1	6	8	1	3	2
Pleurosigma spp	2	9	0	3	6	3	15	9	13	2
Pseudo-nitzschia sp.	1	1	2	0	2	3	4	4	2	0
Rhizosolenia sp.	2	2	8	12	4	8	3	10	3	7
Synedra sp.	3	1	1	0	1	5	2	0	2	1
Thalassionema sp.	14	6	9	6	19	14	11	15	9	18
Thalassiosira sp.	13	2	21	12	2	10	4	0	11	1
Dinoflagellates										
Ceratium sp.	3	2	1	2	3	1	2	3	3	2
Prorocentrum sp.	1	1	1	0	2	4	2	1	2	3
Protoperidinium sp.	1	0	0	1	1	3	1	1	3	1
Total Phytoplankton (cells x 10²L⁻¹)	175	165	218	150	168	134	175	143	217	179

Note: S=surface; B=bottom; St=station

Annexures III: Density (nos. $\times 10^3/100 \text{ m}^3$) and biomass (ml/100 m^3) of various zooplankton groups in the coastal waters at the APL-Mundra during April 2024 and September 2024.

Zooplankton Groups	Sampling period									
	April 2024					September 2024				
	St-1	St-2	St-3	St-4	St-5	St-1	St-2	St-3	St-4	St-5
Copepods	6.6	8.3	5.4	11.1	9.1	12.6	10.2	7.7	11.7	15.0
Copepod nauplii	1.6	1.9	1.4	1.7	2.4	1.8	1.5	2.4	2.0	1.9
Brachyuran crab larvae	0.4	0.3	0.2	0.4	0.3	0.4	0.5	0.7	0.4	0.3
Anomuran crab larvae	0.2	0.3	0.3	0.5	0.4	0.5	0.3	1.3	0.6	0.5
Decapod (shrimps)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Fish and shellfish eggs	0.2	0.2	0.2	0.3	0.3	0.3	0.1	0.4	0.2	0.3
Fish larvae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gastropod larvae	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
Chaetognaths	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Polychaete larvae	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Siphonophora	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ostracods	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Oikopleura	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amphipods	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lucifers	6.6	8.3	5.4	11.1	9.1	12.6	10.2	7.7	11.7	15.0
Population (nos. $\times 10^3/100 \text{ m}^3$)	9.3	11.5	8.0	14.3	13.0	15.9	12.8	12.7	15.2	18.1
Biomass (ml./100 m^3)	1.3	1.5	1.2	2.0	1.7	2.0	1.8	1.9	1.9	2.7

Annexures IV: Faunal composition, density (no/m²) and biomass (g/m²) of the macrobenthos community in the subtidal region at APL-Mundra during April 2024 and September 2024.

Taxa	Sampling period									
	April 2024					September 2024				
	St-1	St-2	St-3	St-4	St-5	St-1	St-2	St-3	St-4	St-5
Phylum Polychaeta										
Paraonidae	185	175	280	210	165	260	310	290	460	270
Pilargidae	40	10	30	30	30	80	20	40	40	40
Capitillidae	40	40	90	140	40	40	140	60	120	40
Cossuridae	30	50	50	30	50	60	60	40	30	30
Glyceridae	30	40	30	60	40	30	70	50	40	40
Ciratullidae	50	10	20	20	30	40	40	50	50	50
Nephthyidae	40	0	10	80	70	40	30	20	70	120
Nereidae	30	40	40	50	80	60	70	60	50	80
Lumbriconeridae	10	20	0	70	50	10	30	40	150	60
Spionidae	30	50	30	40	20					
Phylum Nemertea										
Nemertea	10	10	10	30	10	10	10	10	30	10
Phylum Mollusca										
Bivalvia	20	50	10	20	30	40	50	10	40	40
Gastropoda	40	40	30	40	20	40	80	10	50	60
Phylum Arthropoda										
Amphipoda	20	30	30	30	20	40	50	60	30	40
Isopoda	20	10	20	10	10	20	30	30	50	30
Total abundance (nos./m²)	595	575	680	860	665	770	990	770	1210	910
Biomass (g/m²)	0.9	0.7	0.4	1.0	0.8	0.8	0.9	0.7	1.9	1.2

Annexures V: Faunal composition, density (no/m²) of macrobenthos from the sediments collected at High tide water level (HW) and Low tide water level (LW) in the inter-tidal region at APL-Mundra during April 2024 and September 2024.

