2014- Half Yearly EC compliance Report of MSEZ Period of April23 to Sept.23- part-I

Bhagwat Swaroop Sharma <Bhagwat.Sharma1@adani.com>

Thu 11/30/2023 6:48 PM

To:eccompliance-guj@gov.in <eccompliance-guj@gov.in>;iro.gandhingr-mefcc@gov.in <iro.gandhingr-mefcc@gov.in>
Cc:ec-rdw.cpcb@gov.in <ec-rdw.cpcb@gov.in>;ro-gpcb-kute@gujarat.gov.in <ro-gpcb-kute@gujarat.gov.in>;ms-gpcb@gujarat.gov.in <ms-gpcb@gujarat.gov.in>; mefcc.ia3@gmail.com <mefcc.ia3@gmail.com>;monitoring-ec@nic.in <monitoring-ec@nic.in>;direnv@gujarat.gov.in <direnv@gujarat.gov.in>;Charanjit Singh <Charanjit.Singh@adani.com>;Sujalkumar Shah <sujal.shah@adani.com>

1 attachments (19 MB)

EC Compliance Report_MSEZ 2014_Apr'23 to Sep'23-part-1.pdf;

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Ports and Logistics

APSEZL/EnvCell/2023-24/066 **Date:** 28.11.2023

To
The Inspector General of Forest / Scientist C,
Integrated Regional Office (IRO),
Ministry of Environment, Forest and Climate Change,
Aranya Bhawan, A Wing, Room No. 409,
Near CH 3 Circle, Sector – 10A,
Gandhinagar – 382007.
E-mail: eccompliance-guj@gov.in, iro.gandhingr-mefcc@gov.in

Sub : Half yearly Compliance report for Environment and CRZ Clearance for the "Multi Product SEZ, Desalination, Sea Water Intake, Outfall Facility and Pipeline at Mundra, Dist. Kachchh, Gujarat of M/s. Adani Ports and SEZ Limited"

Ref :

1. Environment and CRZ clearance granted to M/s Adani Ports and SEZ Limited vide letter dated 15th July, 2014 bearing MoEF&CC letter No. 10-138/2008-IA.III.
2. MoEF&CC's Order dated 18.09.2015
3. Amendment in EC & CRZ Clearance vide letter dated 15th July, 2022 bearing MoEF&CC letter No. 10-138/2008-IA.III

Dear Sir,

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

Kindly consider above submission and acknowledge.

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

Bhagwat Swaroop Sharma
HEAD – ENVIRONMENT
Mundra & Tuna Port

Encl: As above

Copy to:

1) The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira 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

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info@adani.com
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Registered Office: Adani Corporate House, Shantigram, Nr. Vaishno Devi Circle, S.G. Highway, Khodiyar, Ahmedabad – 382421, Gujarat, India

Re: 2014- Half Yearly EC compliance Report of MSEZ Period of April23 to Sept.23- part-II

Bhagwat Swaroop Sharma <Bhagwat.Sharma1@adani.com>

Thu 11/30/2023 6:51 PM

To:eccompliance-guj@gov.in <eccompliance-guj@gov.in>;iro.gandhingr-mefcc@gov.in <iro.gandhingr-mefcc@gov.in>
Cc:ec-rdw.cpcb@gov.in <ec-rdw.cpcb@gov.in>;ro-gpcb-kute@gujarat.gov.in <ro-gpcb-kute@gujarat.gov.in>;ms-gpcb@gujarat.gov.in <ms-gpcb@gujarat.gov.in>; mefcc.ia3@gmail.com <mefcc.ia3@gmail.com>;monitoring-ec@nic.in <monitoring-ec@nic.in>;direnv@gujarat.gov.in <direnv@gujarat.gov.in>;Charanjit Singh <Charanjit.Singh@adani.com>;Sujalkumar Shah <sujal.shah@adani.com>

1 attachments (18 MB)

EC Compliance Report_MSEZ 2014_Apr'23 to Sep'23-part-2.pdf;

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APSEZL/EnvCell/2023-24/066 **Date:** 28.11.2023

To
The Inspector General of Forest / Scientist C,
Integrated Regional Office (IRO),
Ministry of Environment, Forest and Climate Change,
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Adani Ports and Special Economic Zone Ltd
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APSEZL/EnvCell/2023-24/066 **Date:** 28.11.2023

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adani
Ports and Logistics

Environmental Clearance Compliance Report

Multi Product SEZ, Mundra, Dist. Kutch, Gujarat

Adani Ports and SEZ Limited

For the period of
April–2023 to September–2023

Index

adani Ports and Logistics	**Adani Ports and Special Economic Zone Limited, Mundra.**	**From : Apr'23** **To : Sep'23**
Status of the conditions stipulated in Environment and CRZ Clearance		

EC and CRZ Clearance Compliance Report

adani Ports and Logistics	Adani Ports and Special Economic Zone Limited, Mundra.	From : Apr'23 To : Sep'23
Status of the conditions stipulated in Environment and CRZ Clearance		

M/s. APSEZ has been granted Environmental / CRZ clearance vide letter no. 10-138/2008-IA.III, dated 15th July, 2014 for development of "Multi Product SEZ, Desalination, Sea Water Intake, Outfall Facility and Pipeline".

Activities / Facilities approved are as below:

Facilities / Components Approved	Capacity	Status as on 30.09.2022
Desalination Plant	150 MLD	Construction has not been started.
Sea water Intake & Outfall Facility	375 MLD: Intake 241 MLD: Outfall	Construction has not been started.
Common Effluent Treatment Plant	17 MLD	MPSEZ Utilities Ltd. (MUL) has been granted environmental clearance for CETP having 17.0 MLD capacities. Out of which at present one module of CETP having 2.5 MLD capacities has been constructed and is in operation.
	50 MLD	Construction has not been started.
Social Infrastructure Projects	--	Adani Mundra SEZ Infrastructure Pvt. Ltd. (AMSIPL) has granted environmental clearance for township and area development project in 255 Ha. Out of approved 10,000 no. of residential units, 1368 units are constructed.
Sewage Treatment Plant	62 MLD	APSEZ has installed Sewage Treatment Plant @ 2.835 MLD (335 KLD SEZ-STPs + 2.5 MLD AMSIPL-STP) Capacities within SEZ for treatment of sewage generated from port user buildings.
Airstrip	--	Airstrip has been developed within SEZ area after obtaining requisite permissions.
Municipal Solid Waste Site	--	Material Recovery site is provided for the management of Municipal Solid Waste.
Free Trade & Ware House Zone (FTWZ)	--	Construction is completed and in operation.

Other utility developments and modification, as a part of SEZ, to facilitate various units coming as a part of SEZ are being done on continuous basis.

Note:

Environmental / CRZ clearance has been granted for additional facilities like Processing Zones, Non-processing Zones, Warehousing Zones, Road Network (Trunk as well as Internal), Bridges or Culverts over natural drain, Rail Network, IT-Telecommunication Network, Electric Network, Water Supply, Conservation & Drainage Network, Effluent Collection Network and Utilities & Supporting Infrastructure within SEZ area.

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.

APSEZ has been granted 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 vide letter no. F. No. 10-138/200E-IA.III, dated 12th February, 2020. (Compliance report of the said EC & CRZ clearance is being submitted separately)

*Inline to the APSEZ's request, Ministry of Commerce & Industry (MoCI) vide Gazette order dtd. 4th July 2019 has de-notified 46.6894 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 last compliance period Apr'22 to Sep'22.

APSEZ has been granted for Amendment in Specific Conditions of EC & CRZ Clearance vide File No. 10-138/2008-IA.III, dated 15th July, 2022.

List of Industrial Units within SEZ area

SN	Name of SEZ Unit	Business	Status
1	D B Hospitality Pvt. Ltd	Administrative	Operational
2	Mundra International Airport Pvt. Ltd.	Airport	Operational
3	Hirise Hospitality Pvt. Ltd.	Beetle smart hotel	Operational
4	Adani Pipelines Pvt Ltd	Cargo handling Services	Under Construction
5	Seabird CFS	CFS	Operational
6	Honey Comb CFS	CFS	Operational
7	All Cargo Logistics	CFS	Operational
8	Mundhra CFS	CFS	Operational
9	Transworld CFS	CFS	Operational
10	TG Terminals	CFS	Operational
11	Saurashtra CFS	CFS	Operational
12	MICT CFS	CFS	Operational
13	CWC (Speedy CFS)	CFS	Operational
14	Dorf Ketal Chemical India Pvt. Ltd.	Chemical	Operational
15	Garg Tubes Export LLP Ltd.	Chemical	Operational
16	Gujarat Credo Alumina Chemicals Pvt. Ltd	Chemical	Operational
17	Mundra Oil Pvt Ltd (Unit I)	Chemical	Operational
18	Mundra Oil Pvt Ltd (Unit II)	Chemical	Operational
19	Oriental Carbon & Chemicals Pvt. Ltd.	Chemical	Operational
20	Jesons Techno Polymers LLP	Chemical	Operational
21	Mundra Petrochem Limited Unit I	Chemical	Under Construction
22	Mundra Petrochem Limited Unit II	Chemical	Under Construction
23	Shital Metallics ans Additives LLP	Chemical	Under Construction
24	MPSEZ Utilities ITD (MUL)	Common Effluent Treatment Plant 2.5 MLD	Operational
25	Adani Container Manufacturing Ltd	Container Manufacturing	Under Construction
26	Kutch Copper Limited	Copper	Under Construction
27	Kutch Copper Tubes Limited	Copper	Under Construction
28	West Coast Corrotech Services LLP	Electronics Manufacturing Cluster	Operational
29	Vishakha Glass Private Limited	Electronics Manufacturing Cluster	Under Construction
30	Mundra Solar Technology Limited	Electronics Manufacturing Cluster	Under Construction
31	Mundra Solar Techno Park Pvt. Ltd.	Electronics Manufacturing Cluster	Operational
32	Avesta Engineering Pvt. Ltd.	Engineering	Under Revival of LoA
33	MD Equipments Pvt. Ltd.	Engineering	Operational
34	Thermax Babcock and Wilcox Energy	Engineering	Operational
35	JNK India Pvt Ltd	Engineering	Operational
36	Britannia Industries Ltd.	Food Products	Operational
37	Adani Hospital Mundra P. Ltd. (Sterling Hospital)	Hospital	Operational
38	Eon Hinjewadi Infrastructure Pvt. Ltd	Infrastructure	Operational
39	ITI-Mundra (Govt. of Gujarat)	ITI	Operational
40	Hehong Paper India Technology Pvt Ltd	Paper	Operational
41	GSPL (Laying of pipeline)	Pipeline	Operational
42	Maruti Suzuki India Ltd Head	Pre-Delivery Inspection Yard	Operational
43	Sarguja Rail Corridor Pvt. Ltd.	Rail Corridor	Under Construction
44	Kalorex Public School	School	Operational
45	Adani Mundra SEZ Infrastructure Pvt. Ltd (Samudra Township) - (AMSIPL)	Social Infrastructure	Operational
46	Ahlstorm Munksjo Fibercomposites India Pvt. Ltd.	Textile	Operational
47	Ashapura Garments Ltd	Textile	Operational
48	Anjani Udyog Pvt. Ltd.	Textile	Operational
49	Bombay Bazar Readymade Garments Unit I	Textile	Operational
50	Bombay Bazar Readymade Garments Unit II	Textile	Operational
51	Skaps Industries India Pvt. Ltd (Unit-I)	Textile	Operational
52	Skaps Industries India Pvt. Ltd (Unit-II)	Textile	Operational

53	Terram Geosynthetics Pvt. Ltd.	Textile	Operational
54	Anya Composite Private Limited	Textile	Operational
55	Mundra SEZ Textile & Apparel Park Pvt. Ltd.	Textile & Apparel Park	Operational
56	Adani Power Mundra Ltd.	Thermal Power Plant	Operational
57	Konic Expo Private Limited	Trading and Warehousing	Under Construction
58	Adani Enterprise Limited	Trading Unit	Operational
59	Planets F&B Park	Trading Unit	Operational
60	Ruby Shipping	Trading Unit	Operational
61	Suresh Biz Globe	Trading Unit	Operational
62	Adani Bunkering Pvt Ltd.	Warehouse	Operational
63	Adani CMA Mundra Terminal Pvt Ltd.	Warehouse	Operational
64	Adani International Container Terminal Pvt. Ltd Unit I	Warehouse	Operational
65	Adani Warehousing Services Pvt Ltd. Unit I	Warehouse	Operational
66	Adani Warehousing Services Pvt Ltd. Unit II	Warehouse	Under Construction
67	Empezar Logistics Pvt.Ltd.	Warehouse	Operational
68	Fast Track CFS Pvt. Ltd.	Warehouse	Operational
69	Kerry Indev Logistics Pvt. Ltd.	Warehouse	Operational
70	Oil Field Warehouse & Services Pvt. Ltd.	Warehouse	Operational
71	OWS Warehouse Services LLP	Warehouse	Operational
72	Safal Logistics LLP	Warehouse	Operational
73	Steinweg Sharaf India Pvt Ltd.	Warehouse	Operational
74	Sea Shore Logistics	Warehouse	Operational
75	Rudraksh Terminal LLP	Warehouse	Operational
76	Adani Logistics Limited	Warehouse	Under Construction
77	Shoolin Trade Link LLP	Warehouse	Operational
78	Shivansh Terminals LLP	Warehouse	Under Construction
79	Holistic Global Corporation	Warehouse	Under Construction
80	Adani Warehousing Services Pvt Ltd. Unit III	Warehouse	Under Construction
81	Adani Bulk Terminals (Mundra) Ltd	Warehouse	Under Construction
82	Adani International Container Terminal Pvt. Ltd Unit II	Warehouse	Under Construction
83	Adani International Container Terminal Pvt. Ltd.	Warehouse	Operational
84	Adani Renewable Energy (KA) Ltd.	Wind Energy	Operational
85	Mundra Windtech Limited	Wind Energy	Operational

Compliance Report of Environmental and CRZ Clearance

Compliance report of Environment Clearance for the project "Multi Product SEZ" and CRZ Clearance for the project "Desalination, Sea Water Intake, Outfall Facility and Pipeline at Mundra, Dist. Kachchh, Gujarat of M/s. Adani Ports and SEZ Limited" vide MoEF letter No. 10-138/2008-IA.III dated 15th July, 2014.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
Part – A: Specific Conditions		
i.	PP shall abide by the final order/decision of Hon'ble Supreme Court in SLP (Civil) no. 1526/2014 and connected matters.	Point noted and will be complied. 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 were submitted along with EC Compliance report for the period Apr'18 to Sep'18.
ii.	Properly conserve the creeks, river and the mangroves area in the area.	Complied. This reply covers condition no ii, iii, ix, x, xi, xii & xiii. **<u>Conservation of creeks and rivers:</u>** • The prominent creek system (main creeks and small branches of creeks) in and around APSEZ are: (1) Kotdi (2) Baradimata (3) Navinal (4) Bocha (5) Mundra (Oldest port (Juna Bandar) leading to Bhukhi river). • Rivers passing through the APSEZ area are: (1) Khari (2) Nagmati (3) Phot (4) Bhukhi (5) Dhaneshwari (6) Buchiya (7) Jidal. • All the rivers passing through the SEZ area are dry throughout the year except for monsoon season. • All creeks as well as rivers are in existence allowing free flow of water and there is no filling or reclamation of any creek or river area. APSEZ has so far constructed 19 culverts having total length of approx. 1100 m with total cost of INR 20 Crores. Three RCC Bridges have also been constructed over Kotdi creek with total length of 230 m and cost of INR 10 Crores. Details were submitted along with compliance report submission for the

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		period of Apr'17 to Sep'17. • This aspect is also confirmed from the study of NCSCM in 2017-18, which highlights the bathymetry data of the entire coast around APSEZ. • From the bathymetry data it can be concluded that there are sufficient depths at the creek mouths and all creek mouths are open allowing flushing of water. • From the APSEZ operations, there is no discharge of any sewage or effluent to the water streams. **<u>Conservation of Mangroves:</u>** • In and around APSEZ, approx. 1800 ha. mangrove area was identified by NIO in an EIA report prepared the year 1998. • Out of this 1800 ha area, 1254 ha area was further demarcated as potential mangrove conservation by NIO in the year 2008 (as part of the EIA report of WFDP). • It may be noted that the entire area of 1254 ha is not covered with mangroves. • Entire area is being conserved and there is no disturbance to the mangroves in this area. Measures such as restricted entry and regular surveillance have resulted in overall growth of mangroves within this area. • As per MoEF&CC directive, APSEZ entrusted NCSCM to demarcate mangroves in and around APSEZ area. As per their study, mangrove cover in and around APSEZ was over 2340 ha. The analysis of the comparison between 2011 and 2016-17 has shown an overall growth of 246 ha. • NCSCM final report on comprehensive and integrated plan for preservation and conservation of mangroves and associated creeks in and around was submitted along with half yearly EC Compliance report for the period Apr'19 to Sep'19. The same was further submitted to GCZMA and MoEF&CC for their examination and recommendation vide (with a copy to MoEF&CC vide letter dated 04.06.2018 & reminder letter vide dated 4th Jan, 2019). Presentation on the

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30.09.2023</th></tr>
<tr><td></td><td></td><td>
findings of the report was made to GCZMA committee on 4th October 2019 and the recommendation for the same has been received vide email dtd 22nd Sept, 2020 with conditions, which was submitted as a part of half yearly EC compliance report for the period Oct'20 to Mar'21.

As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.
<table>
<tr><th>Sr. No.</th><th>Recommendations</th><th>Compliance</th></tr>
<tr><td>1.</td><td>Mangrove mapping and monitoring in and around APSEZ</td><td>
• APSEZ entrusted NCSCM, Chennai to carry out Monitoring of mangrove distribution in creeks in and around APSEZ and shoreline changes in Bocha island.
• As a part of this study, overall growth of mangroves in the creeks in and around APSEZ was assessed comparing Google earth images of 2017 & 2019 and it is observed that there was increase in mangrove cover between March 2017 and September 2019 to the extent of 256 Ha, which is about 10.94%.
• 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
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Sr. No.	Conditions			Compliance Status as on 30.09.2023
				APSEZ. • According to GUIDE Mangrove monitoring study report November 2023 (attached as **Annexure-1**), 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. **Summary of Mangrove mapping and monitoring (from 2011 to 2021):** **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: 2670 / 74 / 2.85% 2019 to 2021 till March: 2723 / 53 / 1.99% **Total: 2723 / 629 / 28 %**
		2.	Tidal observation in creeks in and	• APSEZ carried out the tidal observations at locations similar

Sr. No.	Conditions	Compliance Status as on 30.09.2023		
			around APSEZ	to 2017 in Kotdi, Baradimata, Navinal, Bocha and Khari creeks under the guidance of NCSCM. • The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves. • The cost of the said activity was INR 1.0 Lacs.
		3.	Removal of Algal and Prosopis growth from mangrove areas	• Algal and Prosopis growth monitoring was done in and around mangrove area and algal encrustation was found in some of the mangrove areas, which has been removed manually. • The cost of the said activity was INR 2.35 Lacs during the FY 2022-23. The details of Removal of Algal and Prosopis growth from mangrove areas was submitted during the last compliance period Oct'22 to Mar'23.
		4.	Awareness of mangroves importance in surrounding communities	• Adani Foundation – CSR Arm of Adani group has done awareness camps/activities created in the community regarding importance of mangroves. Adani Foundation provides good Quality dry and green fodder to 24 Villages. Project is covering total 32372 Cattels / 2707 farmers and hence enhancing cattle productivity during FY 2023-24 till Sep'23. • Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 90.20 Lacs during FY 2023-24 till Sep'23, 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