Faunal groups	Sampling period											
	April 2024						September 2024					
	IT-1 (HW)	IT-1 (LW)	IT-2 (HW)	IT-2 (LW)	IT-3 (HW)	IT-3 (LW)	IT-1 (HW)	IT-1 (LW)	IT-2 (HW)	IT-2 (LW)	IT-3 (HW)	IT-3 (LW)
Phylum Annelida												
Polychaetes	56	52	44	36	-	-	56	128	68	124	-	-
Phylum Nemertea												
Nemertea	0	8	0	4	-	-	4	4	8	12	-	-
Phylum Mollusca												
Bivalve	16	8	8	12	-	-	4	20	0	16	-	-
Gastropoda	4	4	4	4	-	-	4	16	4	12	-	-
Phylum Arthropoda												
Amphipoda	12	24	24	20	-	-	32	24	20	24	-	-
Isopoda	28	44	28	20	-	-	32	32	24	16	-	-
Total density (no/m²)	116	140	108	96	-	-	132	224	124	204	-	-
Biomass (g/m²)	0.08	0.4	0.05	0.1	-	-	0.2	0.1	0.05	0.08	-	-

(Note: LW=low water during low tide; HW=high water during high tide; St=Station)



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Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royalsenvironment@live.com ■ admin@royalconsultancy.com**TEST REPORT
(AMBIENT AIR)**Test Report No. : TR/2024-25/04/21
Work Order No : 4504260887Date : 12/04/2024
Job Card No: Ahls/24-25/02Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.
Mundra SEZ Integrated Textile & Apparle Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Date of Sample Receipt : 08/04/2024

Date of Testing : 08th to 11th April 2024

Sampling Flow Rate :PM 10 : 1.15 m³/min
PM 2.5: 17.0 LPM
Gaseous Sampling Flow Rate : 0.2 LPM

Lab id : A/2024-25/04/06

Sample Collected by : Royal Environment

Location of Sampling :

Nr. Security Main gate

Date of sampling : 06/04/2024

Time of sampling : 09.30

Duration of sampling : 24 Hrs

Environmental Conditions

Humidity : 46%

Weather : Clear

Barometric Pressure : 745 mmHg


Dominant Wind Direction (From) : NE

Sr.No.	Measured Concentration	Unit	Permissible Limits	Results	Test Method
01.	PM 2.5	µg/m ³	60	34.0	IS : 5182 (Part-24)-2019
02.	PM 10	µg/m ³	100	58.0	IS : 5182 (Part-23)-2006
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	14.3	IS : 5182 (Part-2)-2001
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	23.6	IS : 5182 (Part-6)-2006

Instrument used : RDS, Gaseous Sampler, PM 2.5 Sampler

Calibration date : 13/01/2024


 Authorized Signatory
 Parth Godhani, QM/TM


 Reviewed by:
 Shweta Dhanani

* End of Report *

1. The results relate only to the item tested/Sampling.
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Doc. No. F/7.8/02, Issue No. 01, Issue Date : 01-01-22, Ammnd No. 01, Ammnd Date : 23-05-2022

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Environment Auditing & Consultancy Service

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Ph.: +91 9099919954 ■ E-mail : royalsenvironment@live.com ■ admin@royalconsultancy.com

TEST REPORT (AMBIENT AIR)

Test Report No. : TR/2024-25/04/22
Work Order No. : 4504260887

Date : 12/04/2024
Job Card No: Ahls/24-25/02

Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.
Mundra SEZ Intigrated Textile & Apparrle Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Date of Sample Receipt : 08/04/2024

Date of Testing : 08th to 11th April 2024

Type of Sampling : Gravimetric & Wet- Chemical Methods

Sampling Flow Rate :

PM 10 : 1.29 m³/min

PM 2.5: 17.0 LPM

Gasious Sampling Flow Rate : 0.2 LPM

Lab id : A/2024-25/04/07

Sample Collected by : Royal Environment

Location of Sampling :

Nr. Old Security Gate

Date of sampling : 06/04/2024

Time of sampling : 10:00

Duration of sampling : 24 Hrs

Environmental Conditions

Humidity : 46%

Weather : Clear

Barometric Pressure : 745 mmHg

Dominant Wind Direction (From) : NE

Sr.No.	Measured Concentration	Unit	Permissible Limits	Results	Test Method
01.	PM 2.5	µg/m ³	60	35	IS : 5182 (Part-24)-2019
02.	PM 10	µg/m ³	100	55.0	IS : 5182 (Part-23)-2006
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	12.1	IS : 5182 (Part-2)-2001
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	23.5	IS : 5182 (Part-6)-2006

Instrument used : RDS, Gasious Sampler, PM 2.5 Sampler

Calibration date : 13/01/2024

Authorized Signatory
Parth Godhani, QM/TM

Reviewed by:
Shweta Dhanani

* End of Report *

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Doc. No. F/7.8/02, Issue No. 01, Issue Date : 01-01-22, Ammnd No. 01, Ammnd Date : 23-05-2022

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Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royalenvironment@live.com ■ admin@royalconsultancy.com**TEST REPORT
(Ambient Noise)**

Test Report No. : TR/2024-25/04/28

Date : 12/04/2024

Work Order No : 4504260887

Job Card No: Ahls/23-24/02

Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.

Mundra SEZ Integrated Textile & Apparrle Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Noise Level MeterMake : Lutron
Model : SC-942
Serial No. : Q682203
Calibration : Done on : 18/01/2024**Calibration Results of Noise Level Meter**Calibration : 94 dB at 1000 Hz 114 dB at 1000 Hz
Initial : 93.34 113.85
Final : 94 114

Sampling Rate : 1 Sec. Method : IS 9989 : 1981

S.No.	Date & Time	Location	Sound Parameters - dB(A)						
			Night Time Noise Level						
			Noise Level	Leq	L ₁₀	L ₅₀	L ₉₀	L _{max}	L _{min}
01.	06/04/2024 22:00 pm to 06:00 am	Nr. Security Main Gate	50.1	67.2	71.4	64.4	54.5	78.8	49.4
02.		Nr. FO Storage Area	55.4	55.3	59.9	55.1	52.7	62.4	51.8


 Authorized Signatory
 Parth Godhani, QM/TM


 Reviewed by:
 Shweta Dhanani

Note: (1) The method for calculation of average Leq: To convert average of dB(A), each value is to be divided by 10, followed by antilog and finally calculate arithmetic mean. The final value is converted in logarithm followed by multiplication with 10. (2) monitoring must be carried for 75% of the prescribed day time and night time for legal compliance, (3) Lmax and Lmin are toe reported hourly basis and (4) L50 & L90 also recorded to understand the intensity of the noise for further course of action.

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Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royalenvironment@live.com ■ admin@royalconsultancy.com

TC-10779

TEST REPORT (Ambient Noise)

Test Report No. : TR/2024-25/04/27
Work Order No. : 4504260887

Date : 12/04/2024
Job Card No: Ahls/24-25/02

Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.
Mundra SEZ Integrated Textile & Apparrle Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Noise Level Meter

Make : Lutron
Model : SC-942
Serial No. : Q682203
Calibration : Done on : 18/01/2024

Calibration Results of Noise Level Meter

Calibration	:	94 dB at 1000 Hz	114 dB at 1000 Hz
Initial	:	93.34	113.85
Final	:	94	114

Sampling Rate : 1 Sec. Method : IS 9989 : 1981

S.No.	Date & Time	Location	Sound Parameters - dB(A)						
			Noise Level	Leq	L ₁₀	L ₅₀	L ₉₀	L _{max}	L _{min}
01.	06/04/2024	Nr. Security Main Gate	66.8	63.1	66.8	58.1	53.7	75.2	52.5
02.	6:00 am to 22:00 pm	Nr. FO Storage Area	68.2	68.2	71.9	65.7	62.2	76.3	57.4


Authorized Signatory
Parth Godhani, QM/TM




Reviewed by:
Shweta Dhanani

Note: (1) The method for calculation of average Leq: To convert average of dB(A), each value is to be divided by 10, followed by antilog and finally calculate arithmetic mean. The final value is converted in logarithm followed by multiplication with 10. (2) monitoring must be carried for 75% of the prescribed day time and night time for legal compliance. (3) L_{max} and L_{min} are to be reported hourly basis and (4) L₅₀ & L₉₀ also recorded to understand the intensity of the noise for further course of action.