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		deployed by APSEZ across the coastal area and no any unauthorized persons allowed within coastal as well as mangrove areas. • APSEZ has celebrated the International Day for the Conservation of the Mangrove Ecosystem on July 26th 2023 and World Nature Conservation Day on 28th July 2023 to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The report of day celebration is attached as **Annexure - 2.** • Refer CSR report attached as **Annexure – 3**. Details of activities done as a part of GCZMA recommendations and NCSCM mangrove conservation action plan were submitted as a part of previous half yearly EC compliance report for the period Oct'20 to Mar'21. To comply with the GCZMA recommendations regarding mangrove monitoring at every 2 years, APSEZ earlier awarded work order to NCSCM, Chennai vide order no. 4802018994, dated 29/07/2022 with cost 23.77 Lacs for mangrove mapping in and around APSEZ, but due to some financial disputes and no proper response from NCSCM side regarding resolution, the work order has been revoked. After that as suggested by Joint Review Committee in its report that mangrove related studies may be undertaken by different agencies on a rotation basis for a better review of the mangroves, APSEZ issued work order to the Gujarat Institute of Desert Ecology (GUIDE), Bhuj vide order no. 4802027981, dated 10/04/2023 for mangrove mapping in and around APSEZ, Mundra. The cost of said work is 23.60 Lacs (Including Taxes), which was paid by APSEZ.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		GUIDE has completed the study of Monitoring and Distribution of the Mangroves along the Creeks in and Around APSEZ, Mundra, Kutch, Gujarat for the duration of year March 2019 to March 2021. Copy of the report of Monitoring and Distribution of the Mangroves is attached as **Annexure-1.** According to NCSCM Mangrove monitoring study report March 2021, distribution of mangroves in Kotdi, Baradimata, Navinal, Bocha and Khari creeks and also in Bocha island was studied using Google earth images (2017 March and 2019 Sep). The data obtained for 2017 i.e., 2398 ha was compared with data reported for 2016 (Dec) - 2017 (Jan & Feb) i.e., 2340 ha in the Conservation plan submitted earlier. The Google earth showed a marginal difference of + 58 ha (compared to earlier 2016-17 data) which shows 2.4% higher and the difference can be considered as insignificant. Further for both the start year (2017 March) and the end year (Sep.2019) Google earth image was used as a source and therefore, the results will be quite acceptable for assessment. With regard to overall health of mangroves in the creeks in and around APSEZ, it was found that there was an increase of mangrove cover between March 2017 and Sep 2019 to an extent of 256 ha which is about 10.7% increase in mangroves. Hence overall mangrove cover was considered as 2594 Ha in year 2019. Now, according to GUIDE Mangrove monitoring study report November 2023 (attached as **Annexure-1**), 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.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		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%).
iii.	Ensure that mouths of all the creeks are kept open to ensure flushing of the creeks.	Complied. • The prominent creek system (main creeks and small branches of creeks) in and around APSEZ are: (1) Kotdi (2) Baradimata (3) Navinal (4) Bocha (5) Mundra (Oldest port (Juna Bandar) leading to Bhukhi river). • All above creek mouths are open allowing free flow of water in to the creeks and surrounding areas and there is no filling or reclamation of any creek area. • This aspect is also confirmed from the recent study of NCSCM which highlights the bathymetry data of the entire coast around APSEZ. • From the bathymetry data it can be concluded that there are sufficient depths at the creek mouths and all creek mouths are open allowing flushing of water. • Please refer Specific Condition no. ii for further details.
iv.	Bring the creeks to the condition as was seen in the satellite map of 2005 which will be a "reference" satellite map and a copy of which shall be sent to you separately.	Not applicable This reply covers condition no iv, v, vi. The stated conditions were stipulated in the EC and CRZ clearance with respect to the pending SCNs and based on Ms. Sunita Narain committee report. In continuation to the SCNs and subsequent submissions by APSEZ, MoEF&CC issued a final order vide letter dated 18.09.2015 (which disposed the pending Show Cause Notices). Full compliance of the directions issued vide the said order is provided as **Annexure – B**. It may be noted that the stated conditions related to the satellite image of 2005 are not imposed to APSEZ as part of the said order. Hence, APSEZ has made submission to MoEF&CC vide letters dated 23.05.2016 and 07.11.2016. Copies of the said letters
v.	Submit once in a year latest satellite map which can be compared with the reference satellite map of 2005 to ensure that no modifications in the creeks, rivers, mangroves and mouth of creeks have taken place.	
vi.	Any direction issued by the MoEF with respect to the report submitted by Ms. Sunita Narain Committee shall be complied with by the	

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	Proponent as applicable.	were submitted along with compliance report submission for the period from Oct'16 to Mar'17. Further there are no directions from MoEF&CC.
vii.	At its cost get Inspection study done once in a year by the organizations like NEERI or any organization approved by this Ministry to - (i) ensure compliance of all the EC conditions (ii) development of SEZ meeting of the environment norms, and (iii) advise any mid-term correction that can be introduced depending on the recommendation of the independent Third Party.	Complied. NEERI, Nagpur has been appointed to carry out the inspection study for the year 2023-24 at a cost of INR 5 Lacs. Site visit was conducted on 20th & 21th September, 2023 for the compliance report verification of the period from Oct'22 to Mar'23 was reviewed by NEERI. It has been concluded all the conditions stipulated in EC are being compiled and there is no violation of any condition. Copy of the certificate is attached as **Annexure - 4.**
viii.	"Consent for Establishment" for the SEZ shall be obtained from Gujarat Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	Complied. Consent to Establish (CtE) is obtained for the project from Gujarat Pollution Control Board vide their letter no. GPCB/CCA-KUTCH-1044/ GPCB ID 31463/ 109800, dated 16.04.2012. Copy of the same was submitted to MoEF&CC, Regional Office, Bhopal vide our letter dated 5th Aug, 2014. The CtE was also submitted with compliance report submission for the period Oct'15 to Mar'16. The project has been developed as per Consent to Establish (CtE) and Consent to Operate (CtO) granted by SPCB. The present in-force CtO are mentioned below.

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	Multi-Product SEZ	AWH – 122250	21.08.2027

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		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 order granted vide Consent No. AWH-122250 Valid upto: 21/08/2027. The copy of CTE-Amendment for Validity Extension and Consolidated Consent & Authorization (CC&A) – Renewal Cum Amendment was submitted during the compliance period Apr'22 to Sep'22.
ix.	PP shall get detailed bathymetry done for all the creeks and rivers within Port and SEZ areas along with mapping of co-ordinates, running length, HTL, CRZ boundary, mangrove area including buffer zone through NCSCM /NIOT. PP shall also get prepared a detailed action plan for conservation and protection of creeks /mangrove area etc through NCSCM/NIOT and submit the same to GCZMA for their examination and recommendation. GCZMA will submit its recommendations to MoEF for approval.	Complied Based on the MoEF&CC directions, APSEZ has entrusted NCSCM to carry out the detailed study. Scope of the study include the following: • Detail bathymetry and topography survey of creeks • Demarcation of mangrove areas and buffer zone • Demarcation of HTL and CRZ areas with co-ordinates • Preparation of a comprehensive and integrated conservation plan for protection of creeks and mangroves In order to complete the study, NCSCM has carried out number of site surveys which are mentioned below: • Bathymetry survey of creeks • Topography survey of intertidal areas • Mangrove survey (health and area demarcation) • Sampling of soil and water for analysis of physico-chemical and biological parameters • Tide and currents data collection (including residence time of tidal water) study Based on the study, the following points can be summarized: • There is no obstruction to any water stream (creeks / branches of creeks / rivers) • At present, The mangrove cover in the creeks in

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		and around APSEZ showed a positive trend from March 2019 to March 2021, with an overall increase of 52.79 ha 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. • 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%). • Majority of the development at Mundra has happened between this tenure. Hence it can be interpreted that the infrastructure development has not left any adverse impacts on ecology. Please refer specific condition no. ii above for further details.
x.	PP shall demarcate the CRZ area on land with GPS coordinates in consultation with GCZMA/ the agency which has done the HTL /LTL demarcation for the area. There shall be no allotment of plot/s in CRZ area to industries. No industrial activity within CRZ area except the port and harbor & the foreshore facilities shall be allowed as committed.	Being complied CZMP of Kutch region has been finalized and published on GCZMA website in the Month of Feb-2022. NCSCM has issued final authorized maps for HTL and CRZ Boundary prepared in line with approved CZMP of Gujarat State as per CRZ Notification, 2011. The details of the same were submitted during the compliance period Oct'21 to Mar'22. 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 is attached as **Annexure – 5.** The action plan for conservation of creeks and mangrove areas is prepared by NCSCM and the same is submitted to GCZMA and MoEF&CC for their examination and recommendation. The main action plan as per the study are mentioned summarized below: • Monitoring of mangrove cover in Jan/Mar, 2020 using latest satellite images and validation with field observations
xi.	Till the approval of action plan for conservation and protection of creeks /mangrove area, the CRZ area within SEZ shall be demarcated as "No Development Zone". PP shall not allow / undertake any development in CRZ area of SEZ.	

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		• Monitoring of tidal range in the mangrove areas and comparison with the data collected during 2017. • Removal of silt / sand spits from the central part of navinal creek • Dredging of shallow area off Bocha Island to reduce current velocity. Please refer specific condition no. ii for further details w.r.t. Mangrove Conservation Action Plan. On dated 15/07/2022 MoEF&CC have issued new four conditions in place of condition no. x & xi. The copy of EC amendment order was submitted during the last compliance period Apr'22 to Sep'22. Full compliance of conditions of the above issued EC & CRZ amended order provided as **Annexure – C.**
xii.	The implementation of action plan approved by the MoEF shall be monitored by the NCSCM/NIOT. Compliance with action plan shall be submitted to GCZMA and to MoEF, RO at Bhopal along with six monthly monitoring report.	Point noted and will be complied The action plan for conservation of creeks and mangrove areas is prepared by NCSCM and the same was submitted to GCZMA and MoEF&CC for their examination and recommendation. Please refer specific condition no. ii for further details w.r.t. Mangrove Conservation Action Plan.
xiii.	PP shall earmark separate budget for the implementation of the above action plan. The details of the expenditure shall be submitted to GCZMA and to MoEF, RO at Bhopal along with six monthly monitoring report.	Point noted and will be complied A separate budget has been allocated and incurred by APSEZ for implementation of mangrove conservation action plan. • Monitoring of mangrove distribution in creeks in and around APSEZ and shoreline changes in Bocha island – 23.56 Lacs • Algal and Prosopis growth monitoring was done in and around mangrove area and algal encrustation was found in some of the mangrove areas, which has been removed manually. The cost of the said activity was INR 2.35 Lacs during the FY 2022-23. The details of Removal of Algal and Prosopis growth was submitted during compliance period

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		Oct'22 to Mar'23. • Tide Level Monitoring within creeks around APSEZ – 1.0 Lac • Fodder supply to the villagers in FY 2023-24 till Sep'23– 90.20 Lacs. Please refer specific condition no. ii above for further details.
xiv.	All the industry in SEZ shall be connected through impervious drainage lines to the STP/CETP for the discharge of their sewage or industrial effluent. There shall not be any discharge to creeks / rivers. PP shall be accountable for implementing this condition and necessary clause shall be incorporated in the MoU while allotting the plot to the individual industries.	Complied. As per the Lease Deed agreement, existing industries are well connected with impervious pipeline to discharge their effluent / sewage after confirming to the inlet norms of CETP. Typical copy of the Lease Deed (Agreement) was submitted along with compliance report submission for the duration of Oct'16 to Mar'17. Entire quantity of treated wastewater from CETP is being utilized for horticulture purpose within SEZ area. No discharge is allowed into creeks / rivers. Same practice will be continued in future as well and capacity enhancement of CETP will be carried out based on requirement. List of CETP member units were submitted along with half yearly EC compliance report for the period Oct'19 to Mar'20. And there is no further change. The industries which treat the sewage / effluent within their premises comply the stipulated norms of discharge given by GPCB. Through regular monitoring it is ensured by APSEZ that the treated water is used for gardening within the respective industries and there is no discharge to any water body including rivers or creeks.
xv.	PP shall not carry out any river course modification.	Complied The project was conceptualized in such a way that no river course modification is required to be carried out. All the rivers passing through SEZ are maintained through proper path for area drainage.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
xvi.	The individual industrial units shall obtain prior EC under EIA Notification, 2006 as applicable.	Complied. All industrial units coming up in within the SEZ are informed and aware about the said requirement. Out of total units established within SEZ, only Adani Power Limited, Dorf Ketal, Jesons Techno Polymers LLP and Kutch Copper Limited (KCL) Industries falls under purview of EIA Notification 2006 and they have obtained their specific EC as applicable. The condition is being followed on case-to-case basis as applicable.
xvii.	Proponent shall identify 200 ha of land for mangrove plantation as per the condition laid by SEAC.	Complied. 100 Ha. Mangrove plantation is carried out by SAVE at Tala Tadav village of Khambhat Taluka of Anand district. A final report of SAVE was submitted along with half yearly compliance report for the period Apr'17 to Sep'17. 100 Ha. Mangrove plantation is carried out by GEC. From which 38 ha. plantation is completed at Tala Tadav village of Khambhat Taluka of Anand district during 2017-18 and remaining 62 ha. Plantation is completed at Aliya Bet of Bharuch district during 2018-19. A final report of GEC was submitted along with half yearly compliance report for the period Oct'18 to Mar'19.
xviii.	50 meter buffer from the existing mangrove area should be provided for any developmental activity.	Complied. 50-meter buffer from the existing mangrove area as per the CRZ notification is being maintained and all developmental activities are being carried out as per the approval only.
xix.	Proponent shall develop the green belt with 3 layers of canopy all along the periphery.	Being complied. APSEZ has developed "Dept. of Horticulture" which is taking measures/ steps for terrestrial greening as well as mangrove plantation. Development of greenbelt at various locations within the SEZ is an ongoing activity. Green belt of 3 layer canopy will be developed as part of the development of SEZ. The species such as Ficus Infectoria, Ficus religiosa, Terminalia arjuna, Cocos nucifera, Washingtonia

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		fillifera, Casurina spp., Azadirachta Indica, Eucalyptus spp., Jatropha curacus, Ficus bengalensis, Subabool spp., Casia fistula, Date Palm and Delonix regia were grown in SEZ area. Width of the green belt varies from 2 m to 8 m and density varies from 1500 to 1750 trees per hectare at various locations. Total 145.88 hectares of land with approx. 2.54 Lacs trees is developed within SEZ area till date. So, far APSEZ has developed 458 Ha area as greenbelt with plantation 9.06 Lacs trees within the entire APSEZ area. Please refer **Annexure – 6** for further details regarding greenbelt development and mangrove afforestation. An updated green belt development plan is also attached as part of the said annexure. The spent budget of Horticulture Department for the period of financial year 2023-24 is INR 904 lacs. Out of which, Approx. INR 628 lakh are spent during the financial year 2023-24 till Sep'23. It may be noted that individual industrial units have developed the greenbelt within their premises based on their planning & approvals and new industries coming up any will also comply as per their approvals. The same is being ensured by the environment monitoring committee of APSEZ. For the area where further development is yet to be carried out, APSEZ will ensure that greenbelt with 3-layer canopy is developed by either APSEZ or the industrial unit to whom the land is allotted. Photographs showing the 3-layer canopy greenbelt developed within APSEZ were along with half yearly compliance report for the period Oct'18 to Mar'19.
xx.	All the recommendation of the EMP shall be complied with in letter and spirit. All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each	Complied. Compliance report of environmental management plan and mitigation measures proposed as part of the EIA repot is summarized below. The same is submitted to the concerned authorities including Integrated Regional Office (IRO), MoEF&CC @

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30.09.2023</th></tr>
<tr><td></td><td>mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.</td><td>Gandhinagar as part of the six monthly compliance reports. Details of the past six compliance reports are mentioned below.

<table><tr><th>Sr. No.</th><th>Compliance period</th><th>Date of submission</th></tr><tr><td>1</td><td>Apr'20 to Sep'20</td><td>26.11.2020</td></tr><tr><td>2</td><td>Oct'20 to Mar'21</td><td>25.05.2021</td></tr><tr><td>3</td><td>Apr'21 to Sep'21</td><td>30.11.2021</td></tr><tr><td>4</td><td>Oct'21 to Mar'22</td><td>30.05.2022</td></tr><tr><td>5</td><td>Apr'22 to Sep'22</td><td>30.11.2022</td></tr><tr><td>6</td><td>Oct'22 to Mar'23</td><td>30.05.2023</td></tr></table>
Summary of the compliance to the measures suggested in EMP are given in Annexure – 7.</td></tr>
<tr><td>xxi.</td><td>There shall be no disturbance to the sand dunes.
The pipelines shall be laid using advanced method viz. Horizontal Directional Drilling (HDD) so as to avoid disturbance to the sand dunes/creeks/ mangroves.</td><td>Complied.

There is no sand dune in the SEZ area.

Point noted.

No pipelines for intake and outfall of sea water are laid till now and same will be studied as and when required. HDD method will be explored for creek crossing for other pipelines.

APSEZ, Mundra has laid down 91.35 km. (approx.) long underground LPG pipeline starting from Mundra LPG Terminal Pvt. Ltd (MLTPL), Mundra to existing GAIL Facility, Mithi Rohar, Gandhidham. The LPG pipeline has been laid down using the Horizontal Directional Drilling (HDD) method without affecting the flow of the creek and mangrove where it is crossing through it. Some stretch of said LPG pipeline project is falling under CRZ area and hence attracts CRZ Notification, 2011. For which APSEZ has been granted separate CRZ clearance from MoEF&CC vide F. No. 11-9/2023.IA.III (Annexure-8) dated 05.04.2023</td></tr>
<tr><td colspan="3">Part – B: General Conditions</td></tr>
<tr><td></td><td>Construction Phase</td><td></td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 30.09.2023
i.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Not applicable at present. Most of the construction labours reside in the nearby villages where all basic facilities are easily available. There are no housing requirements for labours inside the project area.
ii.	A first aid room will be provided in the project both during construction and operation of the project.	Complied. APSEZ has established Occupational Health Center & First Aid facility at different locations within SEZ, which will be utilized during entire construction as well as operation phase of SEZ project. In case of emergency situation requiring higher level of treatment, the facilities at Adani hospital (Multi-Specialty) having 110 bedded facilities located with SEZ area can be utilized.
iii.	All the topsoil excavated during construction phase should be stored for use in horticulture/landscape development within the project site.	Complied. Excavated topsoil, if any, will be used for the horticulture /landscape development within the project site.
iv.	Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed, taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	Complied. No excavated muck has been generated and disposed-off. Construction waste, if any, is utilized for area development within the project site.
v.	Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of	Complied. Environment Monitoring is being carried out on regular basis in Port & SEZ areas through NABL accredited and MoEF&CC approved agency namely

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	heavy metals and other toxic contaminants.	M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Summary of the ground water as well as soil assessment for duration from Apr'23 to Sep'23 is mentioned below.

Bore Hole Water Sampling:

Sampling locations & frequency: 4 nos. (Half Yearly)

Sr. No.	Parameter	Unit	MIN	MAX	AVERAGE
1	pH @ 25 ° C	--	7.11	8.12	7.53
2	Salinity	ppt	1.75	21.11	9.21
3	Oil & Grease	mg/L	BDL(MDL:2.0)	BDL(MDL:2.0)	BDL(MDL:2.0)
4	Hydrocarbon	mg/L	Not Detected	Not Detected	Not Detected
5	Lead as Pb	mg/L	0.00	0.00	0.00
6	Arsenic as As	mg/L	BDL(MDL:0.01)	BDL(MDL:0.01)	BDL(MDL:0.01)
7	Nickel as Ni	mg/L	0.08	0.78	0.35
8	Total Chromium as Cr	mg/L	0.17	0.17	0.17
9	Cadmium as Cd	mg/L	0.04	0.45	0.18
10	Mercury as Hg	mg/L	BDL(MDL:0.001)	BDL(MDL:0.001)	BDL(MDL:0.001)
11	Zinc as Zn	mg/L	0.09	0.26	0.18
12	Copper as Cu	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)
13	Iron as Fe	mg/L	0.18	1.26	0.55
14	Insecticides/Pesticides	Absent / Present	Absent	Absent	Absent
15	Depth of Water Level from Ground Level	meter	2.15	2.20	2.17

*ND = Not Detected
*BDL – Below Detection Limit
*MDL – Minimum Detection Limit

Comparison of the present data with baseline data for the nearest locations for Bore Hole water.

Sr. No.	Parameter	Unit	Dhrub station*	Zarpara village
1	pH	--	7.46	8.1
2	Lead as Pb	mg/L	BDL(MDL:0.01)	ND*
3	Nickel as Ni	mg/L	0.781	0.146
4	Total Chromium as Cr	mg/L	0.165	0.039
5	Iron as Fe	mg/L	1.263	0.258
6	Insecticides/Pesticides	Absent / Present	Absent	ND*
7	Depth of	meter	2.18	1.7

Sr. No.	Conditions	Compliance Status as on 30.09.2023

	Water Level from GL			

*ND = Not Detected
*BDL – Below Detection Limit
*MDL – Minimum Detection Limit

Soil Sampling:

Sampling locations & frequency: 4 nos. (Half Yearly)

Sr. No.	Parameter	Unit	Min. Value	Max. Value	Average
1	pH	--	8.48	9.12	8.79
2	Nitrogen as N	%	0.14	0.38	0.29
3	Phosphorus as P	mg/kg	502.50	1284.20	840.40
4	Potassium as K	mg/kg	44.52	1244.90	419.18
5	Baron as B	mg/kg	1.82	2.99	2.24
6	Calcium as Ca	mg/kg	338.40	3422.50	1291.58
7	Magnesium as Mg	mg/kg	62.20	5537.40	1553.08
8	Iron as Fe	%	0.64	1.21	0.91
9	Moisture	%	0.54	3.12	1.49
10	Organic Matter	%	0.54	1.56	1.25
11	CEC	meq/100 gm	9.68	15.10	11.32
12	TVC	CFU/gm	1.9×10^6	2.8×10^6	2.425×10^6
Heavy Metal					
13	Cadmium as Cd	mg/kg	BDL(MDL: 1.0)	BDL(MDL:1.0)	BDL(MDL: 1.0)
14	Antimony as Sb	mg/kg	BDL(MDL: 1.0)	BDL(MDL:1.0)	BDL(MDL: 1.0)
15	Arsenic as As	mg/kg	BDL(MDL: 1.0)	BDL(MDL:1.0)	BDL(MDL: 1.0)
16	Thorium as Th	mg/kg	BDL(MDL: 1.0)	BDL(MDL:1.0)	BDL(MDL: 1.0)
17	Lead as Pb	mg/kg	7.44	18.02	11.19
18	Chromium (VI) as Cr	mg/kg	3.46	9.11	5.24
19	Cobalt as Co	mg/kg	8.75	10.34	9.70
20	Copper as Cu	mg/kg	8.02	30.84	16.55
21	Nickel as Ni	mg/kg	11.40	14.34	13.18
22	Manganese as Mn	mg/kg	180.62	402.50	258.26
23	Vanadium as V	mg/kg	7.65	8.54	8.07

*BDL – Below Detection Limit
*MDL – Minimum Detection Limit

Comparison of the present data with baseline data

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30.09.2023</th></tr>
<tr><td></td><td></td><td>for the nearest locations for Soil.
<table>
<tr><th>Sr. No.</th><th>Parameter</th><th>Unit</th><th>Dhrub station</th><th>Zarpara village</th></tr>
<tr><td>1</td><td>pH</td><td>--</td><td>8.62</td><td>6.45</td></tr>
<tr><td>2</td><td>Nitrogen as N</td><td>%</td><td>0.33</td><td>1.38 gm/kg</td></tr>
<tr><td>3</td><td>Phosphorus as P</td><td>mg/kg</td><td>710.5</td><td>1230</td></tr>
<tr><td>4</td><td>Potassium as K</td><td>mg/kg</td><td>1244.9</td><td>62120</td></tr>
<tr><td>5</td><td>Calcium as Ca</td><td>mg/kg</td><td>3422.5</td><td>1500</td></tr>
<tr><td>6</td><td>Magnesium as Mg</td><td>mg/kg</td><td>5537.4</td><td>1580</td></tr>
<tr><td>7</td><td>Iron as Fe</td><td>%</td><td>1.21</td><td>1.34</td></tr>
<tr><td>8</td><td>Organic Matter</td><td>%</td><td>1.56</td><td>0.98</td></tr>
<tr><td>9</td><td>CEC</td><td>meq/100 gm</td><td>15.1</td><td>7.4</td></tr>
</table>
From the above results it can be inferred that
• The ground level in this area is saline in nature due to close proximity to the coast.
• There is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
• There is no leaching of heavy metals and other toxic contaminants through soil.