* End of Report *

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Doc. No. F/7.8/08, Issue No. 01, Issue Date : 01-07-23, Ammnd No.--, Ammnd Date.--



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Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royaleenvironment@live.com ■ admin@royalconsultancy.com

TEST REPORT (AMBIENT AIR)

Test Report No. : TR/2024-25/07/20
Work Order No : 4504260887

Date : 20/07/2024
Job Card No: Ahls/24-25/02

Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.
Mundra SEZ Integrated Textile & Apparrle Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Date of Sample Receipt : 15/07/2024

Date of Testing : 15th to 19th July 2024

Sampling Flow Rate :

PM 10 : 1.1 m³/min
PM 2.5: 16.5.0 LPM
Gaseous Sampling Flow Rate : 0.2 LPM

Lab id : A/2024-25/07/06

Sample Collected by : Royal Environment (Prashant Chavda)

Location of Sampling :

Nr. Security Main gate

Date of sampling : 13/07/2024

Time of sampling : 09.30

Duration of sampling : 24 Hrs

Environmental Conditions

Humidity : 72%

Weather : Clear

Barometric Pressure : 713 mmHg

Dominant Wind Direction (From) : NE

Sr.No.	Measured Concentration	Unit	Permissible Limits	Results	Test Method
01.	PM 2.5	µg/m ³	60	33.4	IS : 5182 (Part-24)-2019
02.	PM 10	µg/m ³	100	55.8	IS : 5182 (Part-23)-2006
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	14.5	IS : 5182 (Part-2)-2001
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	23.7	IS : 5182 (Part-6)-2006

Instrument used : RDS, Gaseous Sampler, PM 2.5 Sampler

Calibration date : 13/01/2024


Authorized Signatory
Parth Godhani, QM/TM




Reviewed by:
Shweta Dhanani

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Doc. No. F/7.8/02, Issue No. 01, Issue Date : 01-01-22, Ammnd No. 01, Ammnd Date : 23-05-2022



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Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royalservice@live.com ■ admin@royalconsultancy.com

TEST REPORT (AMBIENT AIR)

Test Report No. : TR/2024-25/07/21
Work Order No. : 4504260887

Date : 20/07/2024
Job Card No: Ahls/24-25/02

Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.
Mundra SEZ Integrated Textile & Apparell Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Date of Sample Receipt : 15/07/2024

Date of Testing : 15th to 19th July 2024

Type of Sampling : Gravimetric & Wet- Chemical Methods

Sampling Flow Rate :

Lab id : A/2024-25/07/07

PM 10 : 1.2 m³/min

Sample Collected by : Royal Environment (Prashant Chavda)

PM 2.5: 16.5 LPM

Gaseous Sampling Flow Rate : 0.2 LPM

Location of Sampling :

Environmental Conditions

Nr. Old Security Gate

Humidity : 72%

Date of sampling : 13/07/2024

Weather : Clear

Time of sampling : 09:45

Barometric Pressure : 713 mmHg

Duration of sampling : 24 Hrs

Dominant Wind Direction (From) : NE

Sr.No.	Measured Concentration	Unit	Permissible Limits	Results	Test Method
01.	PM 2.5	µg/m ³	60	31.6	IS : 5182 (Part-24)-2019
02.	PM 10	µg/m ³	100	50.4	IS : 5182 (Part-23)-2006
03.	Sulphur Dioxide (SO ₂)	µg/m ³	80	12.3	IS : 5182 (Part-2)-2001
04.	Nitrogen Dioxide (NO ₂)	µg/m ³	80	22.7	IS : 5182 (Part-6)-2006

Instrument used : RDS, Gaseous Sampler, PM 2.5 Sampler

Calibration date : 13/01/2024


Authorized Signatory
Parth Godhani, QM/TM




Reviewed by:
Shweta Dhanani

* End of Report *

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Doc. No. F/7.8/02, Issue No. 01, Issue Date : 01-01-22, Ammnd No. 01, Ammnd Date : 23-05-2022



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Ph.: +91 9099919954 ■ E-mail : royalsenvironment@live.com ■ admin@royalconsultancy.com

TEST REPORT (Ambient Noise)

Test Report No. : TR/2023-24/07/03
Work Order No : 4504260887

Date : 20/07/2024
Job Card No: Ahis/24-25/02

Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.
Mundra SEZ Integrated Textile & Apparrle Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Noise Level Meter

Make : Vaibhav
Model : VSLM-932
Serial No. : K3V3
Calibration : Done on : 18/01/2024

Calibration Results of Noise Level Meter

Calibration	:	94 dB at 1000 Hz	114 dB at 1000 Hz
Initial	:	93.4	114.1
Final	:	93.6	113.9

Sampling Rate : 1 Sec. Method : IS 9989 : 1981

S.No.	Date & Time	Location	Sound Parameters - dB(A) Day Time Noise Level						
			Noise Level	Leq	L ₁₀	L ₅₀	L ₉₀	L _{max}	L _{min}
01.	13/07/2024	Nr. Security Main Gate	68.1	63.7	67.5	58.3	54.4	76.3	53.6
02.	6:00 am to 22:00 pm	Nr. FO Storage Area	69.2	68.4	72.5	67.3	62.5	75.9	59.5


Authorized Signatory
Parth Godhani, QM/TM




Reviewed by:
Shweeta Dhanani

Note: (1) The method for calculation of average Leq: To convert average of dB(A), each value is to be divided by 10, followed by antilog and finally calculate arithmetic mean. The final value is converted in logarithm followed by multiplication with 10. (2) monitoring must be carried for 75% of the prescribed day time and night time for legal compliance. (3) Lmax and Lmin are toe reported hourly basis and (4) L50 & L90 also recorded to understand the intensity of the noise for further course of action.

* End of Report *

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Doc. No. F/7.8/08, Issue No. 01, Issue Date : 01-07-23, Ammnd No.--, Ammnd Date.--



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Environment Auditing & Consultancy Service

Plot No. 19 & 20, B/s. The North Star Nest School, Masoom School Road, Mota Mava, RAJKOT - 360 005.
Ph.: +91 9099919954 ■ E-mail : royalsenvironment@live.com ■ admin@royalconsultancy.com

TEST REPORT (Ambient Noise)

Test Report No. : TR/2023-24/07/04
Work Order No : 4504260887

Date : 20/07/2024
Job Card No: Ahls/23-24/02

Name & Address of Customer : Ahlstrom Fibercomposites India Pvt. Ltd.
Mundra SEZ Integrated Textile & Apparrle Park,
(MITAP), Plot No. - 07, Survey No. -141, Mundra,
Kutch-370421

Attention : Mr. Dipsinh Manek

Noise Level Meter

Make : Vaibhav
Model : VSLM-932
Serial No. : K3V3
Calibration : Done on : 18/01/2024

Calibration Results of Noise Level Meter

Calibration	94 dB at 1000 Hz	114 dB at 1000 Hz
Initial	93.4	114.1
Final	93.6	113.9

Sampling Rate : 1 Sec. Method : IS 9989 : 1981

S.No.	Date & Time	Location	Sound Parameters - dB(A)						
			Night Time Noise Level						
			Noise Level	Leq	L ₁₀	L ₅₀	L ₉₀	L _{max}	L _{min}
01.	13/07/2024 22:00 pm to 06:00 am	Nr. Security Main Gate	50.1	67.2	72.4	64.4	55.1	80.1	51.4
02.		Nr. FO Storage Area	55.8	55.3	61.8	55.2	54.2	63.8	53.5


Authorized Signatory
Parth Godhani, QM/TM




Reviewed by:
Shweta Dhanani

Note: (1) The method for calculation of average Leq: To convert average of dB(A), each value is to be divided by 10, followed by antilog and finally calculate arithmetic mean. The final value is converted in logarithm followed by multiplication with 10. (2) monitoring must be carried for 75% of the prescribed day time and night time for legal compliance, (3) Lmax and Lmin are to be reported hourly basis and (4) L50 & L90 also recorded to understand the intensity of the noise for further course of action.

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Doc. No. F/7.8/08, Issue No. 01, Issue Date : 01-07-23, Ammd No.--, Ammd Date.--



Green Envirocare

9427697145 / 7201000816

greenenvirocarejtp@gmail.com

1st Floor, Gopijan Complex, Amarnagar Road, Jetpur.

TEST REPORT

Report No.: GE/WW/092024/122	Date of Reporting	: 18-09-2024	
Name & Address of Customer: M/s. Oriental Carbon & Chemicals Limited, (13896) Plot No : 141/P, Mundra SEZ, Tal : Mundra , Dist : Kutch 370421	Format No.	: 7.8 F-02	
	Sample Description	: Waste Water	
	Sampling Type	: Grab	
	Reference Method for Sampling	: APHA / SOP Based	
Collection of Sample Date	: 11-09-2024	Sample Collected/Submitted by	: GE Team Member
Receipt of Sample Date	: 11-09-2024	Sample ID	: WW/092024/122
Sampling Location	: ETP Inlet	Environment condition during the test	: 25 ± 3 °C
Quantity / No. of Sample	: 5 Liter/1 Nos.	Details of Packing/Label/Seal	: Satisfactory
Analysis Start Date	: 11-09-2024	Analysis Completion Date	: 18-09-2024