Please refer Annexure – 9 for detailed analysis reports. Budget for environmental management measures (including horticulture) for the FY 2023-24 is to the tune of INR 1536.48 lakh. Out of which, Approx. INR 823.48 lakh are spent during the year 2023-24 till Sep'23.</td></tr>
<tr><td>vi.</td><td>Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.</td><td>Complied.

Construction spoils including bituminous material is being kept at identified temporary storage area outside CRZ and is being utilized for area development purpose as and when required.

Hazardous materials such as diesel, lube oil etc. are handled with utmost care and all applicable rules are followed. Storage area is provided with paving and spill kit to ensure there is no contamination to soil or ground water.</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		Used oil is sold to GPCB approved recycler namely M/s. Western India Petro Chem Ind - Bhavnagar, Aviation Corporation - Kutch & Aroma Petrochem - Bhavnagar. Oily rags are being disposed though co-processing at cement industries namely M/s. Ambuja Cement Ltd., Kodinar. Dates of validity of all the vendors and details of the same were submitted along with last half yearly EC compliance report for the period Apr'18 to Sep'18. Necessary approvals from GPCB for disposal of hazardous wastes are obtained. Authorization copy was submitted with compliance report submission for the period Apr'17 to Sep'17. Individual units within SEZ are handling their hazardous wastes as per Hazardous waste rules – 2016 after obtaining necessary permissions from GPCB.
vii.	Any hazardous waste generated during construction phase should be disposed off as per applicable rules and norms with necessary approvals of the Gujarat Pollution Control Board.	Complied. All the hazardous wastes are being handled as per Hazardous Waste Rules – 2016. Please refer Point No. vi (General Condition: Construction Phase) for further details.
viii.	The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.	Complied. DG sets are being used only as power back up source in case of power failure. Presently, cumulative capacity of all DG sets installed at APSEZ within SEZ area is 3735 KVA. During the compliance period of Apr'23 to Sep'23, there was no instance of power failure hence it was not required to operate the DG sets on continuous basis. All the DG sets are of low sulphur diesel type. Details of the same were submitted along with half yearly compliance report for the period Apr'20 to Sep'20. DG sets are being used in conformance to the EPA norms and proof for the same was submitted along with compliance period i.e. Apr'17 to Sep'17.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
ix.	The diesel required for operating DG sets shall be stored in underground tanks if required; clearance from Chief Controller of Explosives shall be taken.	Complied. Diesel is stored in the underground tank located in existing port area and approval of the same from Chief Controller of Explosives is obtained from PESO with License no. P/HQ/GJ/15/2050 (P12369) dated 20.02.2019 and is valid till 31.12.2024. The copy of PESO License was submitted during the last compliance period Oct'22 to Mar'23.
x.	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should operate only during non-peak hours.	Complied. The vehicles of on-going construction work enter inside the premises only after passing through the fitness check at vehicle health-check centre established by APSEZ. At the vehicle health check-up centre, parking light, reverse light, Horne, wheel, breaks, mirror, etc. are checked before allowing the vehicle to enter the site. Valid PUC Certification is also being checked for all the vehicles while entering in to APSEZ premises. Majority of the vehicles bringing construction materials are operated during non-peak hours.
xi.	Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/GPCB.	Complied. Ambient Air Quality and Noise monitoring are being carried out by 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'23 to Sep'23 is mentioned below. **Air sampling locations & frequency: 9 nos. (twice a week)**

Parameter	Unit	Min	Max	Average	Perm. Limit$
PM_{10}	µg/m³	31.53	89.61	68.69	100
$PM_{2.5}$	µg/m³	14.19	45.66	28.86	60
SO_2	µg/m³	6.89	33.62	17.61	80
NO_2	µg/m³	11.30	43.27	23.86	80

Noise sampling locations & frequency: 6 nos. (once in a month)

Sr. No.	Conditions	Compliance Status as on 30.09.2023

Noise	Unit	Leq Min	Leq Max	Leq Average	Leq Perm. Limit*
Day Time	dB(A)	54.90	69.80	64.28	75
Night Time	dB(A)	53.10	64.30	58.57	70

$ as per NAAQ standards, 2009
* as per CC&A granted by GPCB
Values recorded confirms to the stipulated standards.

Such environmental monitoring is being carried out on continuous basis at stipulated frequencies. The analysis results are being closely observed for incremental pollution load. From the above results and past data, it can be inferred that the emission levels are well within the prescribed standards. All the analysis data collected are submitted to the concerned authorities as part of the six-monthly compliance reports. The data is also submitted to GPCB on monthly basis as part of the online submission – Monthly Patrak.

Please refer **Annexure – 9** for detailed analysis reports. Budget for environmental management measures (including horticulture) for the FY 2023-24 is to the tune of INR 1536.48 lakh. Out of which, Approx. INR 823.48 lakh are spent during the year 2023-24 till Sep'23.

Following safeguard measures are taken for abatement of dust and noise emissions.

- Regular sprinkling on road and other open area
- Regular cleaning of roads through mechanized equipments
- Development of greenbelt along the periphery of the storage yards/back up area
- D.G. Sets having Acoustic enclosures
- Transportation of loose dry cargo through covered vehicles / wagons / conveyer system
- Regular maintenance of plant machineries and equipments

Individual member units are also carrying out

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		environmental monitoring in line with their permissions and the same is also being ensured during industry site visit. Analysis reports of member units are also attached as **Annexure – 9**.
xii.	Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003. (The above condition is applicable only if the project site is located within 100 Kms of Thermal Power Stations).	Complied. Fly ash generated from Adani Power Limited, Mundra is being disposed by selling to Cement and Brick Manufacturing units. During the compliance period Apr'23 to Sep'23 approx. 0.232 MMT of fly ash has been disposed by selling to cement industry, export to domestic traders, etc. Fly ash mixed paver blocks are being used for development of back up area, footpath, colonies area, parking area, approach road etc. as and when require. Fly ash based PPC cement is used for construction activity.
xiii.	Ready mixed concrete must be used in building construction.	Complied. Only RMC is used for construction activity.
xiv.	Storm water control and its re-use should be regulated as per CGWB and BIS standards for various applications.	Complied. Storm water drainage systems are provided. There are no perennial rivers and the possibility of storm water run-off is only during monsoon season. The area is receiving scanty rainfall and there is no continuous flow of water during monsoon. Therefore presently, the storm water drainage is designed to facilitate the area drainage meeting with the downstream part of water area.
xv.	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other referred best practices.	Complied. Only RMC is used for construction activity.
xvi.	Permission to draw ground water shall be obtained from the competent Authority prior to construction /operation of the project.	Complied. 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 4.14 MLD during the compliance period Apr'23

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		to Sep'23.
xvii.	Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.	Not applicable As per the master planning all types of wastewater generated are transferred through common conveying system for providing desired treatment at CETP. Treated wastewater is utilized for gardening purpose within the premises of APSEZ / individual industries. It may be noted that condition number xvi to xxi are imposed on all member industries coming up within the SEZ areas (as part of the Lease Deed agreement). The same practice will be continued in future also. As suggested by RO, Bhopal during the site visit, an environment monitoring committee is formed which are ensuring strict compliance of the stipulated conditions by individual industries.
xviii.	Fixtures for shower, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.	Complied. Water flow reducers are installed at various locations within APSEZ. The water flow reducers consume approx. 66% less water compared to the normal tap. Water free urinals are also installed at Port User Buildings for water conservation. In phase wise manner, all the fixtures will be replaced with such water efficient devices. • Water flow reducers are provided in taps of various operation and administrative buildings to reduce the water consumption and are in use. • Water-free urinals are installed and in operation within APSEZ.
xix.	Use of glass may be reduced by up to 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.	Complied Majority of the building envelops are constructed with energy efficient building materials. While using glass, wherever required, it is ensured that only high-quality glass with reflective coating is used.
xx.	Roof should meet prescriptive requirements as per Energy	Complied

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	Conservation Building Code by using appropriate thermal insulation material to fulfill requirements.	Majority of the building envelops (including roofs) are constructed with ECBC compliant building materials having appropriate thermal insulation.
xxi.	Opaque wall should meet prescriptive requirement as per Energy Conservation Building Code which is proposed to be mandatory for all air-conditioned spaces while it is aspirational for non-air-conditioned spaces by use of appropriate thermal insulation material to fulfil these requirement.	Complied Majority of the building envelops (including walls) are constructed with ECBC compliant building materials having appropriate thermal insulation.
xxii.	The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipments, etc. as per National Building Code including protection measures from lightning etc.	Complied Mundra falls in seismic zone V. All the building structures constructed, if any, will meet the requirements of the applicable guidelines for safety. The same practice will continue in future also. However, being a developer, no buildings are constructed by APSEZ.
xxiii.	Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.	Complied. SEZ industries were visited to check measures taken for Energy Conservation, Water Conservation, Waste and Hazardous waste management and phase out plan of Ozone depleting substance during the compliance period. Various industries shared the data in line with above reference. Details of the same were submitted along with EC compliance report for the period Apr'18 to Sep'18. It may be noted that condition number xvi to xxi are imposed on all member industries coming up within the SEZ areas (as part of the Lease Deed agreement). The same practice will continue in future also. As suggested by RO, Bhopal during the site visit, an environment monitoring committee is formed and ensures strict compliance of the stipulated conditions by individual industries.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		EMS and Compliance verification of individual SEZ units carried out during the compliance period w.r.t. Water & Wastewater Management, Air Management, Hazardous & Non-Hazardous Waste Management, Greenbelt, etc. in line with their statutory permissions and there was no any major non-compliance observed.
xxiv.	Under the provisions of Environment (Protection) Act 1986, legal action shall be initiated against the project proponent if it is found that construction of the project has been started without obtaining environmental clearance.	Point noted. Wherever applicable, construction activities have started only after obtaining environmental clearance.
	Operation Phase	
i.	The PP while issuing the allotment letter to individual member units shall specifically mention the allowable maximum quantity of water usage and effluent generated by each member unit.	Complied. Provisions are made while issuing the allotment letter to individual member units for specifically mentioning the allowable maximum quantity of water usage and effluent generated by each member unit. Sample copy of one of such letter was submitted along with compliance report submission for the period Oct'16 to Mar'17.
ii.	The PP shall establish an environmental monitoring cell with all the potential polluting units as members to review the environmental monitoring data and suggest improvements.	Complied. APSEZL has a well-structured Environment Management Cell, staffed with qualified manpower for implementation of the Environment Management Plan at site. Site team report to Sr. Manager (Environment) at Corporate, who heads the Environment Management Cell who directly reports to the top management. Environment Management Cell Organogram were submitted as part of compliance report submission for the duration of Apr'21 to Sep'21. And there is no further change. Separate budget for the Environment protection measures is earmarked every year. All environment and horticulture activities are considered at corporate level and budget allocation is done accordingly. No separate bank account is maintained

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		for the same however, all the expenses are recorded in advanced accounting system of the organization. Budget for environmental management measures (including horticulture) for the FY 2023-24 is to the tune of INR 1536.48 lakh. Out of which, Approx. INR 823.48 lakh are spent during the year 2023-24 till Sep'23. Detailed breakup of the expenditures for the past 3 years is attached as **Annexure – 10**. Please refer Point No. xxiii (General Condition: Construction Phase) for further details.
iii.	Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of the Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.	Complied. APSEZ has total installed capacity of 6.255 MLD for treatment of effluent / sewage generated at various locations. Details regarding the same are mentioned below. The treated sewage from these decentralized units meets the norms stipulated by GPCB and it is used for gardening purpose. **Location** / **Capacity** / **Technology** CETP / 2.5 MLD / Aerobic Digestion Shantivan Colony STP / 350 KLD / Aerobic Digestion Shantivan Colony STP / 250 KLD / Aerobic Digestion Adani House STP / 150 KLD / PVA Gel Technology Samudra Township STP / 2.5 MLD / MBR Liquid Terminal ETP / 265 KLD / Aerobic Digestion West Port STP / 55 KLD / FAB SEZ north Gate Complex / 175 KLD / Aerobic Digestion Agri Park / 10 KLD / Aerobic Digestion CETP of 2.5 MLD capacity is also constructed in SEZ area (having a separate independent environmental clearance). Sewage generated from individual industry is treated by individual industry itself. However, some of the industries are giving their sewage to the CETP for treatment and final disposal. List of CETP member units were submitted along with half yearly EC compliance report for the period Oct'19 to Mar'20. And there is no further change.

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30.09.2023</th></tr>
<tr><td></td><td></td><td>
The treated effluent from CETP confirms to the GPCB norms. Treated water is used for gardening / horticulture purpose within CETP premises and SEZ areas. Online monitoring system at the discharge point is provided to get the system alert in case of any deviation from discharge norms.

STP of 2.5 MLD capacity is also constructed in SEZ area as part of social infrastructure project (having a separate independent environmental clearance).

Assessment of treated sewage is being carried out by NABL accredited and MoEF&CC approved agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. The summary of analysis results is mentioned below.

Treated Water Analysis (Frequency Twice in a Month – 3 STPs)
<table>
<tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>Avg</th><th>Perm. Limit$</th></tr>
<tr><td>pH</td><td>--</td><td>7.14</td><td>7.52</td><td>7.31</td><td>6.5 to 9.0</td></tr>
<tr><td>TSS</td><td>mg/L</td><td>8</td><td>28</td><td>18.94</td><td>100</td></tr>
<tr><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>6</td><td>19</td><td>15.03</td><td>30</td></tr>
<tr><td>Residual Chlorine</td><td>ppm</td><td>0.64</td><td>0.92</td><td>0.76</td><td>--</td></tr>
<tr><td>Fecal Coliform</td><td>MPN / 100 ml</td><td>17</td><td>170</td><td>81.86</td><td>< 1000</td></tr>
</table>
$ as per CC&A granted by GPCB
Please refer Annexure – 9 for detailed analysis reports.

GPCB also done site visit and collected and analyzed the STP's treated water sampling. GPCB last sampling collected on 4/7/2022 and copy of analysis report was submitted during the last compliance period Apr'22 to Sep'22, which shows that all the parameters are well within the permissible norms.

Budget for environmental management measures (including horticulture) for the FY 2023-24 is to the tune of INR 1536.48 lakh. Out of which, Approx. INR 823.48 lakh are spent during the year 2023-24 till
</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		Sep'23 for overall APSEZ, Mundra. Greenbelt area developed around the treatment plants act as barrier for odour. In addition to this, regular supervision is done to ensure there is no odour problem from any of the treatment plants.
iv.	The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.	Complied. **Waste Management** – APSEZ has adopted 5R concept for environmentally sound management of different types of solid & liquid wastes. Please refer below details about management of each type of waste. **Solid Waste**: A well-established system for segregation of dry & wet waste is in place. All wet waste (Organic waste) is being segregated & utilized for compost manufacturing and/or biogas generation for cooking purpose. The compost is further used by in house horticulture team for greenbelt development. Whereas dry recyclable waste is being sorted in various categories. Presently manual sorting is being done for sorting of different types of solid waste. Segregated recyclable materials such as Paper, Plastic, Cardboard, PET Bottles, and Glasses, etc. are then sent to respective recycling units, whereas remaining non-recyclable waste is bailed and sent to cement plant (M/s. Ambuja Cement Ltd., Kodinar) for Co-processing as RDF (Refused Derived Fuel). APSEZ, Mundra is certified for Zero Waste to Landfill management system (ZWTL MS 2020) by TUVRheinland India Pvt. Ltd. (valid up to 31.05.2024). Details of the same were submitted as part of compliance report submission for the duration of Apr'21 to Sep'21. **Hazardous & Other Waste:** • Bio medical waste generated from OHCs and Adani Hospital is being disposed at Common Bio Medical Waste Treatment Facility namely M/s. Distromed Kutch Services Pvt. Ltd., Bhuj.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		• E – Waste is being sold to GPCB registered recyclers namely M/s. Galaxy Recycling, Rajkot. • Used Batteries are being sold to GPCB registered recyclers namely M/s. Sabnam Enterprise, Kutch and M/s. S K Metal Industries, Rajkot. • Solid Hazardous Waste is being disposed through co-processing / incineration through common facility i.e. M/s. Saurashtra Enviro Projects Pvt. Ltd., Bhachau, Safe Enviro Private Limited, Bharuch and/or cement industries of Ambuja Cement Ltd., Kodinar. Used/Waste Oil is being sold to GPCB authorized recyclers / re-processors namely M/s. Western India Petro Chem Ind - Bhavnagar, Aviation Corporation - Kutch & Aroma Petrochem - Bhavnagar. It is also being reused within organization for lubrication purpose. • Discarded drums / barrels are being sold to authorized decontamination facility i.e. M/s. Jawrawala Petroleum, Ahmedabad. It is also being reused within organization for filling hazardous waste. • Solid hazardous waste i.e. Tank bottom sludge is being sold to authorized recycler namely M/s. Mundra Oil Pvt. Ltd., Mundra for recycling. However during the compliance period, there was no disposal of downgrade chemicals. • Expired paint materials is being disposed by incineration through common facility i.e. M/s. Saurashtra Enviro Projects Pvt. Ltd., Bhachau. However, during the compliance period, there was no disposal of downgrade chemicals. • Downgrade chemicals generated from cleaning of storage tanks / pipelines are being sold to authorized solvent recovery facilities namely M/s. Acquire Chemicals, Ankleshwar however during the compliance period, there was no disposal of downgrade chemicals. • Slop Oil received from vessels is treated to separate water and oil particles in Oil Water Separator system. Separated oil from the same is being sold to authorized recycler / reprocessor namely M/s. Western India Petro Chem Ind -

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30.09.2023</th></tr>
<tr><td></td><td></td><td>
Bhavnagar, Aviation Corporation - Kutch & Aroma Petrochem – Bhavnagar and water is sent to ETP for further treatment. However during the compliance period, there was no received or disposal of Slope Oil.
• Horticulture waste is collected from various green belt areas and it is using for making of manure and manure is being utilizing in horticulture purpose within plant premises.

Details of permissions / agreements of hazardous waste authorized vendors were submitted along with pervious half yearly EC Compliance Reports. And there is no further change.
The following table summarizes the waste management practice (from Apr'23 to Sep'23) for different types of wastes at APSEZ:
<table>
<tr><th>Type of Waste</th><th>Quantity in MT</th><th>Disposal method</th></tr>
<tr><td colspan="3">Hazardous Waste</td></tr>
<tr><td>Pig Waste</td><td>3.70</td><td rowspan="2">Co-processing at cement industries</td></tr>
<tr><td>Oily Cotton waste</td><td>52.64</td></tr>
<tr><td>Used / Spent Oil</td><td>82.93</td><td>Sell to registered recycler</td></tr>
<tr><td>ETP/CETP Sludge</td><td>12.71</td><td>Co-processing at cement industries</td></tr>
<tr><td>Discarded Containers / Barrels</td><td>1.90</td><td>Sell to registered recycler</td></tr>
<tr><td colspan="3">Other Waste</td></tr>
<tr><td>E-Waste</td><td>31.37</td><td>Sell to registered recycler</td></tr>
<tr><td>Battery Waste</td><td>7.95</td><td>Sell to registered recycler</td></tr>
<tr><td>Bio Medical Waste</td><td>3.29</td><td>To approved CBWTF Site</td></tr>
<tr><td colspan="3">Non-Hazardous Waste</td></tr>
<tr><td>Recyclables Dry Waste / Scrap</td><td>1377.09</td><td>After recovery sent for recycling / Reuse within premises</td></tr>
<tr><td>Non-Recyclable Dry Waste (RDF)</td><td>253.54</td><td>Co-processing at Cement Industries</td></tr>
<tr><td>Wet Waste (Food waste + Organic waste)</td><td>459.04</td><td>Converted to Manure for Horticulture use / Biogas for cooking purpose</td></tr>
<tr><td>Horticulture Waste</td><td>405.30</td><td>Used for making of manure and utilize for horticulture purpose</td></tr>
</table>

Please refer Point No. xxiii (General Condition:
</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30.09.2023</th></tr>
<tr><td></td><td></td><td>Construction Phase) for further details.</td></tr>
<tr><td>v.</td><td>Diesel power generating sets proposed as source of backup power for elevators and common area illumination during operational phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Low sulphur diesel should be used. The location of the DG sets may be decided in consultation with the Gujarat Pollution Control Board.</td><td>Complied.

DG sets are being used only as power back up source in case of power failure.

Please refer Point No. viii & ix (General Condition: Construction Phase) for further details.

Heights of stacks are maintained as needed for the combined capacity of all attached DG Sets. Locations of the DG sets are checked by GPCB officials during the site visits. Details of all DG set stack heights are mentioned below.

<table>
<tr><th>Sr. No.</th><th>DG Location</th><th>Capacity/KVA</th><th>Stack height</th></tr>
<tr><td>1</td><td>Adani House</td><td>750</td><td>15M</td></tr>
<tr><td>2</td><td>PUB</td><td>500</td><td>15M</td></tr>
<tr><td>3</td><td>PMC Store</td><td>82.5</td><td>10M</td></tr>
<tr><td>4</td><td>R&D Yard</td><td>50</td><td>8M</td></tr>
<tr><td>5</td><td>North Gate</td><td>320</td><td>8M</td></tr>
<tr><td>6</td><td>CRC North Gate</td><td>5</td><td>5M</td></tr>
<tr><td>7</td><td>North in Gate</td><td>5</td><td>5M</td></tr>
<tr><td>8</td><td>North Outgate</td><td>5</td><td>5M</td></tr>
<tr><td>9</td><td>East Gate</td><td>30</td><td>6 M</td></tr>
<tr><td>10</td><td>Airport</td><td>140</td><td>10M</td></tr>
<tr><td>11</td><td>Airport</td><td>125</td><td>10M</td></tr>
<tr><td>12</td><td>Gohersama Gate</td><td>5</td><td>5M</td></tr>
<tr><td>13</td><td>Airport crrosing Gate</td><td>5</td><td>5M</td></tr>
<tr><td>14</td><td>Kharimithi Road Gate</td><td>5</td><td>5M</td></tr>
<tr><td>15</td><td>Old port Gate</td><td>5</td><td>5M</td></tr>
<tr><td>16</td><td>West Gate</td><td>30</td><td>6 M</td></tr>
<tr><td>17</td><td>MRSS</td><td>250</td><td>6 M</td></tr>
<tr><td>18</td><td>Mitap Substaion</td><td>62.5</td><td>5M</td></tr>
<tr><td>19</td><td>Zarpara Gate</td><td>5</td><td>5M</td></tr>
<tr><td>20</td><td>Navinal Gate</td><td>5</td><td>5M</td></tr>
<tr><td>21</td><td>Culvert NO 109</td><td>5</td><td>5M</td></tr>
<tr><td>22</td><td>Culvert NO 109</td><td>15</td><td>5M</td></tr>
<tr><td>23</td><td>Agri Park</td><td>250</td><td>6 M</td></tr>
<tr><td>24</td><td>APL Road</td><td>7.5</td><td>5M</td></tr>
</table>
</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		25 APL Road 7.5 5M 26 Trolly Mounted 30 6 M 27 Trolly Mounted 15 6 M 28 Trolly Mounted 15 6 M
vi.	Noise should be controlled to ensure that it does not exceed the prescribed standards, During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.	Complied. 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. Please refer Point No. xi (General Condition: Construction Phase) for further details.
vii.	Green belt of adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.	Being complied. APSEZ has developed "Dept. of Horticulture" which is taking measures/ steps for terrestrial greening as well as mangrove plantation. Development of greenbelt at various locations within the SEZ is an ongoing activity. Please refer condition no. xix (Specific Condition) for further details.
viii.	Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.	Complied. Boundary walls are constructed in such a way by keeping weep holes for defined river path to facilitate free flow of water and it is ensured that water is not stagnant at any given point during rainy season.
ix.	Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented.	Complied. Groundwater recharge cannot be done at the project site since the entire project is in the intertidal / sub tidal areas. Rain water within project area is managed through storm water drainage. We have installed Rain water recharge bore well (4 Nos.) within our township to recharge ground water. Details of the same were submitted along with half yearly EC compliance report for the period Apr'19 to

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		Sep'19. During FY 2023-24, 4.58 ML of rain water has been recharged to increase the ground water table. We have also connected roof top rain water duct of operational building (Tug berth building within MPT) with u/g water tank for utilization of collected rain water for gardening / horticulture purpose. Details of the same were submitted along with EC Compliance report for the period Oct'18 to Mar'19. However, Adani Foundation – CSR arm of Adani Group has carried out rainwater harvesting activities in the nearby villages for benefit of the locals. Water conservation Projects i.e. Roof Top Rain Water Harvesting, Desilting of Check dams, Bore Well Recharge and Pond deepening were taken up in past years, review and monitoring of all water harvesting structures had been taken up. Including this a big recharge operation by bunding was taken up for Zarpara village as rainfall was very good during compliance period. To make connections between human actions and the level of biological diversity found within a habitat and/or ecosystem, this year Adani Foundation launch project "Sanrakshan" in coordination with GUIDE and Sahjeevan. Since 10 years considerable Water Conservation Work carried out in Mundra Taluka. Due to satisfactory rain in current year 1.11 mtr ground water table increased as per increased in coastal belt of Mundra as per Government Figures. **Our water conservation work is as below.** Below tabulated Water Conservation Projects completed during Compliance period:

Sr. No.	Project	Unit	Outcome	Impact

Sr. No.	Conditions	Compliance Status as on 30.09.2023

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

Earlier Completed Activities/Projects:

- ✓ Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams.
- ✓ Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers.
- ✓ New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum.
- ✓ Roof Top Rainwater Harvesting 145 Nos. (40 Nos. current FY 2022-23) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family.
- ✓ Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil.
- ✓ Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date.
- ✓ Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which borewell depth decreased by 50-100 Ft in Zarpara, Bhujpur and Navinal Vadi Vistar.
- ✓ Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.
- ✓ Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.

With the objective of to preserve the rainwater to reduce the impact of salinity and recharge the

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		ground water (the main source of water) to facilitate the Agricultural activities as well as for drinking water. Please refer **Annexure – 3** for full details of CSR activities carried out by Adani Foundation in the Mundra region. It may be noted that the individual industrial units will also be encouraged for taking various initiatives for rainwater harvesting within their premises / in the villages around the SEZ area.
x.	The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.	Complied. Ground Water Monitoring is being carried out on regular basis in SEZ areas through NABL accredited and MoEF&CC approved agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Please refer Point No. v (General Condition: Construction Phase) for further details. It may be noted that the analysis results of ground water quality are submitted to CGWB, West Central region, Ahmedabad vide our e-mail dated 29.04.2023. Details of the same was submitted during the last compliance period Oct'22 to Mar'23.
xi.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.	Complied. The entry and exit gates of SEZ and port are provided with ample parking area (210838 m^2) near the gate. The entry / exit complex is fully equipped with traffic control equipments and round the clock security is provided for seamless support. No public space is utilized for parking of the vehicle. Details of the same were submitted along with half yearly EC Compliance Report for the period Apr'18 to Sep'18.
xii.	A report on the energy conservation measures conforming to energy conservation norms finalized by Bureau of Energy Efficiency should be prepared	Complied Energy audit of port user buildings (including the details about building materials and technology etc.) is being carried out on regular basis. Last energy audit was done during Jan-2022. Report of the same

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	incorporating details about building materials & technology, R & D Factors etc. and submitted to the Ministry along with six monthly monitoring report.	is submitted to Chief Electrical officer, Gandhinagar. Report of the same was submitted during the last compliance period Apr'22 to Sep'22.
xiii.	Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be an integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines / rules of the regulatory authority to avoid mercury contamination. Solar panels may be used to the extent possible.	Complied Energy Conservation through Installation of Motion Sensor (Occu switch) & AC Temp. controls in few of the buildings are provided. 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. • 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 CFL / LED lighting are being used at various common areas of SEZ as well buildings and townships. Used CFL are collected and sent for recycling through authorized e-waste collection agency. 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. Details of the same were submitted along with half yearly compliance report for the period Oct'18 to Mar'19. It may be noted that the individual industrial units will also be encouraged for taking various initiatives with respect to energy conservation (such as energy audit, installation of renewable energy sources, utilization of energy efficient fixtures etc.).
xiv.	Adequate measures should be taken to prevent odour	Complied

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	problems from solid waste processing plant and STP.	5R principals are adopted for sustainable waste management at APSEZ. Utmost care is being taken during the waste management and sewage /effluent treatment to ensure that there is no odour generation. Proper secondary treatment and disinfection is provided to the domestic sewage and treated sewage is utilized for horticulture purpose. These measures ensure that odor problem is not created in the surrounding area. Furthermore, greenbelt on the periphery of the treatment plant as well as waste management sites help to prevent odour problems.
xv.	The buildings should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.	Complied. Presently, all the buildings have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation. The same practice will be continued in future also. It may be noted that the individual industrial units will also be encouraged for consideration of these design parameters.
xvi.	The environmental safeguards contained in the EIA Report should be implemented in letter and spirit.	Complied. Compliance report of all the environmental safeguards contained in the EMP report is attached as **Annexure – 7**.
xvii.	Adequate drinking water facility be provided.	Complied. Drinking water facility at approx. 200 locations within APSEZ area is provided.
xviii.	Incremental pollution loads on the ambient air quality, noise and water quality should be periodically monitored after commissioning of the project.	Complied. Environment Monitoring (air, noise, water, soil) is being carried out on regular basis in Port & SEZ areas through NABL accredited and MoEF&CC approved agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Please refer following condition nos. for further details.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		• v, viii & xi of General Conditions – Construction Phase • iii of General Conditions – Operation Phase
xix.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrid system or fully solar system for portion of the apartments should be provided.	Complied. 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 electricity generated from it is being supplied to grid. Please refer condition no. xiii of the General Conditions – Operation Phase for further details.
xx.	Ozone depleting substance (Regulation & Control) Rules should be followed while designing the air conditioning system of the project.	Complied. APSEZ is not procuring air conditioning systems which use ozone depleting gases. All the HVAC systems are with Ozone friendly gases within APSEZ. All new air conditioning systems installed, if any, will be designed in line with Ozone depleting substance (Regulation & Control) Rules. It may be noted that the individual industrial units will also be encouraged to follow Ozone depleting substance (Regulation & Control) Rules while designing the air conditioning system of the project. The same will be implemented by individual unit as per project suitability.
12	Officials from the Regional Office of MOEF, Bhopal who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF should be forwarded to the CCF, Regional Office of	Complied. Full support is always extended to officers of regulatory authorities (including MoEF&CC and GPCB) visiting the project site. The documents as per their requirements are provided to them. The communication documents like application Form – 1, ToR received from MoEF&CC, Final EIA report, Public Hearing proceedings and recommendations of GCZMA are submitted to MoEF&CC, RO, Bhopal for necessary records.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	MOEF, Bhopal.	APSEZ was visited by RO, MoEF&CC Bhopal on 3rd May, 2018 for compliance verification. APSEZ provided all requisite information and documents required by the Regional Officer. During the said compliance verification visit, and as per the compliance certificate by Ro-MOEF&CC vide dated, 7th June 2018, there was no major non-compliance observed. Inline to the compliance certification process of Environment Clearance condition of Waterfront Development Plan, RO, MoEF&CC Bhopal had visited the site on 27th & 28th January, 2020 for compliance verification. APSEZ provided all requisite information and documents required by the Regional Officer MoEF&CC). During the said compliance verification visit and as per the compliance certification received, there was no non-compliance observed. Inline to the compliance certification process of Consent to Operates of existing facilities developed under Waterfront Development Plan, RO, GPCB, Gandhidham had visited the site on 17th March, 2021 for compliance verification. APSEZ provided all requisite information and documents required by the Regional Officer GPCB). During the said compliance verification visit and as per the compliance certification received, there was no non-compliance observed. Inline to the compliance of MoEF&CC Order dated 18th September, 2015, Joint Review Committee (JRC) comprising officials from various competent authorities visited the APSEZ, Mundra from 1st to 3rd September, 2021 to monitor the progress of implementation of the conditions stipulated in the order. APSEZ provided all requisite information and documents required by the JRC. As per the report received by MoEF&CC vide dated 01.12.2021, there was no non-compliance observed. It also be noted that officials from GPCB Regional office is also doing regular site visit. Last visit of

Sr. No.	Conditions	Compliance Status as on 30.09.2023
		Regional Office, GPCB was done on 03.10.2022. There was no any inspection remarks during the site visit.
13	In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry.	Point noted and agreed.
14	The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provision of the Environmental (Protection) Act, 1986, to ensure effective implementation of the safeguard measures in a time bound and satisfactory manner.	Point noted and agreed.
15	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponent from the respective competent authorities.	Not Applicable at present. The mentioned approvals are not applicable to APSEZ since we are the infrastructure support provider. However, the applicable approvals will be availed by the individual member industries prior to construction of work. The environment management committee will ensure strict adherence to the condition by the individual industries.
16	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA	Point noted and agreed.

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	Notification, 2006.	
17	The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Clearance and copies of clearance letters are available with the Gujarat Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.	Complied APSEZ has advertised Environmental and CRZ Clearance in two local newspapers "The Indian Express" (in English language) and "Kutch Mitra" (in vernacular language) on 24.07.14 (within 10 days from the date of receipt of the clearance letter) and copy of the same was submitted vide letter dated 05.08.2014 to Ministry of Environment, Forests & Climate Change, Bhopal.
18	Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No. 460 of 2004 as may be applicable to this project.	Point noted and agreed.
19	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Point noted and agreed.
20	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from	Complied Copy of clearance letter was sent to concerned Panchayats, Zilla Parishad, Urban Local Body, Local NGOs and from whom suggestion/representation received. Details regarding the same were submitted

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30.09.2023</th></tr>
<tr><td></td><td>whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.</td><td>to the MoEF & CC along with half yearly compliance report for the period from Apr – 2014 to Sep – 2014.

Clearance letter is also put up on the website of the Adani ports https://www.adaniports.com/ports-downloads</td></tr>
<tr><td>21</td><td rowspan="2">The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.</td><td rowspan="2">Complied.

Compliance report of EC conditions is uploaded regularly. Last compliance report including results of monitoring data for the period of Oct'22 to Mar'23 was submitted to Integrated Regional Office (IRO), MoEF&CC @ Gandhinagar, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar & Gandhidham and Dept. of Forests & Env., Gandhinagar vide our letter dated 25.05.2023. Copy of the same is also available on our web site https://www.adaniports.com /ports-downloads. A soft copy of the same was also submitted through e-mail on 30.05.2023 to all the concern authorities. Please refer below for the details regarding past six compliance submissions.</td></tr>
<tr><td>22</td><td>The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.</td></tr>
<tr><td>23</td><td>The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environmental (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the</td><td>Complied.

Environmental statement for each financial year is submitted to GPCB. The same for the FY ending 31.03.2023 in Form-V is submitted to GPCB vide our letter dated 11th September, 2023. The acknowledgement copy of the Environmental Statement of FY 2022-23 is attached as Annexure-11. Copy of the same is also available on our web site https://www.adaniports.com/ports-downloads.</td></tr>
</table>

Sr. No.	Compliance period	Date of submission
1	Apr'20 to Sep'20	26.11.2020
2	Oct'20 to Mar'21	25.05.2021
3	Apr'21 to Sep'21	30.11.2021
4	Oct'21 to Mar'22	30.05.2022
5	Apr'22 to Sep'22	30.11.2022
6	Oct'22 to Mar'23	30.05.2023

Sr. No.	Conditions	Compliance Status as on 30.09.2023
	status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	

ANNEXURE A
Compliance Report of CRZ Recommendation

Note:

With respect to the project components attracting CRZ recommendation from GCZMA, following points shall be noted:

- GCZMA has recommended the CRZ proposal for Sea Water Intake, Outfall system and Pipeline.
- Construction with respect to Desalination Plant, sea water intake and outfall system has not been started yet.
- Existing units are having requisite environmental permissions (from state or central body, as the case may be) for discharging their wastewater, if any, to the Common Effluent Treatment Plant of MPSEZ Utilities Pvt. Ltd. having 2.5 MLD capacity (having a separate individual environmental clearance).
- Treated wastewater is being utilized within the premises of CETP and / or SEZ for the gardening / horticulture activities.
- As soon as the need for discharging the effluent / reject form the desalination plant into sea will arise, constriction work for the intake and outfall will be started.

In view of the above-mentioned facts, the compliance to the conditions stipulated in the CRZ recommendation will be submitted to all the competent authorities when the construction and operation activities are initiated for the project components attracting CRZ recommendation.

Annexure – B
Compliance Status of MoEF & CC Order dated 18.09.2015

Based on the report submitted by Sunita Narain committee, MoEF&CC issued a Show Cause Notice (SCN) to APSEZ vide their letter dated 30.09.2013. APSEZ replied to the SCN vide letter dated 14.10.2013. Further, an order (containing 10 directions) was issued by MoEF&CC vide their letter dated 18.09.2015. Compliance to these 10 directions is mentioned below.

adani Ports and Logistics	Adani Ports and Special Economic Zone Limited, Mundra.	From : Apr'23 To : Sep'23

Status of the conditions stipulated in Environment and CRZ Clearance

Sr. No.	Condition	Compliance Status as on 30-09-2023
i	The proposal of extension of the validity of environmental clearance granted to the North Port vide letter dated 12.01.2009 will be considered separately at later stage.	Point Noted & Complied After receipt of this order, so far APSEZ has not done any application to MoEF&CC for the proposed North port. The expansion of Waterfront Development plan has been proposed excluding North Port area.
ii	Bocha island, ecologically sensitive geomorphological features and areas in the island and creeks around the island will be declared as conservation zone action plan for its conservation must be prepared. M/s. APSEZ should provide necessary financial assistance for this purpose.	Complied This reply covers condition no ii, iv and v. Based on the MoEF&CC directions, 1. APSEZ, vide letter dtd. 19th October 2015 had requested GCZMA, for consideration of project for finalization of ToR for NCSCM. 2. Project was considered on 28th GCZMA meeting, scheduled on 22nd April 2016, where ToR was discussed and agreed, upon. 3. APSEZ, vide its letter dtd. 25th April 2016, submitted the proposal to GCZMA along with Scope of work, as submitted by NCSCM. 4. Service Order was issued to NCSCM vide SO dtd. 29th Aug 2016. Cost of the study as per the NCSCM proposal was 315 Lakh and 100% of payment has already paid to NCSCM. 5. NCSCM has carried out number of site surveys during the period, February 2017 – April 2018 as per the defined scope 6. The study report was submitted to GCZMA (with a copy to MoEF&CC vide letter dated 04.06.2018) for their consideration and recommendation if any. 7. A reminder letter was submitted to GCZMA vide letter dated 4th Jan 2019. Details of above chronology were submitted along with half yearly compliance report for the period Apr'19 to Sep'19. The site survey carried out by NCSCM includes: 1. Bathymetry survey of creeks 2. Topography survey of intertidal areas
iv	A comprehensive and integrated study and protection of creeks/ mangrove area including buffer zone, mapping of co-ordinates, running length, HTL, CRZ boundary, will be put in place. The plan will take note of all the conditions of approvals granted to all the project proponents in this area e.g. the reported case of disappearance of mangroves near navinal creek. The preservation	

Sr. No.	Condition	Compliance Status as on 30-09-2023
	of entire area to maintain the fragile ecological condition will be a part of the plan in relation to the creeks, mangrove conservation and conservation of bocha island up to baradimata and others.	3. Mangrove survey (health and area demarcation) 4. Sampling of soil and water for analysis of physico-chemical and biological parameters 5. Tide and currents data collection (including residence time of tidal water) 6. Focus Group Discussions with the community in the close vicinity of the project area In addition to the site surveys, NCSCM has procured satellite images for analysis of mangrove cover. The data collected (through site surveys and analysis of satellite maps) was used as input for mathematical modelling. The modelling studies were carried out to understand the impacts of the development activities. Based on the outcome of the modelling studies the necessary conservation plan for protection of creeks and mangrove areas is prepared. Based on the final study report, outcome is summarized in to following points : 1. There is no obstruction to any water stream (creeks / branches of creeks / rivers) 2. Presently, mangrove cover in and around APSEZ is over 2596 ha. There was substantial growth in mangrove cover to the tune of 502 ha (comparison between 2011 and 2019) 3. Mundra has undergone substantial development during this tenure. Hence it can be interpreted that the infrastructure development has not left any adverse impacts on ecology. NCSCM study same was submitted to the GCZMA on 04.06.2018. Details of the same were submitted along with half yearly EC Compliance report for the period Apr'19 to Sep'19. The same was further submitted to GCZMA and MoEF&CC for their examination and recommendation vide (with a copy to MoEF&CC vide letter dated 04.06.2018 & reminder letter vide dated 4th Jan, 2019). Presentation on the findings of the report was made to GCZMA committee on 4th October 2019 and the recommendation for the same has been received vide email dtd 22nd Sept, 2020 with conditions. Details of the same were submitted as a part of half yearly EC compliance report for the period Oct'20 to Mar'21.
v	NCSCM will prepare the plan in consultation with NIOT, PP and GCZMA. In recognition of the fact that the existing legal provisions under the E(P) Act 1986 do not provide for any authority to impose ERF by the government, the plan will be financed by the PP. the implementation will be carried out by GCZMA. The monitoring of the implementation will be carried by NCSCM.	

<table>
<tr><th>Sr. No.</th><th>Condition</th><th>Compliance Status as on 30-09-2023</th></tr>
<tr><td></td><td></td><td>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.
<table>
<tr><th>Sr. No.</th><th>Recommendations</th><th>Compliance</th></tr>
<tr><td>1.</td><td>Mangrove mapping and monitoring in and around APSEZ</td><td>• APSEZ entrusted NCSCM, Chennai to carry out Monitoring of mangrove distribution in creeks in and around APSEZ and shoreline changes in Bocha island.
• As a part of this study, overall growth of mangroves in the creeks in and around APSEZ was assessed comparing Google earth images of 2017 & 2019 and it is observed that there was increase in mangrove cover between March 2017 and September 2019 to the extent of 256 Ha, which is about 10.94%.
• 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 (attached as Annexure-1), 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</td></tr>
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<table>
<tr><th>Sr. No.</th><th>Condition</th><th colspan="3">Compliance Status as on 30-09-2023</th></tr>
<tr><td></td><td></td><td></td><td></td><td>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.