Wastewater Analysis Results

Sr. No.	Parameters	Results	Unit	Reference Method
1.	Ammonical Nitrogen as NH ₃ -N	0.7	mg/L	APHA, 24 th Edition 2017/Preliminary Distillation Step & Titrimetric Method 4500- NH ₃ B & C
2.	Bio Chemical Oxygen Demand @ 27 °C for 3 Days	42.56	mg/L	IS 3025 (Part 44):1993/Reaffirmed 2019
3.	Chemical Oxygen Demand	110.6	mg/L	IS 3025 (Part 58):2006/Reaffirmed 2017
4.	Chloride as Cl	112.8	mg/L	APHA, 24 th Edition 2017/ Argentometric Method 4500-Cl- B
5.	Color	163.12	CU	APHA, 23 rd Edition 2017/ Spectrophotometric 2120 C, Visual Comparison 2120-B
6.	Oil & Grease	101	mg/L	APHA, 24 th Edition 2017/ Liquid-Liquid ,Partition- Gravimetric Method
7.	pH at 25 °C	7.29	--	APHA, 24 th Edition 2017/Electrometric Method 4500-H+ B
8.	Sulphate as SO ₄	158.9	mg/L	APHA, 24 th Edition 2017/Turbidimetric Method 4500-SO ₄ ²⁻
9.	Temperature	28	°C	APHA, 24 th Edition 2017/Laboratory and Field Method 2550-B
10.	Total dissolved solids	767.2	mg/L	APHA, 24 th Edition 2017/ Total Dissolved Solids Dried at 180 °C 2540-C
11.	Total Suspended solids	438.8	mg/L	APHA, 24 th Edition 2017/ Total Suspended Solids Dried at 103-105 °C
12.	% Sodium	88.48	%	SOP for Water & Waste Water Analysis GE/SOP-W/%Na, Issue No.01, Date -01-06-2020
13.	SAR	17.81	--	IS 11624 : 2019
14.	Sulphide	BDL	mg/L	APHA, 24 th Edition 2017
15.	Phenolic Compound	BDL	mg/L	APHA, 24 th Edition 2017

*BDL – Below Detection Limit

Rishi
Verified By

Sr. Analyst/Analyst

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2. This Test report shall not to be reproduced, except in full unless written permission for the publication of an approved abstract has been obtained from the management of Green Envirocare (Environment Testing Laboratory)
3. The sample is retained for a period of 15 Days unless otherwise specified specially.



Hardik Korat
Authorized Signatory
Mr. Hardik Korat
Quality Manager



Green Envirocare

9427697145 / 7201000816

greenenvirocarejtp@gmail.com

1st Floor, Gopijan Complex, Amarnagar Road, Jetpur.

TEST REPORT

Report No.: GE/WW/092024/123		Date of Reporting	: 18-09-2024
Name & Address of Customer: M/s. Oriental Carbon & Chemicals Limited, (13896) Plot No : 141/P, Mundra SEZ, Tal : Mundra , Dist : Kutch 370421		Format No.	: 7.8 F-02
		Sample Description	: Waste Water
		Sampling Type	: Grab
		Reference Method for Sampling	: APHA / SOP Based
Collection of Sample Date	: 11-09-2024	Sample Collected/Submitted by	: GE Team Member
Receipt of Sample Date	: 11-09-2024	Sample ID	: WW/092024/123
Sampling Location	: ETP Primary Outlet	Environment condition during the test	: 25 ± 3 °C
Quantity / No. of Sample	: 5 Liter/1 Nos.	Details of Packing/Label/Seal	: Satisfactory
Analysis Start Date	: 11-09-2024	Analysis Completion Date	: 18-09-2024