The Summary of Mangrove mapping and monitoring (from 2011 to 2021):

<table>
<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>
<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</td><td>2670</td><td>74</td><td>2.85%</td></tr>
<tr><td>2019 to 2021 till March</td><td>2723</td><td>53</td><td>1.99%</td></tr>
<tr><td>Total</td><td>2723</td><td>629</td><td>28 %</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td>2.</td><td>Tidal observation in creeks in and around APSEZ</td><td>• 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.</td></tr>
<tr><td></td><td></td><td>3.</td><td>Removal of Algal and Prosopis growth from mangrove areas</td><td>• Algal and Prosopis growth monitoring was done in and around mangrove area and algal encrustation was found in some of the mangrove areas, which has been removed manually.
• The cost of the said activity was INR 2.35 Lacs. The details of algal & prosopis removal was submitted during the last compliance period Oct'22 to Mar'23.</td></tr>
<tr><td></td><td></td><td>4.</td><td>Awareness of mangroves importance in surrounding communities</td><td>• Adani Foundation – CSR Arm of Adani group has done awareness camps/activities created in the community regarding importance of mangroves. Adani Foundation</td></tr>
</table>

Sr. No.	Condition	Compliance Status as on 30-09-2023
		provides good Quality dry and green fodder to 24 Villages. Project is covering total 32372 Cattels / 2707 farmers and hence enhancing cattle productivity during FY 2023-24 till Sep'23. • Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 90.20 Lacs during FY 2023-24 till Sep'23, 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 July 26th 2023 and World Nature Conservation Day on 28th July 2023 to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The report of day celebration is attached as **Annexure - 2** • Refer CSR report attached as **Annexure – 3.** Details of activities done as a part of GCZMA recommendations and NCSCM mangrove conservation action plan were submitted as a part of half yearly EC compliance report for the period Oct'20 to Mar'21. CZMP of Kutch region has been finalized and published on GCZMA website in the Month of Feb-2022. NCSCM has issued final authorized maps for HTL and CRZ Boundary prepared in line with approved CZMP of Gujarat State as per CRZ Notification, 2011. The details of the maps were submitted during the previous compliance period Oct'21 to Mar'22. As per the approved map of CZMP Kutch region APSEZ has

Sr. No.	Condition	Compliance Status as on 30-09-2023
		demarcated the HTL boundary line within APSEZ area. Photographs of the demarcated HTL boundary line is attached as **Annexure – 5.** After that as suggested by Joint Review Committee in its report that mangrove related studies may be undertaken by different agencies on a rotation basis for a better review of the mangroves, APSEZ issued work order to the Gujarat Institute of Desert Ecology (GUIDE), Bhuj vide order no. 4802027981, dated 10/04/2023 for mangrove mapping in and around APSEZ, Mundra. The cost of said work is 23.60 Lacs (Including Taxes), which will be paid by APSEZ. GUIDE has completed the study of Monitoring and Distribution of the Mangroves along the Creeks in and Around APSEZ, Mundra, Kutch, Gujarat for the duration of year March 2019 to March 2021. Copy of the report of Monitoring and Distribution of the Mangroves is attached as **Annexure-1**. According to NCSCM Mangrove monitoring study report March 2021, distribution of mangroves in Kotdi, Baradi Mata, Navinal, Bocha and Khari creeks and also in Bocha island was studied using Google earth images (2017 March and 2019 Sep). The data obtained for 2017 i.e., 2398 ha was compared with data reported for 2016 (Dec) - 2017 (Jan & Feb) i.e., 2340 ha in the Conservation plan submitted earlier. The Google earth showed a marginal difference of + 58 ha (compared to earlier 2016-17 data) which shows 2.4% higher and the difference can be considered as insignificant. Further for both the start year (2017 March) and the end year (Sep.2019) Google earth image was used as a source and therefore, the results will be quite acceptable for assessment. With regard to overall health of mangroves in the creeks in and around APSEZ, it was found that there was an increase of mangrove cover between March 2017 and Sep 2019 to an extent of 256 ha which is about 10.7% increase in mangroves. Hence overall mangrove cover was considered as 2594 Ha in year 2019. Now, according to GUIDE Mangrove monitoring study report November 2023 (attached as **Annexure-1**), 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

<table>
<tr><th>Sr. No.</th><th>Condition</th><th>Compliance Status as on 30-09-2023</th></tr>
<tr><td></td><td></td><td>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%).</td></tr>
<tr><td>iii</td><td>The violations of specific condition of all the ECs and CRZ clearances, if any, will be examined and proceeded with the provisions of EP Act, 1986 independently.</td><td>Complied

During the said site visits from various regulatory authorities and as per the compliance certification received, there was no non-compliance observed.
<table>
<tr><th>Sr. No.</th><th>Authority</th><th>Date of Visit</th><th>Purpose of Visit</th></tr>
<tr><td>1</td><td>RO, MoEF&CC, Bhopal</td><td>21st – 22nd Dec, 2016</td><td>EC Compliance Certification of WFDP</td></tr>
<tr><td>2</td><td>RO, MoEF&CC, Bhopal</td><td>3rd May, 2018</td><td>EC Compliance Certification of WFDP & MSEZ</td></tr>
<tr><td>3</td><td>RO, MoEF&CC, Bhopal</td><td>3rd & 4th Sep, 2019</td><td>Compliance of the order of the Hon'ble HIGH COURT of Gujarat vide letter dated 22nd Aug. 2019 w.r.t. compliance verification of MoEF&CC order dated 18th Sep, 2015.</td></tr>
<tr><td>4</td><td>RO, MoEF&CC, Bhopal</td><td>27th & 28th Jan, 2020</td><td>EC Compliance Certification of WFDP</td></tr>
<tr><td>5</td><td>SPCB, Gandhinagar</td><td>17th March, 2021</td><td>CC&A Compliance Certification of existing facilities developed under WFDP</td></tr>
<tr><td>6</td><td>Joint Review Committee</td><td>1st to 3rd Sep, 2021</td><td>Compliance of the order of the Hon'ble HIGH COURT of Gujarat vide letter dated 22nd Aug. 2019 w.r.t. compliance verification of MoEF&CC order dated 18th Sep, 2015.</td></tr>
<tr><td>7</td><td>NEERI, Nagpur</td><td>21st & 22nd Sep 2023.</td><td>EC Compliance verification site visit of MSEZ.
Copy of last EC compliance verification certificate is attached as Annexure – 4.</td></tr>
</table>
It may also be noted that GPCB, Regional Office does regular</td></tr>
</table>

Sr. No.	Condition	Compliance Status as on 30-09-2023
		site visit of APSEZ area and no non-compliance observed. Last visit of Regional Office, GPCB was done on 09.04.2021 for West Port APSEZL has submitted the reply to the site visit report vide letter dated 12.04.2021. Details of the same were submitted as part of compliance report submission for the duration of Apr'21 to Sep'21. Last visit of Regional Office, GPCB was done on 23.03.2022 for Main port and APSEZL has submitted the reply report vide letter dated 05.04.2022. Details of the same were submitted in the last compliance period Apr'22 to Sep'22.
vi	There will be no development in the area restricted by the High court of Gujarat. APSEZ shall abide by the outcome of the PIL 12 of 2011 and other relevant cases.	Complied The order passed by Hon' ble high court in context of PIL 12 of 2011 vide dated 10th Nov 2011. Subject PIL has been disposed off by Hon'ble High Court vide their order dated 17.04.2015 and now there is no restriction on development in the subject area. The order reads as *"In view of the aforesaid discussion, we do not find any merit in this writ petition. This writ petition fails and is accordingly dismissed. No order as to cost."* Copy of the order was submitted along with half yearly EC Compliance report for the period Apr'18 to Sep'18. Considering the above status and in line to submission of compliance of all the directions under this order, this condition is closed.
vii	APSEZ will submit specific action plan to protect the livelihood of fishermen along with budget.	Complied. Adani Foundation (AF) is the CSR arm of the Adani Group actively working for upliftment of the communities in the surroundings of various project sites of Adani Group. AF has prepared a specific action plan to protect livelihood of fishermen at Mundra. Various initiatives, as stated below are discussed in detail in the report namely "Silent Transformation of Fisher folk at Mundra". Said report also includes the information related to the planned expenses to the tune of approx. 13.5 Cr. INR for various initiatives for the next five years (2016 – 2021) (Budget details provided in Page No. 68 of report). Copy of the same is already submitted to MoEF&CC vide our letter dated 10.09.2016.

Sr. No.	Condition	Compliance Status as on 30-09-2023
		Till, Sep'23 approx. 13.89 Cr. INR, has already been invested fisherfolk livelihood. Further, details regarding the expenditure incurred against the commitment are attached as **Annexure – 12**. APSEZ is carrying out various initiatives specific to the Fisherfolk community which includes: • **Vidya Deep Yojana** Developing school preparedness programme and empowering balwadis at fisherfolk settlement Under this scheme, 4 balwadis at different settlement has been constructed. This programme include nutrition food, hygiene, awareness of health, cleanliness, discipline, regularity and development of basic age appropriate conception • **Youth employment:** Our main objective is to offer sustainable employment opportunities to the local fishing community in APSEZ Mundra. We bridge the gap between industries and Fisherfolk youth by facilitating job placements. • Currently, we have successfully engaged a total of 12 Fisherfolk youth in this endeavor. • **Vidya Sahay Yojana – Scholarship Support** All basic education supportive facilities have been created to promote education in fisher folk community. We are deeply committed to empowering the future of fisherfolk communities through education. To this end, we provide scholarship support to 30 deserving students, covering their actual school fees. In our unwavering commitment to promoting gender equality and advancing girl child education, we extend 100% fee support to female candidates and 80% to male candidates." • **Adani Vidya Mandir** Children of the family with the income of salary less than 1.5 lac/annum are admitted. School focusses on nutrition food, uniform and other services to the children for free. • **Fisherman Approach in SEZ** After due consultative process, APSEZ has provided 7 fishermen access roads for to approach to the sea for fishing activity. • **Machhimar Arogya Yojana** The Fisher folk communities are disposed to several water and air abided diseased due to exposure to unhygienic working conditions. Frequently Special Health care Camps are organized at Vasahat. Our Mobile health care unit van regularly visit fisher folk settlements. • **Machhimar Kaushalya Vardhan Yojana** Based on need assessment a number of trades were introduced through the Adani Skill Development Centre in Mundra, where in fisher folk youth could join and get a number of technical and non-technical training

Sr. No.	Condition	Compliance Status as on 30-09-2023
		• **Machhimar Sadhan Sahay Yojana** Fishing material support was provided by AF at Mundra as per the requests of Pagadiya fishermen. According to their needs, fishing nets, ropes, buoys, ice boxes, crates, weighing scales, anchors, solar lights etc., were provided. • **Machhimar Awas Yojana** Shelters, equipped with basic facilities of a toilet. and pure drinking water have been constructed for living while fishing and to provide a healthy and hygienic residence. • **Machhimar Shudhh Jal Yojana** This scheme of providing potable water has helped in reducing the drudgery of women and contributed largely towards general wellbeing. • **Sughad Yojana** Toilets for men and women are constructed at all three Vasahats.Infrastructure was accompanied with continuous awareness campaign on hygiene sanitation and use of toilets in particular. • **Machhimar Akshay kiran Yojana** Solar street lights at each settlement have been installed. For fish landing shed and school extension room have been fitted with solar invertor allowing late evening video shows for awareness and fish sorting work at ease. • **Machhimar Suraksha Yojana** Distance Alarm Transmission System – DATS' project was introduced in order to promote safety of the fishermen. Forced to be at sea to earn their livelihood puts the lives of many fishermen at risk. • **Machhimar Ajivika Uparjan Yojana** Mangrove plantation in the area as means of alternate income generating activity for the fisher folk community during the non-fishing months. During the non-fishing months, the fishermen under usual circumstances were benefited by other alternate economic activity to sustain them. • **Bandar Svachhata Yojana** Waste bins have been provided for proper collection and segregation of waste. Further, APSEZ is actively working with local community around the project area and provides required support for their livelihood and other concerns through the CSR arm – Adani Foundation. Adani Foundation is working in main four persuasions as below. ❖ Education ❖ Community Health ❖ Rural Infrastructure ❖ Sustainability Livelihood Brief information about activities in the main four persuasions is mentioned below. Activities carried out for the same are

<table>
<tr><th>Sr. No.</th><th>Condition</th><th>Compliance Status as on 30-09-2023</th></tr>
<tr><td></td><td></td><td>summarized as below.
<table>
<tr><th>Area</th><th>Activity</th></tr>
<tr><td>Community Health</td><td>• Mobile Heath Care Units and Rural Clinics
• 07 Rural Clinics
• 06 villages of Mundra & 01 village Mandvi block has benefited by rural clinic service.
• Total Patients Benefitted FY 23-24 upto Sep 23: - 10629 (direct & indirect).
• 2 financially challenged patients has been supported with Dialysis treatment at 58 Times which added day in their Life.
• Shaping Lives: From Pagdiya Fishing to Prosperity: 01 people benefitted for oral cancer treatment.

Health camp:
• Specialty camps, Eye checkup camps, Blood donation camp, Anti-tobacco awareness camp, TB screening, and other are conducted in core villages as well as in labour colonies.
• Specialty health (Gynec, ophthalmic, specialty health camp): - 1489 Patients Benefited.
• General health camp: - 1448Patients benefited.
• Blood Donation Camp: 1558 people have donated blood.
• Women's Health: Provided health services to more than 2230 women benefitted through gynec health checkup.
• Dialysis Support: During this year, 2 patients were supported for regular dialysis with 58 Times which added day in their Life.
• Medical Supports: 1007 beneficiary in 35 village.
• Eradicate cataract-related vision for senior citizen: benefited 473 peoples of 9 villages.
• Ayushman card facilitation: Ayushman card issued to 5584 for 25 village.
• 1071 –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 16000 cattle benefitted.</td></tr>
<tr><td>Sustainable Livelihood – Fisher folk, Agriculture & Women</td><td>• Vehicle Transportation Facilities: extend vehicle transportation services to school-going children from Luni and Randh Fishermen Settlements to the AVMB School, Bhadreshwar Similarly, we ensure for Juna Bandar Fisherfolk Students to the nearest Government School (Total 218 nos. students benefitted).
• Education Kits Support: Education Kits including</td></tr>
</table></td></tr>
</table>

Sr. No.	Condition	Compliance Status as on 30-09-2023	
			notebooks, guides, and bags, to fisherfolk students studying in 9th to 12th standard to enhance their learning experience (57 nos. students benefitted). • **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. • 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. • **Organic Vegetable Shop Inauguration:** Adani Foundation is promoting natural farming in Mundra through the "Rajshakti Prakrutik Kheti Sahkari Mandali," a group of 32 farmers. They opened a shop on May 24th to sale their produce in the open market. • **Awareness Sessions at Village Level:** Spreading awareness on natural farming benefits and address their concerns and 250 farmers benefitted. • **Hands-On Training & Exposures:** Arranged Workshop and training to emphasizing on real-world techniques (5 workshop). • **Link with Government Scheme**: facilitation of govt. Cow Nurturing scheme to promote eco-friendly farming practices (857 nos. formers benefitted). • To promote Natural farming Adani Foundation has originated cow-based farming initiative with interconnected techniques which can increase farmer yield. • Adani foundation and Agri Department jointly organized district level workshop on Natural Farming Practice with Gram Seva. • **Natural farming-** 1392 farmers benefitted by 20 nos of training from which 60 farmers chemical usage is reduced to half extent in 500 Acres approximately. • 257 nos. of Facilitation of Home Biogas-under Gobardhan Yojna during FY2023-24 till Sep'23. • **Natural Farming Certification: O**btained natural farming

Sr. No.	Condition	Compliance Status as on 30-09-2023	
			certification through the Gujarat Organic Product Certification Agency (GOPCA) for the 35 Farmers who are Members of Raj shakti Sahakrai Mandali. • **Marketing Assistance:** Provide platforms and resources ensuring fair prices and broader consumer reach. • **Dates Restoration:** Due to Bipor Joy cyclone, farming community faced a severe setback as numerous Date, Mango, and other fruit plants were damaged and uprooted. These plants, which served as a vital source of income for farmers, were left in shambles. As of the current date, 615 Date plants have been successfully restored. • **Kitchen Garden Kit:** Supported vegetable kitchen garden kits to 500 farmers with the aim to enable them to grow fresh and nutritious, chemical-free vegetables. This will enhance their food security and promote self-reliance. • Benefited 837 people linkages with Govt. cow based Nurturing Scheme. • Supported 1500 farmers for barrel & wormi compost. • 19 nos. of Market Linkage for supporting to Green carnival at Samudra Township & Shantivan colony Now 302+ farmers are collaborated with Mandli. • 257 Farmers have started to preparing Jiva Mrut & Gaukrupa Amrutam Bio-fertilizer and using in agricrop. Series of Training is arranged by ATMA and Adani Foundation. • Adani Foundation has also provided 7.99 lacs kg Dry Fodder and 23.53 lacs kg Green fodder in 24 villages of Mundra and Anjar Block to support the resource dependent villagers, to avoid their dependency on mangroves. The expenditure for fodder supporting activities was approx. 90.20 Lacs during FY 2023-24 upto Sep'23. • Adani Foundation provides Good Quality dry and green fodder to 29 Villages. Project is covering total 16000 Cattels / 3008 farmers and hence enhancing cattle productivity. Dry Fodder 731230 Kg Green –2359204 Kg. • **Grass Land development:** AF converted 213 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara, Siracha, Gundal , Kukadsar village to transform into Fodder Sustain village. **Women Empowerment:** • **Self Help Groups (SHGs):** Established 82 self-help groups in various rural and urban areas to provide financial and social support to women We provided training and capacity building workshops to members of these SHGs to help them develop income generating activities and improve their livelihoods Through this initiative, we have empowered over 850 women to become self-reliant with Savings of Rs 31 Lacs. • **Making SHG Self Reliant:** ➢ 16 SHG are on pathways of self-reliance. ➢ Various handicraft, dry and fresh food making, stitching, tie and die etc. ➢ 160+ women - Monthly average income @ 7000 of each member over Month.

Sr. No.	Condition	Compliance Status as on 30-09-2023	
			• **Job Sourcing – Govt:** ➢ 11 Women supported for application and process of Gram Rakshak Dal, Bank Sakhi, Bima Sakhi and Professional Resouce Person. ➢ Average income 4200 Per Month. • **Job Sourcing – Private:** ➢ Coordination for Job by Unnati Portal with Adani Group company companies, Britania, B Medical and Emphazer company. ➢ 387 Women supported till date for job sourcing of 18 villages. ➢ Average income 10200 Per Month. • **Social Empowerment:** ➢ 2 Livlihood Enhancement Training through RSETI. ➢ Financial support for business set up. ➢ Legal rights and domestic violence workshops. ➢ Family counselling for Job sourcing. • During FY2023-24 till Sep'23 Approx. INR 51.75 lakh were spent for Fisherfolk Amenities work in different core areas. • Till FY 2023-24 till Sep'23, Adani Foundation has done total expenditure of INR 1389.94lakh for Fisherfolk Amenities work in different core areas. • Skill Development and Income Generation –Adani Foundation is working with 82 Self-help group and supporting to develop entrepreneur skills to become self-reliant, sourcing more than 850 women to absorb in various job.
		Education	• Conduct baseline assessment of 6314 Students, 2541 Students were progressive learner (3 to 7 Std.). • Kutch University has conducted an impact assessment of IT on Wheels, which has been evaluated and certified by the DEO Office. • Exposure Visit of Project officers from three different locations to learn about the best practices. • Computer Classes in High school: 200 Students took advantage of this computer classes. • Career Counselling in 8 Utthan High Schools. • Plastic Bag Free village workshop in all High schools. • Remedial classes during summer break. • **Day Celebration:** World Book Day, World Environment Day, National Reading Day, International Yoga Day, National Plastic, Bag Free Day, Raksha Bandhan, Independence Day & Celebration of Sports Day. Planned various Capacity Building Program (CBP) & Exposure visit for Utthan Sahayak & Students. • **Achievements:** • Utthan sahayak motivate mothers to open an account of Sukanya Samrudhi Yojana • Utthan supported Taluka levels Kala Utsav in Primary & High Schools. • Utthan Sahayak supported Taluka level Science Fair. •06

<table>
<tr><th>Sr. No.</th><th>Condition</th><th colspan="2">Compliance Status as on 30-09-2023</th></tr>
<tr><td></td><td></td><td></td><td>students selected in District Level Sports School (DLSS).
• Planned various Capacity Building Program (CBP) & Exposure visit for Utthan Sahayak & Students.
• Provided facility for preparing JNV, NMMS & PSE examination. 877 Students preparing Competitive Exam. 354 JNV, 273 PSE & 250 NMMS.
• Empowering Communities through Free and Compulsory Education: Adani Vidya Mandir, Bhadreshwar, was established in June 2012 with the goal to have access of quality and cost free Education with essential amenities like food, uniforms, and books, to Financial Weaker community children of the Mundra Block. The school boasts excellent infrastructure and resources necessary for the holistic development of each student. Children are admitted to the school form Senior Kg to 10th Standard.
• Few notable points:
• We are empowering economically disadvantaged families through free and quality education.
• We are fostering an environment of academic excellence.
• Pioneering Excellence: The First Gujarati Medium School in Gujarat Accredited by NABET
• Over 600 Students Learning Each Year in AVMB
• More than 35% of enrolled students in AVMB come from the Fisherfolk community. Workshop was conducted on Mental Health and behavioral change.
• AVMB got 1st rank in Vaadan, Gayan and drawing in Kala Maha Kumbh competition and selected for Next block level competition.
• AVMB selected for district level Kho-kho Match competition organized by SGFI-School Game Federation of India,
• 2 students selected for District Level Athletic Competition.
• 100% Success: Adani Vidya Mandir Bhadreshwar's Remarkable Achievement in Gujarat Board Standard 10th Examination.
• Training Skill Development: Conducted skill development programs for women in various fields such as tailoring, handicrafts, and food processing These training programs helped women develop their skills and start their own businesses We have trained over 91 women in various skills, and many of them have started their own businesses.
• Total 182 nos. of male & female trained in various skill development programme.</td></tr>
<tr><td></td><td></td><td>Rural Infrastructure & Environmental Sustainability</td><td>Adani foundation designed and build various structure and provide service in the Health, Education, agriculture and sustainable livelihood area.

<u>WORK COMPLETED</u>
Below tabulated Water Conservation Projects completed during Compliance period:
<table>
<tr><th>Sr. No.</th><th>Project</th><th>Unit</th><th>Outcome</th><th>Impact</th></tr>
<tr><td>1</td><td>Check dam Restrengthening-</td><td>1</td><td>Water Storage</td><td>60 + farmer's 120+Acre Area of</td></tr>
</table></td></tr>
</table>

Sr. No.	Condition	Compliance Status as on 30-09-2023

	Nana Kapaya		Capacity increased by 48000 Cum	Agri land can be Irrigated
2	Recharge Borewell	21	Reduce Salinity ingress, and preventing water run	150+ farmer's 260+ Acre Area of Agri land for Irrigated
3	Pipe Culvert at Checkdamat Bhujpur	1	prevent water runoff into seaside.	35 farmer's 120+Acre Area of Agri land can be Irrigated

- Home Biogas: Current year FY 2023-24 upto Sep'23 we process to facilitate 258 Gobardhan unit through Gov.
- 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.

Earlier Completed Activities/Project:

- 40 RRWHS structure have been completed.
- Total 229 nos. Bore-well recharging activity is completedPercolation well Recharging work at Bhadiya & Mota Kandgra village.
- Sluice gate Construction to Control Flood during Flooding at Khoydivadi Vistar Bhujpur.
- Pond Beatification and Bund Strengthening at Bhujpur village.
- Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.
- commissioning of Community Training Centre at Shekhadiya.
- Two Pond Deepening at Zarpara under Amrut Sarovar Yojna.
- Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan.
- Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.
- JCB & Hitachi Machine Support for Pre-Moonson activities. Repairing and Maintenance work of Approach at Luni, Bavdi and Navinal Fishermen Bandar.
- 3 Re-strengthening of Approach Road.

Sr. No.	Condition	Compliance Status as on 30-09-2023	
			• Renovate Blood storage Lab CHC Mundra Renovation Blood storage Lab CHC Mundra. • Constructed 2 nos. of CC Road of 700 mtr. • Constructed Community Training center Shekadiya. • Constructed 2 nos. Disable Widow Toilet Block • Installed R.O. Plant at Mokha with capacity 1000ltr /HR. • Constructed 4 nos. Common gathering Open Shed • Constructed 03 nos. of Water Tank at Luni Bandar. • Developed of Cricket Ground at Hatdi Village **ENVIRONMENT SUSTAINABILITY PROJECTS till Compliance period:** • **Miyawaki Forest Development, Nana Kapaya** - Native species planation In the 2 acre area at Nana Kapaya village creating a flourishing mini-forest with 5,508 trees. • • **Massive Public Plantation Drives:** Barren spaces were transformed into lush green havens through our massive public plantation drives. One notable example is the Bhupur Visri Mata Temple, where 25,000 trees were planted. • **Prakrurath:** This initiative goes beyond just planting trees; it is about fostering a sense of responsibility towards our environment. Through sapling distribution to individuals, we have empowered communities to take ownership of their surroundings, leading to a heightened consciousness about the environment's significance. Till the date Total 1.27 Lac tree plantation have been done that has enriched the local ecosystem and also significantly contributed to carbon sequestration • **Smruti Van** – Plantation more than 47,000 sapling with more than 115 species through Miyawaki methodology. • **Ecosystem Restoration, Guneri** – Grassland ecosystem restoration and mangrove conservation in 40 Ha area over a period of 4 years. The site visit and soil samplings conducted by GES team. Regular bi-monthly meeting conducted to assess the annual phase wise growth of ongoing activities. • **Multi-Species Mangrove Park** - Adani Foundation at Mundra's initiated multi-species plantation of mangroves in Kutch association with GUIDE. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE, • Mangroves Biodiversity Park within one year • **Home biogas** - Under Gram Utthan Project, Adani Foundation is supporting home biogas to farmers to Uthhan Villages phase wise. Total 325 farmers are supported with Biogas as sustainable environment protection.

Sr. No.	Condition	Compliance Status as on 30-09-2023

- As per SORI use of biogas each farmer can save Rs.23400/year.

Water Conservation Projects –
Below tabulated Water Conservation Projects completed during Compliance period:

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
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 Check damat Bhujpur	1	prevent water runoff into seaside.	35 farmers' 120+Acre Area of Agri land can be Irrigated

Earlier Completed Activities/Projects:

- Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams.
- Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers.
- New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum.
- Roof Top Rainwater Harvesting 145 Nos. (40 Nos. current FY 2022-23) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family.
- Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil.
- Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date.
- Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which borewell depth 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.

Sr. No.	Condition	Compliance Status as on 30-09-2023	
		Skill Development	Over the previous few years, Adani Skill Development Center has assessed various aspects of the technical, leadership and soft skills gaps that organizations, in general, face and accordingly focuses on imparting required training in those areas in partnership with various colleges and institutes. **ASDC, Mundra** • **Digital Literacy:** Digital literacy training was provided to seven students at Bhujpur Government High School, and as a part of the DEO project, certificates were distributed. • **RTG Crane operator:** RTG crane operator training is successfully given to 15 candidates. • **Beauty therapist:** The distribution of certificates for beauty therapist training celebrated the successful culmination of the program. • **Mud work:** After the mud work training in Dhrab Village, a certificate distribution ceremony was held, benefiting a total of 30 female participants. • **Advance Excel training:** Eighteen employees from Sumitomo India Ltd. Co. underwent advanced Excel training, significantly boosting their skills. • **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. ASDC and Thermax Foundation Done MoU. **ASDC, Bhuj:** • **Digital Literacy:** ASDC has partnered with Tally as the Knowledge Partner for its Tally - GST course. The first batch, consisting of 16 students from Bhuj location, achieved a remarkable 100% pass rate. • **Real-time exposure:** Twenty-five Nursing Assistant trainees gained valuable real-time experience in Emergency services through interactions with 108 Ambulance services and an industry visit. • We offer on-the-job training to nursing students to build their confidence and prepare them for delivering high-quality patient care. • **Hydrography training:** Provided practical Hydrography training to nine participants. • **Entrepreneurship Development Programme (EDP):** Conducted EDP training in collaboration with CED, Gandhinagar, for a total of 30 trainees. • **Placement:** We successfully hosted a placement drive at our center on April 23rd, where 11 out of 15 candidates secured positions at KK Patel Hospital with an impressive average monthly salary of Rs. 17,000. • **Skill Development and Income Generation –**Adani Foundation is working with 82 Self-help group and supporting to develop entrepreneur skills to become self-reliant, sourcing more than 850 women to absorb in various job –this will give them identity, confidence and right to speak in any decision for home, village and working area.

Sr. No.	Condition	Compliance Status as on 30-09-2023
		Please refer **Annexure – 2** for full details of CSR activities carried out by Adani Foundation in the Mundra region. Budget for CSR Activity for the FY 2023-24 is to the tune of INR 953.50 lakh. Out of which, Approx. INR 374.81 lakh is spent during the FY 2023-24 till Sep'23. Till Sep'23, Adani Foundation has done total expenditure of INR 163.35 Cr. for CSR activities in Kutch region since its inception.
viii	APSEZ will voluntarily return the grazing land, if any, in their possession.	Point noted. All lands are acquired through proper procedure prescribed by State Government. However, APSEZ has agreed for voluntarily giving land back to Zarpara village for the purpose of Gauchar. Land has been identified in the presence and confirmation of Gram Panchayat. Necessary procedure has been initiated by APSEZ vide its letter dated 09th Aug 2012 with concerned revenue authority with respect to surrender of gauchar land at village Zarpara. Same has been taken up by revenue department for necessary procedure of transfer and is under process. Details of the same were submitted along with half yearly compliance report for the period Apr'19 to Sep'19. As per recommendations given in Joint Review Committee visit report dated 1st December 2021, APSEZ has approached M/s. Indian Grassland and Fodder Research Institute (IGFRI), Jhansi to get the consultancy work for enhancing / upscaling the forage production in Gauchar Land at Zarpara in 400 acres. Proposal received from IGFRI was submitted in the last compliance period Apr'22 to Sep'22. The officials of M/s. Indian Grassland and Fodder Research Institute (IGFRI), Jhansi have visited at proposed Gauchar Land development site at Zarpara village dated 8th to 10th May 2023 for site survey work and according guidance & suggestion of IGFRI, APSEZ will start the work for developing the Gauchar Land. IGFRI has provided site visit report with technical recommendation. Final Report with conclusion / recommendations from IGFRI and compliance report of its recommendation are attached as **Annexure – 13 & 14** respectively.

Status of the conditions stipulated in Environment and CRZ Clearance

Sr. No.	Condition	Compliance Status as on 30-09-2023
ix x.	A regional strategic impact assessment report with a special focus on Mundra region will also be prepared. The cost towards these studies will also be borne by PP. In the subject matter of thermal power plant, the proposed regional strategic Impact assessment analysis will take In to account salinity aspect along with Its potential environmental Impact to suggest future corrective actions as well as the guiding tool on extension and addition of the capacities.	Complied This reply covers direction no ix and x. 1. APSEZ vide its letter dtd. 24th Feb 2014 has submitted draft ToR for preparation of CIA report to GCZMA for their approval. 2. GCZMA vide its letter dtd. 19th Dec 2014, has approved ToR for CIA. 3. Based on the ToR finalized by GCZMA (as per the instructions of MoEF&CC) for carrying out regional impact assessment study, APSEZ awarded the work to NABET accredited consultant M/s. Cholamandalam MS Risk Services Ltd. to carry out the studies, vide SO dtd 10th Feb 2016 as stated in these directions. 4. Primary baseline environmental monitoring data collection during March – June 2016 and published secondary data on various environmental attributes. have been considered for the study. 5. The study has been concluded and the final report was submitted to GCZMA and MoEF&CC for their consideration vide our letter dated 30.04.2018. 6. Reminder letter has been submitted to GCZMA for their comments and consideration vide letter dated 4th Jan 2019. Details of above chronology were submitted along with half yearly compliance report for the period Apr'19 to Sep'19. Total cost of the study is approx. INR 1.3 cr. which is financed by APSEZ. The stated study was carried out in following 3 phases. • Baseline data collection and review of the past EIA reports and clearances issued to APSEZ. • Mathematical modelling and other technical studies for identification of potential impacts (for the year 2030) of the approved and existing project activities. • Development of macro level EMP for the phase wise implementation of actionable points. As part of the study, following modelling exercises / technical studies have been carried out to study the impacts on all environmental attributes:

Sr. No.	Condition	Compliance Status as on 30-09-2023
		• Ambient air quality • Marine (Hydrodynamic, Thermal & Salinity dispersion, Sediment transport) • Noise level • Traffic assessment • Oil spill contingency plan • Water resource and salinity ingress • Land Use / Land Cover • Socioeconomic, Regional infrastructure • Waste management • Ecology, Bio diversity and Fisheries • Shoreline change assessment Preparation of these reports require extensive use of modelling software and study of the available information / research reports to assess the impacts on individual attribute of environment. Based on the modelling outcomes and findings of the technical studies, a macro level environment management plan is prepared. Inline to the present stage of the project, APSEZ is already complying, as per Environment Management Plan and further recommendations, applicable to APSEZ as mentioned in the EMP, wrt 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, will be implemented in phase wise manner as per the progress of development within the boundary limits of APSEZ. The final CIA Report was prepared inline to the ToR by Chola MS and the same was submitted to the GCZMA on 30.04.2018. Details of the same were submitted along with half yearly EC Compliance report for the period Apr'18 to Sep'18. Presentation on the findings of the report was made to GCZMA committee on 4th October 2019 and after detailed discussion, authority has decided to constitute committee to discuss the details of the report further. Reminder Letter vide dated 07.09.2020 & 10.03.2021 submitted to the GCZMA, Gandhinagar for further directives

Sr. No.	Condition	Compliance Status as on 30-09-2023
		to present the findings of the CIA report in detail. Details were submitted as a part of half yearly EC compliance report for the period Oct'20 to Mar'21. Presentation done before GCZMA on 31.10.2021 and 16.02.2021 to discuss proposed EMP of CIA study in detail and way forward. GCZMA, Gandhinagar issued a letter to co-ordinate with various departments in the matter of CIA with Gujarat Pollution Control Board as Nodal Agency vide dated 12th July, 2022. APSEZ submitted the letter to GPCB for detailed deliberation and suitable action / way forward vide letter dated 20th July, 2022. The copy of acknowledgement was submitted in the last compliance period Apr'22 to Sep'22. However, APSEZ is already complying with the Environment Management Plan (applicable to APSEZ) suggested in Cumulative Impact Assessment report. The detailed compliance, applicable to APSEZ is attached as **Annexure – 15**.

Annexure – C
Compliance Status of MoEF& CC Recommendation of the proposal No. IA/GJ/NCP/261191/2022 of dated 15th July, 2022

Sr. No.	Condition	Compliance Status as on 31-03-2023

adani Ports and Logistics	Adani Ports and Special Economic Zone Limited, Mundra.	From : Apr'23 To : Sep'23

Status of the conditions stipulated in Environment and CRZ Clearance

Sr. No.	Condition	Compliance Status as on 31-03-2023
1	CRZ area within the project boundary can be used for carrying out permissible activities either by APSEZ or any Industry through specific permission. However, if activities other than those recommended by the GCZMA earlier is proposed, fresh recommendations need to be obtained.	Point noted and agreed. APSEZ or any other industry will obtain requisite permissions from regulatory authorities for utilization of CRZ area falls within the APSEZ boundary for carrying out permissible activities in line with CRZ Notification, 2011. APSEZ has applied for getting CRZ clearance from concerned authority for utilization of CRZ area within SEZ area for development of 253 MLD Desalination Plant out of approved 300 MLD capacities.
2	Individual industries/APSEZ will obtain CRZ clearance a fresh from concerned authorities to carry out permissible activities within CRZ area.	
3	All the recommendations stipulated in the Mangrove Conservation Plan to be implemented in totality.	Complied This reply covers condition no ii, iii, ix, x, xi, xii & xiii in EC compliance report.
4	All other conditions mentioned in the letter No. 10-138/2008-IA.III and dated 15th July 2014 shall remain unchanged	Point noted and agreed.

Annexure – 1

Final Report

Monitoring and Distribution of the Mangroves Along the Creeks in and Around APSEZ, Mundra, Kachchh, Gujarat

Submitted to:

Adani Ports and Special Economic Zone Ltd. (APSEZL), Mundra, Kachchh District, Gujarat

Submitted by: -

Gujarat Institute of Desert Ecology
P.O. Box # 83, Opp. Changleshwar Temple,
Mundra Road, Bhuj,
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November- 2023

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

The Kachchh district of the Gujarat State is located between latitude 23.13°-24.68°N and longitude 68.10°-71.80°E, encompassing an area of 45,612 km2. The coastal stretch of the district constitutes the entire northern coast of Gulf of Kachchh (GoK) which is one of the three major Gulf systems in India and is endowed with high biological diversity along with physical and chemical peculiarities. Kachchh coast constitutes about 25.37% and 5.3% of the coastal stretch of Gujarat and India respectively. In spite of its high aridity (4 in a scale of 1- 4) along with scanty and erratic rainfall with an annual average of 520.9 mm (1988-2017). Kachchh coast has diverse ecological habitats and ecosystems like mangroves, sandy coasts, mudflats, creeks and other tidal incursions which enhance manifold its coastal landscape diversity and its natural resources. Besides, extensive mangrove formations and a vast continental shelf of 1,64,000 km^2 facilitates a rich fishery resource.

Kachchh coast supports the mangrove extent of 798.74 km^2, constituting 68% of state's mangroves (1175 km^2) which is the largest mangrove entity in India's western coast as per Forest Survey of India 2021 (FSI report 2021). Due to the presence of rich natural resources and favourable natural conditions, Kachchh coast has become a zone of intensive industrial development. Since late 1990's, industrial development is being promoted aggressively in view of its very rich mineral deposits, shortest sea route to Gulf countries and easy availability of land which is at premium in other coastal regions of the state. Announcement of tax holidays during the post-earthquake in 2001 by the state government has provided further impetus for coastal industrial development. Many of these developments are beginning to have implications on ecological, social and economic spheres. Kachchh coast faces threats from climate change, pollution and habitat changes which are also important to understand the impacts on the mangroves.

Adani Port is one of the fastest growing and largest private ports in the country and also encompassing a SEZ (Special Economic Zone) area. The port in year 2013-14 has handled >100 million tons of cargo. The port is equipped with road, rail and air connectivity which has attracted few big and many small industries of this area.

On the other hand, the area also harbours a luxuriant mangrove forest which is very close to the Port and SEZ.

1.1. About Adani Ports and Special Economic Zone Ltd. (APSEZL)

The former Gujarat Adani Port Ltd., now named as Adani Ports and Special Economic Zone Ltd. (APSEZL) started its operations in Mundra during the year 1998 with an all-weather, open-sea jetty and port backup at Navinal Island. The Port has since then undergone four expansions, namely a railway line and container terminal in 2000, Single Point Mooring and Pipeline for crude oil terminal in 2004, a Multipurpose wharf Terminal-II in 2007, and a Waterfront development project in 2009 which includes the development of North Port, South Port, East Port & West Port and its associated infrastructure facilities. In addition to these, port-based special economic zone and two thermal power plants exists which form a major industrial cluster of this coast.

1.2. Origin of the Study

The northern Gulf of Kachchh in the western coast of India has extensive formation of mangrove. Ministry of Environment, Forest and Climate Change have accorded Environment and CRZ Clearance (EC) vide Letter No. F.No.10-138/2008-IA.III dt. 15th July, 2014 & 12th February, 2020 to M/s Adani Ports and Special Economic Zone Ltd (APSEZ), to set up a multi-product SEZ at Mundra, Kachchh, Gujarat. The project involves development of SEZ in a notified SEZ area of 8481.2784 ha. Adani Ports and Special Economic Zone Ltd. (APSEZL) covering a total area of 9625 ha, over and above 10,000 ha including port and its back-up area.

While issuing the Environmental Clearance (EC) to the project, the MoEF & CC have stipulated General and Special conditions in their Environment Clearance. Further,

inline to the MoEF&CC final order, vide F.No.10-47/2008-IA.III dated 18th Sept. 2015 which also contained special conditions, two of which (sr. no *iv* and *v* of the order) are as follows:

(iv) A Comprehensive and integrated conservation plan including detailed bathymetry study and protection of creeks/mangrove area including buffer zone, mapping of coordinates, running length, HTL, CRZ boundary will be put in place. The plan will take note of all the conditions of approvals granted to all the project proponents in this area, e.g., the reported case of disappearance of mangroves near Navinal creek. The preservation of the entire area to maintain the fragile ecological condition will be a part of the plan in relation to the creeks, mangrove conservation and conservation of Bocha Island up to Baradi mata and others.

(v) NCSCM will prepare the plan in consultation with NIOT, PP and GCZMA. In recognition of the fact that the existing legal provisions under the E(P) Act 1986 do not provide for any authority to impose ERF by the Government, the plan will be financed by the PP. The implementation will be carried out by GCZMA. The monitoring of the implementation will be carried by NCSCM.

Accordingly, Adani Ports and Special Economic Zone Limited (APSEZ) had requested the National Centre for Sustainable Coastal Management (NCSCM) for preparation of

Comprehensive and Integrated plan for preservation and conservation of mangroves and associated creeks. The components of plan are analysis of mangrove health by comparing the coverage between 2011 and 2016, bathymetry of creeks, socio-economics of villages adjoining creeks of APSEZ. One of the key recommendations is monitoring of coverage of mangrove in the late 2019 and comparing its extent of distribution with the data reported in 2016-17. As per reported in the Conservation plan there has been overall increase in mangrove area by 246 ha in 2016-17 in the creeks in and around APSEZ compared to 2011 indicating existence of near healthy conditions for growth of the mangroves. It was recommended that the trend of mangrove cover needs to be studied in Jan/March

2020 using satellite images of late 2019 and if the trend continues, only monitoring is needed. The Conservation plan was submitted to the Gujarat Coastal Zone Management Authority and in its meeting held in October, 2019, then plan was approved as per their email dt 22nd Sept 2020. The major recommendation relating to mangroves that were specified in the conservation plan are as follows:

2.1. There has been overall increase in mangrove area by 246 ha in 2016-17 in the creeks in and around APSEZ compared to 2011 indicating existence of near healthy conditions for growth of the mangroves. No action is needed at present except at Navinal creek, Bocha island and off Bocha creek. The trend of mangrove cover needs to be studied in Jan/March 2020 using satellite images of late 2019 and if the trend continues, only monitoring needed. The tidal range in the mangroves is also to be observed annually using tide poles to ensure that the flow of tidal water remains same as observed in April 2017 during the field study. If degradation of mangroves to the extent of 10% due to inadequate seawater is observed in Kotdi and Baradimata creeks, initially the mouth areas need to be made free from silt. If tidal flow does not improve after one year and if the extended banks are noticed which might be due to siltation, silt need to be removed on the banks where there are no mangrove roots. If the tidal conditions still do not improve after one year, the interior parts of the creeks need to be dredged in a phased manner from 0.5 m to 1 m. Otherwise, the monitoring of mangrove needs to be carried out once in two years and whenever, degradation is noticed the above strategy needs tobe implemented.

2.2. In the Navinal creek, if degradation of mangroves or reduction of mangrove cover by even 10% is noticed in 2020 due to decrease in tide water flow, dredging of Navinal creek from beyond port operation areas up to 4.5 km to increase the depth by 1 m in a phased manner must be taken up to facilitate increased tidal water flow into the mangrove areas of Bocha island. Otherwise, the monitoring of mangrove needs to be carried out once in two years and whenever, degradation is noticed the above strategy needs to be implemented.