Wastewater Analysis Results

Sr. No.	Parameters	Results	Unit	Reference Method
1.	Ammonical Nitrogen as NH ₃ -N	0.6	mg/L	APHA, 24 th Edition 2017/Preliminary Distillation Step & Titrimetric Method 4500- NH ₃ B & C
2.	Bio Chemical Oxygen Demand @ 27 °C for 3 Days	12.79	mg/L	IS 3025 (Part 44):1993/Reaffirmed 2019
3.	Chemical Oxygen Demand	42.55	mg/L	IS 3025 (Part 58):2006/Reaffirmed 2017
4.	Chloride as Cl	78.2	mg/L	APHA, 24 th Edition 2017/ Argentometric Method 4500-Cl- B
5.	Color	61.8	CU	APHA, 23 rd Edition 2017/ Spectrophotometric 2120 C, Visual Comparison 2120-B
6.	Oil & Grease	78.9	mg/L	APHA, 24 th Edition 2017/ Liquid-Liquid Partition- Gravimetric Method
7.	pH at 25 °C	7.18	--	APHA, 24 th Edition 2017/Electrometric Method 4500-H+ B
8.	Sulphate as SO ₄	153.7	mg/L	APHA, 24 th Edition 2017/Turbidimetric Method 4500-SO ₄ ²⁻
9.	Temperature	28	°C	APHA, 24 th Edition 2017/Laboratory and Field Method 2550-B
10.	Total dissolved solids	756.8	mg/L	APHA, 24 th Edition 2017/ Total Dissolved Solids Dried at 180°C 2540-C
11.	Total Suspended solids	185.2	mg/L	APHA, 24 th Edition 2017/ Total Suspended Solids Dried at 103-105°C
12.	% Sodium	74.21	%	SOP for Water & Waste Water Analysis GE/SOP-W/%Na, Issue No.01, Date -01-06-2020
13.	SAR	6.72	--	IS 11624 : 2019
14.	Sulphide	BDL	mg/L	APHA, 24 th Edition 2017
15.	Phenolic Compound	BDL	mg/L	APHA, 24 th Edition 2017

*BDL – Below Detection Limit

R. Bhatti
Verified By

Sr. Analyst/Analyst

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3. The sample is retained for a period of 15 Days unless otherwise specified specially.



Hardik Korat
Authorized Signatory
Mr. Hardik Korat
Quality Manager

Green Envirocare



9427697145 / 7201000816

greenenvirocarejtp@gmail.com

1st Floor, Gopijan Complex, Amarnagar Road, Jetpur.

TEST REPORT

Report No.: GE/WW/092024/124	Date of Reporting	: 18-09-2024	
Name & Address of Customer: M/s. Oriental Carbon & Chemicals Limited, (13896) Plot No : 141/P, Mundra SEZ, Tal : Mundra, Dist : Kutch 370421	Format No.	: 7.8 F-02	
	Sample Description	: Waste Water	
	Sampling Type	: Grab	
	Reference Method for Sampling	: APHA / SOP Based	
Collection of Sample Date	: 11-09-2024	Sample Collected/Submitted by	: GE Team Member
Receipt of Sample Date	: 11-09-2024	Sample ID	: WW/092024/124
Sampling Location	: ETP Outlet	Environment condition during the test	: 25 ± 3 °C
Quantity / No. of Sample	: 5 Liter/1 Nos.	Details of Packing/Label/Seal	: Satisfactory
Analysis Start Date	: 11-09-2024	Analysis Completion Date	: 18-09-2024

Wastewater Analysis Results

Sr. No.	Parameters	Results	Unit	Permissible Limit	Reference Method
1.	Ammonical Nitrogen as NH ₃ -N	EDL<0.5	mg/L	50	APHA, 24 th Edition 2017/Preliminary Distillation Step & Titrimetric Method 4500-NH ₃ B & C
2.	Bio Chemical Oxygen Demand @ 27 °C for 3 Days	11.46	mg/L	30	IS 3025 (Part 44):1993/Reaffirmed 2019
3.	Chemical Oxygen Demand	38.3	mg/L	100	IS 3025 (Part 58):2006/Reaffirmed 2017
4.	Chloride as Cl	76.4	mg/L	600	APHA, 24 th Edition 2017/ Argentometric Method 4500-Cl- B
5.	Color	91.8	CU	100	APHA, 23 rd Edition 2017/ Spectrophotometric 2120 C Visual Comparison 2120-B
6.	Oil & Grease	7.3	mg/L	10	APHA, 24 th Edition 2017/ Liquid-Liquid, Partition- Gravimetric Method
7.	pH at 25 °C	7.11	--	6.5 - 8.5	APHA, 24 th Edition 2017/Electrometric Method 4500-H+ B
8.	Sulphate as SO ₄	146.6	mg/L	1000	APHA, 24 th Edition 2017/Turbidimetric Method 4500-SO ₄
9.	Temperature	28	°C	40	APHA, 24 th Edition 2017/Laboratory and Field Method 2550-B
10.	Total dissolved solids	332.4	mg/L	2100	APHA, 24 th Edition 2017/ Total Dissolved Solids Dried at 180°C 2540-C
11.	Total Suspended solids	71.2	mg/L	100	APHA, 24 th Edition 2017/ Total Suspended Solids Dried at 103-105°C
12.	% Sodium	56.16	%	60	SOP for Water & Waste Water Analysis GE/SOP-W/%Na, Issue No.01,Date -01-06-2020
13.	SAR	3.73	--	26	IS 11624 : 2019
14.	Sulphide	BDL	mg/L	5.0	APHA, 24 th Edition 2017
15.	Phenolic Compound	BDL	mg/L	1	APHA, 24 th Edition 2017

*BDL - Below Detection Limit

Shreyas
Verified By

Sr. Analyst/Analyst

This Report is issued under the following terms & Condition:

- The report is referring only to the tested sample and for applicable parameter.
- This Test report shall not to be reproduced, except in full unless written permission for the publication of an approved abstract has been obtained from the management of Green Envirocare (Environment Testing Laboratory)
- The sample is retained for a period of 15 Days unless otherwise specified specially.



Hardik Korat

Authorized Signatory
Mr. Hardik Korat
Quality Manager



Green Envirocare

9427697145 / 7201000816

greenenvirocarejtp@gmail.com

1st Floor, Gopijan Complex, Amarnagar Road, Jetpur.

TEST REPORT

Report No.: GE/SE/092024/137	Date of Reporting	: 18-09-2024	
Name & Address of Customer: M/s. Oriental Carbon & Chemicals Limited, (13896) Plot No : 141/P, Mundra SEZ, Tal : Mundra , Dist : Kutch 370421	Format No.	: 7.8 F-05	
	Sample Description	: Stack Emission	
	Type of Sampling	: Isokinetic	
	Reference Method for Sampling	: IS 11255	
Collection of Sample Date	: 11-09-2024	Sample Collected/Submitted by	: GE Team Member
Receipt of Sample Date	: 11-09-2024	Sample ID	: SE/092024/137
Sampling Location of Sampling Point	: CF Boiler	Environment condition during the test	: 25 ± 3 °C
Quantity / No. of Sample	: 1 Thimble, 1 SO ₂ ×50 mL, 1 NO _x ×50 mL	Details of Packing/Label/Seal	: Satisfactory
		Meteorological condition during monitoring	: Clear weather
Ambient Temperature °C	: 31	Stack Temperature °C	: 125
Instrument code	: GE/SM/01	Stack Attached to	: CF Boiler
Type of fuel used	: Coal	Velocity of Stack Gases m/S	: 8.23
Analysis Start Date	: 11-09-2024	Analysis Completion Date	: 19-09-2024

Test Results

Sr. No.	Parameter	Protocol	Result	Unit	Permissible Limit
1.	Particulate Matter as PM	IS 11255 (Part 01):1985/Reaffirmed 2014	82.68	mg/Nm ³	150
2.	Sulphur Dioxide as SO ₂	IS 11255 (Part 02):1985/Reaffirmed 2014	26.33	ppm	100
3.	Oxides of Nitrogen as NO _x	IS 11255 (Part 07):2005/Reaffirmed 2017	17.74	ppm	50

Shreyas
Verified By

Sr. Analyst/Analyst

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Hardik
Authorized Signatory
Mr. Hardik Korat
Quality Manager

Annexure – 7

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 – 8

APSEZL/EnvCell/2024-25/056

Date: 02.09.2024

To,

Member Secretary

Gujarat Pollution Control Board
Paryavaran Bhavan,
Sector-10-A, Gandhinagar-382010

Dear Sir,

Sub: Environmental Statement for the financial year ending 31st March, 2024 for **Adani Ports and SEZ Limited (Multi Product SEZ)**.

Ref: 1. AWH – 122250 Date of issue 20.10.2022 Valid till 21.08.2027

With reference to the above-mentioned subject and reference, please find enclosed Environmental Statement in Form V prescribed under Rule 14 of the Environment (Protection) Rules 1986, for **M/s Adani Ports and SEZ Limited (Multi Product SEZ), Village & Taluka: Mundra, Dist. Kutch - 370421** for the financial year ending 31st March 2024.

Thanking you,

For **Adani Ports and Special Economic Zone Ltd. (Multi Product SEZ)**



Authorized Signatory

Encl: As above.

5/9/24
Gujarat Pollution Control Board
Head Office
Sector No.-10-A,
Gandhinagar-382010

Copy to: **The Regional Officer, Gujarat Pollution Control Board, Gandhidham.**

Annexure – 9

Updated Organogram of Environment Management Cell, APSEZ, Mundra