In view of the above, Adani Ports and Special Economic Zone Ltd. (APSEZL) has approached M/s. Gujarat Institute of Desert Ecology (GUIDE) to conduct a detailed study of the mangrove coverage using the satellite images of 2021 and also the changes in the mangrove areas of APSEZ between 2019 and 2021. In order to comply with the above recommendations relating to monitoring of mangrove, the plant distribution in the creeks in and around APSEZL, Mundra, Gujarat with the following objectives were formulated.

1.3. Objectives of the Study

1. To map the current extent of mangrove cover and its changes in comparison to 2021 data, through GIS and RS in the APSEZ area.
2. To assess and monitor the changes in the mangrove cover between 2019 and 2021 by using RS and GIS in the APSEZ area.
3. LISS-IV (MSS) ortho rectified imagery data will be used for the mangrove mapping study.
4. Monitoring of mangrove density in the APSEZ area at Mundra through assessment of the vegetation cover in the area.
5. Formulating an appropriate management plan based on the results for the sustained well being and conservation of mangroves in APSEZ area, Mundra.

2. STUDY AREA

2.1. Location

Kachchh coast constitutes the entire northern shore of the Gulf of Kachchh marked by narrow beaches and wide mudflats. The Mangrove cover of the Mundra taluka is about 19.1 km^2 distributed mostly along the creek systems. The coastal stretch of Mundra is dissected by extensive mudflats and creek systems, many of which harbour good mangrove formations. Major creek systems in the area are Navinal, Bocha, Baradi mata and Kotadi creeks. These creeks again divide into minor creek complexes. Many of these creeks support mangrove stands, especially along the eastern and western side of the waterfront area of APSEZ. Koylavali creek is luxuriantly lined by mangrove patches, predominantly with the species, *Avicennia marina*. The Adani Port and Special Economic Zone Ltd.-APSEZ is located at about 3 km from Bacha mouth towards eastern extension. The present study was focused towards the mangrove stand at Bocha / Navinal creek, Kotdi creek, Baradi Mata creek and Khari creek adjoining to the waterfront area of APSEZ which falls within the conservation zone of APSEZ (Figure 2.1) that earmarked as conservation zone.

Bocha/Navinal and East of Bocha Mangrove Stand

Bocha Island is a finger like projection surrounded by the Bocha creek on the west and Navinal creek on the eastern part. The Adani/MICT container terminal is located right across the Bocha Island at a distance of 100m. The island supports mature and healthy mangrove stands.

Kotadi and Baradi mata

Kotadi and Baradi mata creek systems on the western part of APSEZL area include luxuriant mangrove patches. These two creeks bifurcate further at their tail end into several minor creeks forming a complex water way with many small Islands. Many of these Islands harbour healthy mangrove stands.

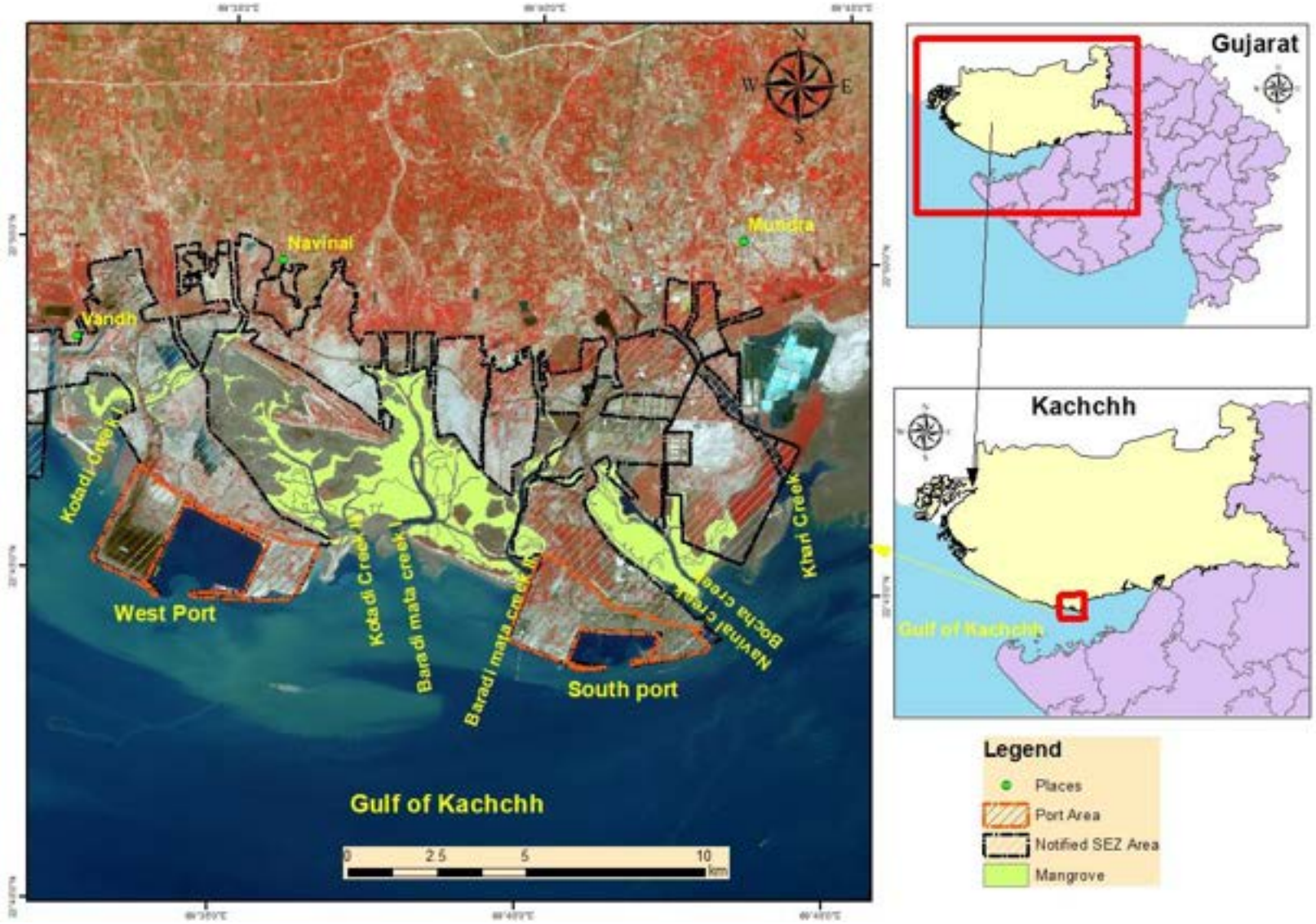

Figure 2.1: Location Map of The Study Area

2.2. Climate

As per the Indian Meteorological Department, Govt. of India, the highest monthly mean of daily maximum temperature of the study area is 36^0C. The dry bulb temperature goes up to 47.8^0C, considering max Humidity of 95%. The wind is predominantly from the south-west as well as from the west to some extent. The wind velocity is 65 km/hr.

Due to its arid nature, annual rainfall in Kachchh is generally poor, ranging from 250-350 mm which is often irregular. However, the mean annual rainfall during 1932 to 2021 was higher at Mundra (407 mm) comparing to other coastal talukas of Kachchh district due to good rainfall during the last 3-4 years. Rain during monsoon is confined to only 12-16 days and occurs as an instant downpour. Freshwater input into the near coastal waters is quite meagre and appears to influence the coastal erosion. Annual temperature fluctuation in the district is extreme, ranging from 7- 47 ^{0}C with a yearly average humidity of 60% which increases to 80% during the southwest monsoon and decreases to 50% during November-December. The phenomenon of drought is common, with 2 drought years in a cycle of 5 years (Thivakaran *et al.*, 2015).

2.2.1. Tidal Regime

Tides at Mundra are the mixed type, predominantly semi-diurnal type with a Mean High-Water Spring (MHWS) of 6.66 m and Mean High water Neap (MHWN) of 5.17 m. The phase difference is not uniform for successive tides in the Gulf and it varies as per tidal conditions ((ICMAM, 2004).

2.2.2. Currents

The currents in the Gulf and associated creeks are largely tide induced and oscillations are mostly bimodal reversing in direction with the change in the tidal phase. The influence of wind on variations in current is minor. The current reversals are quite sharp occurring within 30 - 60 min. The maximum current

speed varied from 0.5 to 1.2 m/s. The predominant direction of the current is 45^0 during flood and 220^0 during ebb.

The circulation is generally elliptical with the major axis in the east-west direction. These trajectories suggest that the excursion lengths are in the range of 10 to 15 km depending on the tidal phase (neap or spring)(NIO, 2009).

2.2.3. Salinity

Salinity is an indicator of freshwater intrusion in nearshore coastal waters as well as the excursion of salinity in inland water bodies such as estuaries, creeks, and bays. Normally seawater salinity is 35.5 ppt but may vary depending on evaporation, precipitation, and freshwater addition. Salinity largely influences several processes such as dissolution, dispersion, dilution, etc. in seawater due to high dissolved salt content and hence high density. In the absence or minimum of freshwater inflow, the salinity varies from 35.9 to 38.0 ppt.

Due to its arid nature, annual rainfall in Kachchh is generally poor, ranging from 250-350 mm which is often irregular. However, mean rainfall (1932 to 2001) was higher at Mundra (407 mm) due to very good rainfall during the last 3-4 years. Except very good rainfall years, freshwater input into the near coastal waters is quite low and appears to influence coastal flora like mangroves explaining poor floral diversity. Annual temperature fluctuation in the district is extreme, ranging from 7- 47^oC with a yearly average humidity of 60% which increases to 80% during south-west monsoon and decreases to 50% during November-December. The phenomenon of drought is common, with 2 drought years in a cycle of 5 years.

3. METHODOLOGY AND DATA USED

Basic approach for the present exercise was identification of the threats and pressures on the mangrove ecosystem.

3.1. Methodology

Satellite imageries were procured from National Remote Sensing Centre (NRSC) who are the only authorized distributor of satellite images in India, for availability of high-resolution satellite imagery especially multi-spectral images similar to the images used to study the mangrove distribution. The present report on mangrove distribution is based on LISS IV satellite images of March 2019 and March 2021, as cloud free images. The details of the satellite imagery used for the present study are given below (Table 3.1). The methodology adopted to map the distribution of mangroves is by NDVI method using ERDAS Software by using satellite images which delineate vegetation and non -vegetation data. Further, based on the Ground truthing, colour and tone of satellite data of the mangrove and other vegetation are delineated by using manually digitizing on the computer screen. Further, it has limitations as it is not a direct digital data and the mangroves details are obtained from satellite images by directly digitizing from the computer screen.

The categories of mangrove cover as dense, sparse and scattered area evaloved based on the percentage of mangrove cover in the study area. The percentages used for different classes are dense mangrove (40-70% cover), sparse mangrove (10-40% cover) and scattered mangrove (< 10% cover) (Kathiresan, K. (2022). There could be a possible error of less than 10 % in mangrove categorization (as dense, sparse and scatter) and also extent of total coverage in terms of hectare.

3.2. Data Used

The Multi-date satellite LISS-IV imageries, were procured from NRSC, Hyderabad, was used for the analysis of the present study.

Table 3.1: Satellite Data for Mangrove mapping procured from NRSC

Satellite	Date	Sensor	Resolution (m)
IRS-R2	23 March 2019	LISS -IV	5.8
IRS-R2A	19 March 2021	LISS -IV	5.8

3.2.1. Pre-processing

Pre-processing of satellite data includes correction of geometric, atmospheric, and radiometric aspects and clipping of the area to obtain the exact imagery of the project sites. The rectification operation aims to correct distorted images to create a more correct representation of the original scene. It typically involves the initial processing of raw image data to correct geometric distortions.

Radiometric Correction: The Radiometric correction addresses variations in the pixel intensities (DNs) that have not been caused by the object or scene scanned. These variations include differing sensitivities or malfunctioning of the detectors, topographic effects and atmospheric effects.

Geometric Correction: The Geometric correction addresses errors in the relative positions of pixels. These errors are induced by the sensor viewing the geometry or terrain variations. A geometric correction was done based on Ground Control Points (GCPs) and the image was re-sampled using the nearest neighbourhood interpolation method.

3.3. Zonation

Zoning of the Study Area: Considering the extent of the area, the whole Mundra mangrove formation was divided into smaller zones in order to facilitate better evaluation and understanding of the ecosystem. Moreover, this kind of zoning helps to analyse the root cause of the issues, enabling better understanding of the ecosystem level problems. Accordingly, Mundra coast was divided into four zones as indicated below for the purpose of this study;

Zone 1: Bocha-Navinal creek Zone (The Island proper and areas in and around Adani house and between Bocha and Navinal creek)

Zone 2: Baradi mata creek zone (Creek's west of south port to surrounding to Baradi mata temple)

Zone 3: Kotadi creek Zone (Creeks surrounding to West Port)

Zone 4: Khari creek Zone (Area both the side of Khari creek)

Representative study points covering all the zones were studied on ground and documented for status, Figure 3.1 shows the earmarked zones in the study area.

Figure 3.1: Study Area in Four Different Zone

3.4. Mangrove Vegetation

The survey area of APSEZ was divided in the three zones for the survey. During the survey of the mangroves in these three areas, the density and diversity of mangroves in prefixed sites was carried out. The selected sites were located in the intertidal belts and the adjacent estuarine environment of APSEZ area. The major part of assessment was done during low tide of the project sites. The density of the

tree class along with the regeneration and recruitment classes were recorded from the study area. In general, plants or seedlings with a height <50 cm were considered as regeneration class and those are in between 50 cm to 100 cm as recruitment class. For regeneration class, 1 m × 1 m and for recruitment class plants, 2 m x 2 m quadrates were used randomly for the measurement. For mature plants, 10 m x 10 m quadrate was used at the selected sites. The mature plants with height more than 100 cm and girth more than 7 cm were considered as trees. The equipments utilized in this study were user-friendly and easy to carry such as ranging rods, pipes, measuring tape, rope, etc.

Figure 3.2: Mangrove Data Collection During Field Visits

3.5. Field Work

Field investigation is a vital part of the project. Fieldwork helps to check and collect most of the ground information required for mangrove mapping. The reconnaissance field survey had been undertaken to get acquainted with the general patterns of vegetation of the area. The variation and tonal patterns had observed on existing images. Traverses along all dense mangrove, sparse mangrove, scatter mangrove and major creeks have been noticed and were considered for collecting ground truth data between maps/images and on the ground. The fieldwork was conducted during the period between 03rd to 07th July 2023; 11th to 16th September 2023 and 16th to 20th October 2023 for collecting ground truthing data to cover the entire APSEZ area.

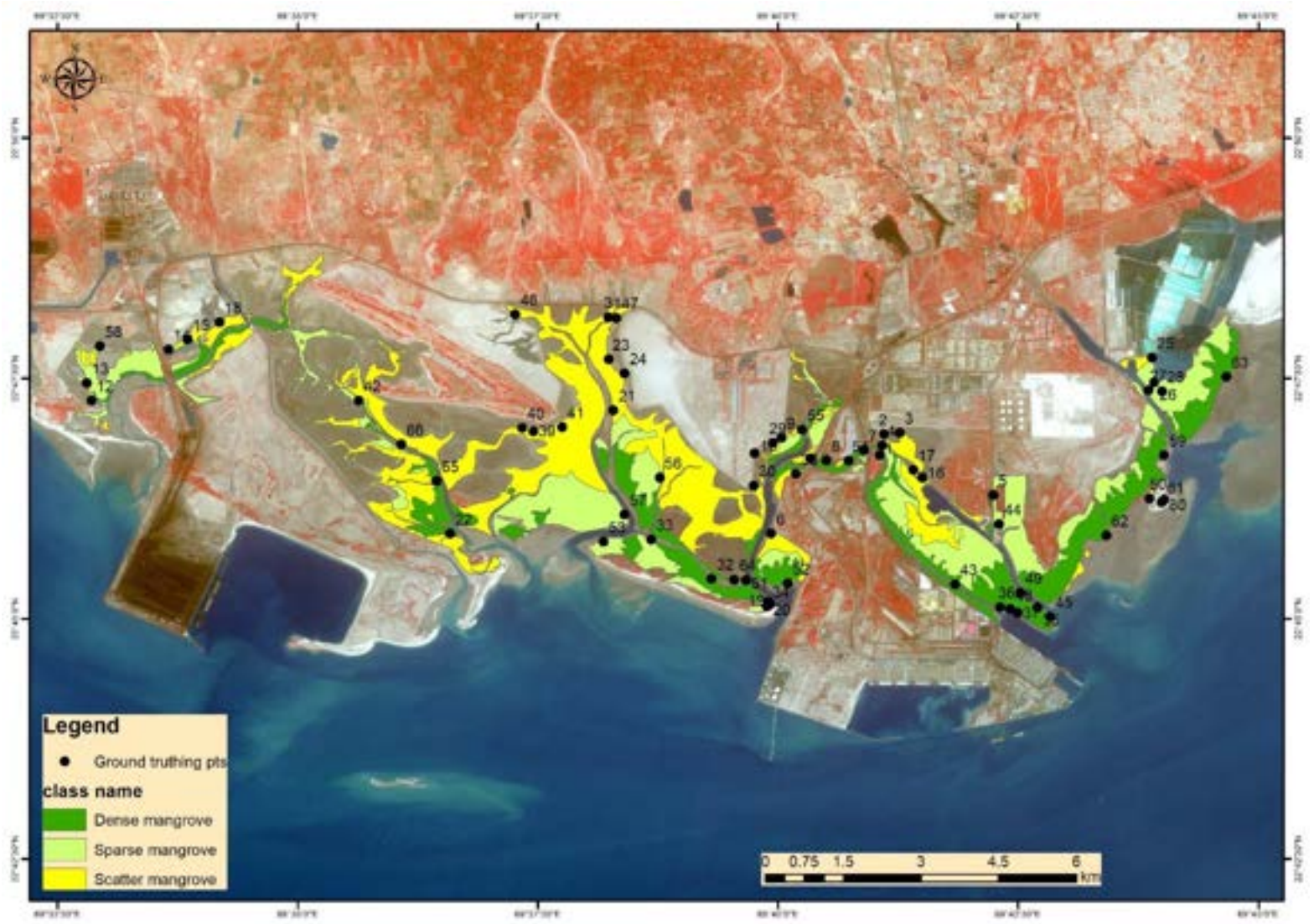

Figure 3.3: Ground Truthing Data and Mangrove Data Collection Points

Kotadi Creek Block	
Dense Mangrove	
	
Sparse Mangrove	
	
Scattered Mangrove	
	

Baradi mata Creek Block	
Dense Mangrove	
	
Sparse Mangrove	
	
Scattered Mangrove	
	

Bocha-Navinal Creek Block	
Dense Mangrove	
	
Sparse Mangrove	
	
Scattered Mangrove	
	

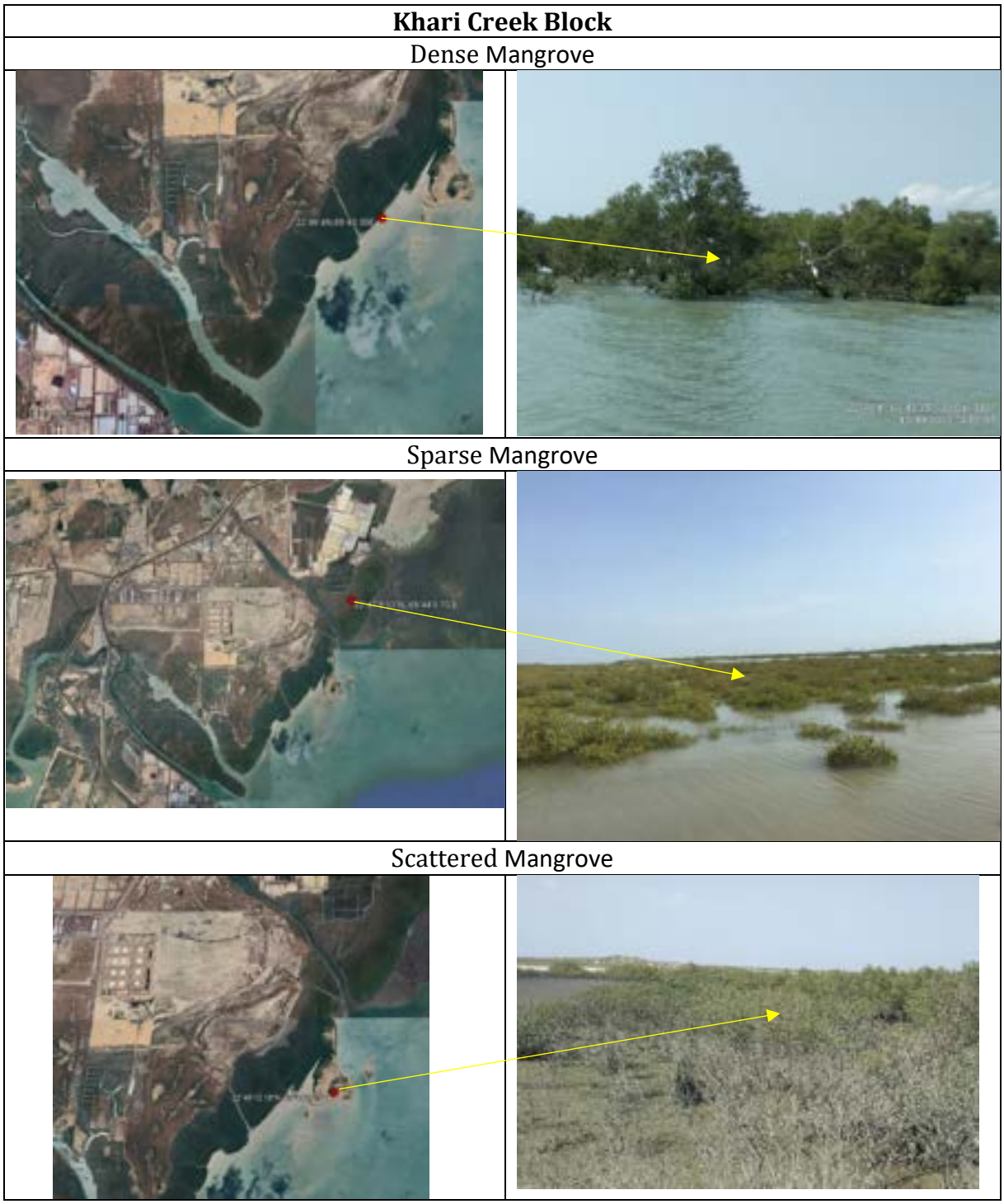

Figure 3.4: Surveyed and Collected Ground Truthing Data Various Categories of Mangroves

4. RESULTS AND ANALYSIS

The Kotadi, Baradi mata, Navinal, Bocha-Navinal and Khari creeks experience high tidal ranges up to 6m and with average tidal range of 2 to 4.5m which varies annually. The creeks have mangrove formation due to muddy substratum and the mangroves are tide fed and tidal flow into the mangroves occurs only during high tide. This makes the mangroves as intertidal one and any change of tidal conditions in the creeks affect the growth and distribution of mangroves. 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 (2019 March and 2021 March).

4.1. Overall APSEZ Mangrove Assessment

Mangrove areas are known to vary over time and may be mixed with associate vegetation. However, by analysing the colour and tone of multi-spectral high-resolution LISS IV (5.8 m spatial resolution) satellite data and extensive ground truthing survey data in each block of the study area, mangrove coverage could be more accurately estimated. 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 2670.08 ha which has increased to 2722.87 ha during the year 2021 (Table 4.1). This indicates that the mangrove and the tidal system in the creeks were not adversely affected by any anthropogenic or natural disturbances during this period. The analysis of the data revealed that the dense mangrove category has increased by 3.01 ha (0.11%) due to sparse mangrove converted to dense mangrove, while sparse mangrove category has increased by 45.90 ha (1.7%) which is mainly due to the conversion of scattered mangroves into sparse mangroves. The scattered mangrove category has also showed an increase by 3.88 ha (0.14%), which is suggesting the recruitments and regeneration of mangroves in the area. The changes in the mangrove cover are summarized in Table 4.1and Figure 4.3.

Table 4.1: Distribution of Various Categories of Mangroves in APSEZ During 2019 and 2021

Class	Area (ha)		
	2019	2021	Change
Dense Mangrove	706.02	709.03	3.01
Sparse Mangrove	927.31	973.22	45.90
Scattered Mangrove	1036.74	1040.62	3.88
Total	2670.08	2722.87	52.79

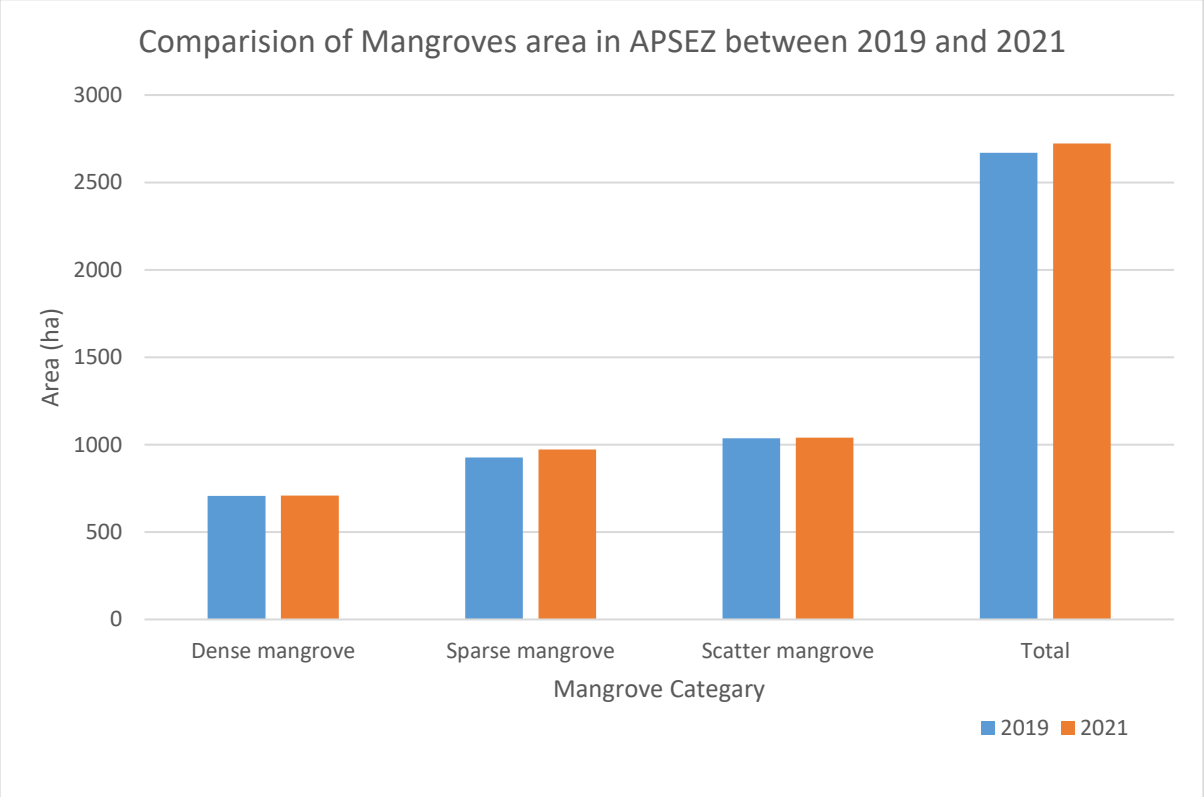

Figure 4.1: Comparison of Various Categories of Mangroves in APSEZ Between 2019 and 2021

Figure 4.2: Distribution of Various Categories of Mangroves in March 2019

Figure 4.3: Distribution of Various Categories of Mangroves in March 2021

4.2. Creek Wise Assessment

4.2.1. Kotadi Creek Area

The study site Kotadi creek, which has two mouths: Kotadi-I on the western end of west port of Adani and Kotadi-II located east of Kotdi-I. The tidal flow reaches up to 4.5 km in Kotadi-I and up to 7.4 km in Kotadi-II during high tide periods. The mangrove cover at these sites were compared for the period, during March 2019 and March 2021 using satellite images and field surveys. There are three categories: dense, sparse, and scattered mangroves and it was found that the total mangrove area increased by 21.43 ha (4.1%) from 2019 to 2021 (Table 4.2). The dense category increased by 0.3% (1.78 ha), while the sparse category increased by 39.71 ha and the area of scattered category decreased by 20 ha (Figure 4.4 to Figure 4.7) from the 2019 imagery. These results indicate that the mangroves in Kotadi creek are healthy and benefited from the regular tidal flow. The decrease in the area of the of scattered category and increase of sparse are due to natural transitions in mangrove growth stages, from scattered to sparse category.

Table 4.2: Distribution of Various Categories of Mangroves in Kotadi Creek Zone During 2019 and 2021

Class Name	Area(ha)		
	2019	2021	Change
Dense Mangrove	98.12	99.89	1.78
Sparse Mangrove	166.21	205.92	39.71
Scattered Mangrove	255.01	234.96	-20.05
Total	519.34	540.77	21.43

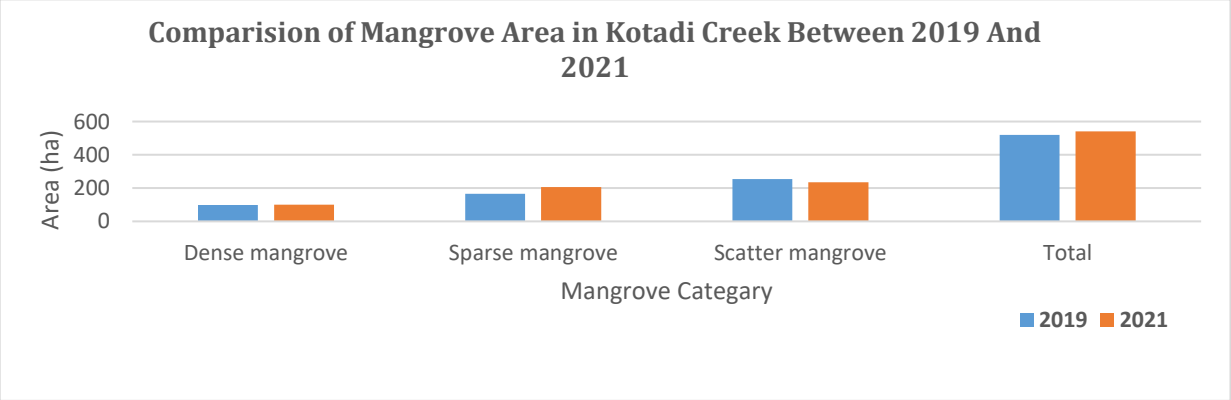

Figure 4.4: Comparison of Various Categories of Mangroves in Kotadi Creek Zone Between 2019 and 2021

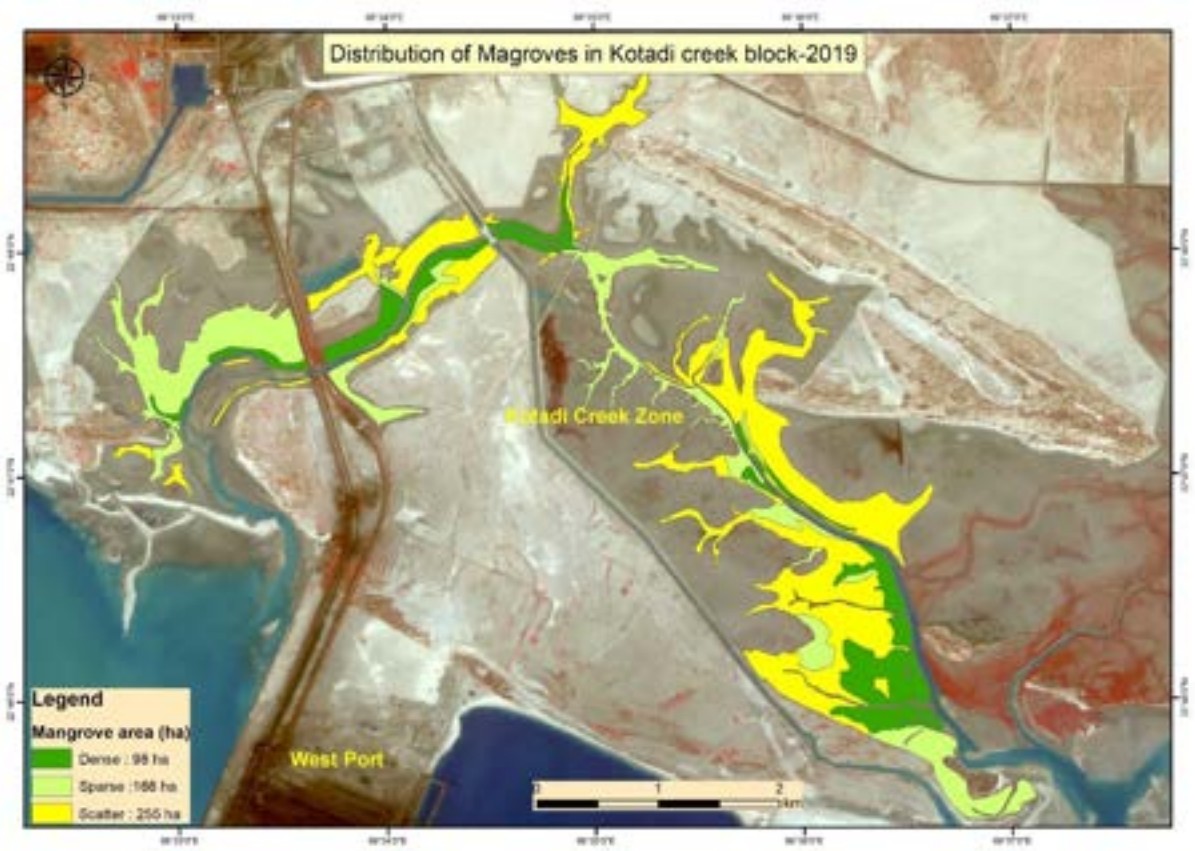

Figure 4.5: Distribution of Mangroves in 2019 in Kotdi Creek Zone System.

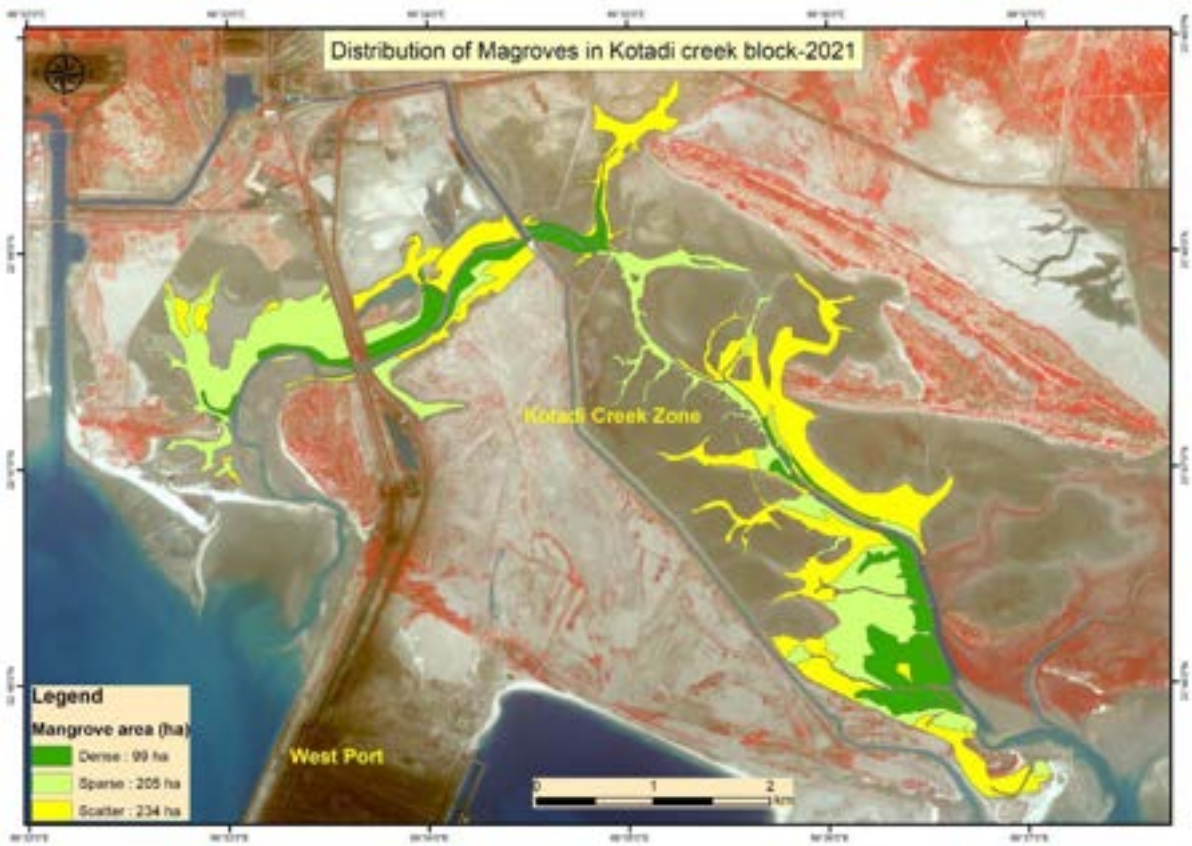

Figure 4.6: Distribution of Mangroves in 2021 in Kotdi Creek Zone System.

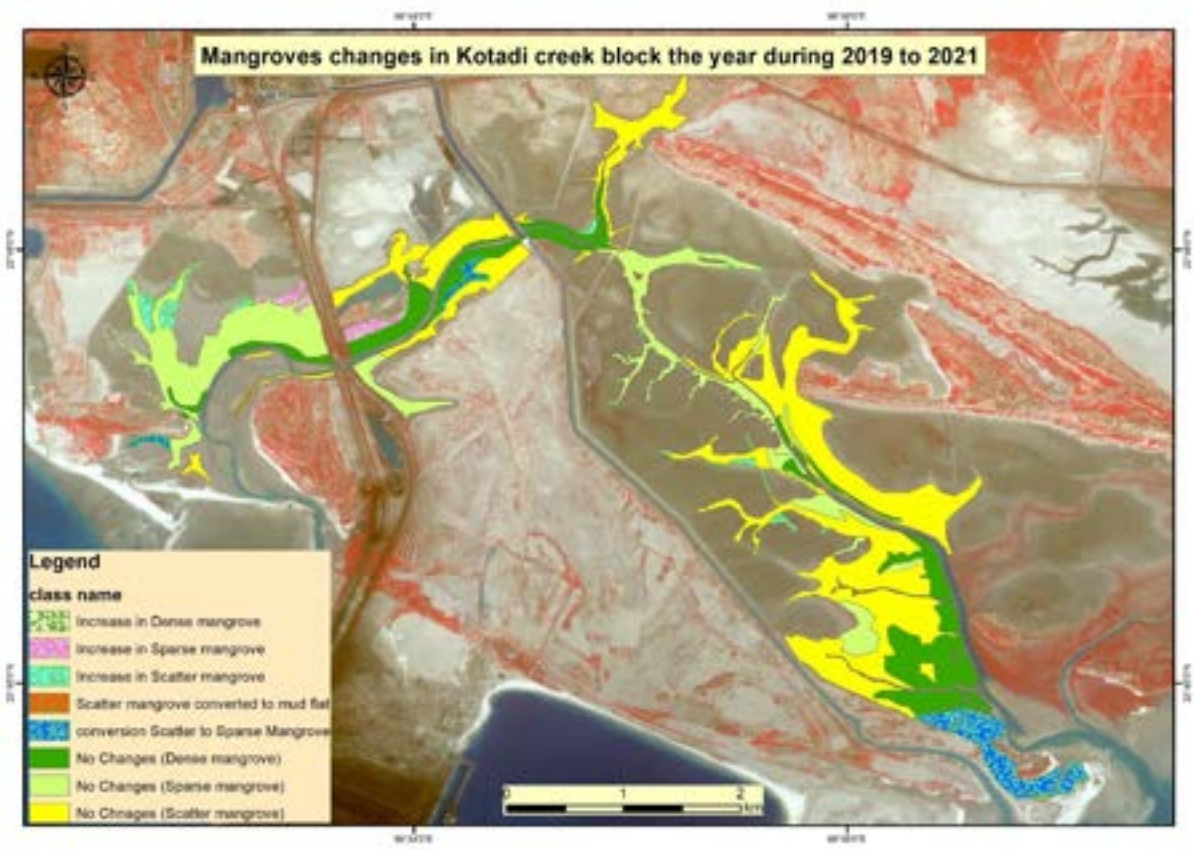

Figure 4.7: Change Analysis from 2019 to 2021 on Categories of Mangroves in Kotadi Creek System

4.2.2. Baradi mata Creek area

This creek remains uninfluenced by human interventions except for navigation by the fishing community from the nearby villages. The status (growth cover) of the mangroves was assessed between 2019 and 2021 and the results are shown in (Table 4.3 and to Figure 4.11). The comparative study of the images revealed the overall improvement in mangrove coverage to the extent of 15.91 ha (1.2% increase) mostly with formation of new mangroves in the form of scattered mangroves with minor inter-conversion in categories of sparse to dense, The data on mangrove distribution has showed an increase from 2019 to 2021 especially improvement to higher categories (i.e., from scattered to sparse and further to dense) and also the formation of new mangroves was also significant. These results lead to infer that the mangroves in the creek are in a healthy condition with normal regular tidal flow.

Table 4.3: Distribution of Various Categories of Mangroves in Baradi Mata Zone Creek During 2019 and 2021

Class Name	Area (Ha)		
	2019	2021	Change
Dense Mangrove	245.22	245.94	0.72
Sparse Mangrove	344.83	345.92	1.09
Scatter Mangrove	683.76	697.86	14.10
Total	1273.81	1289.72	15.91

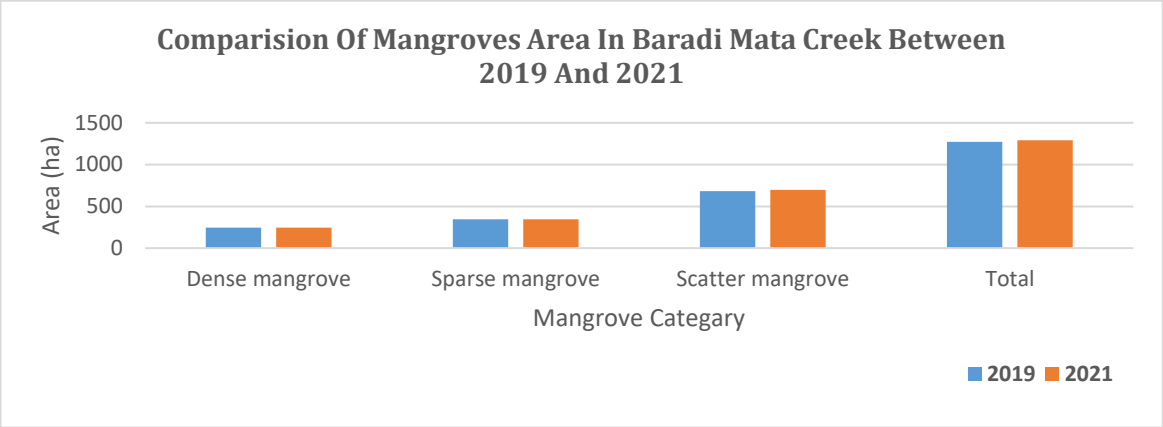

Figure 4.8: Comparison of Various Categories of Mangroves in Baradi Mata Creek Zone Between 2019 and 2021

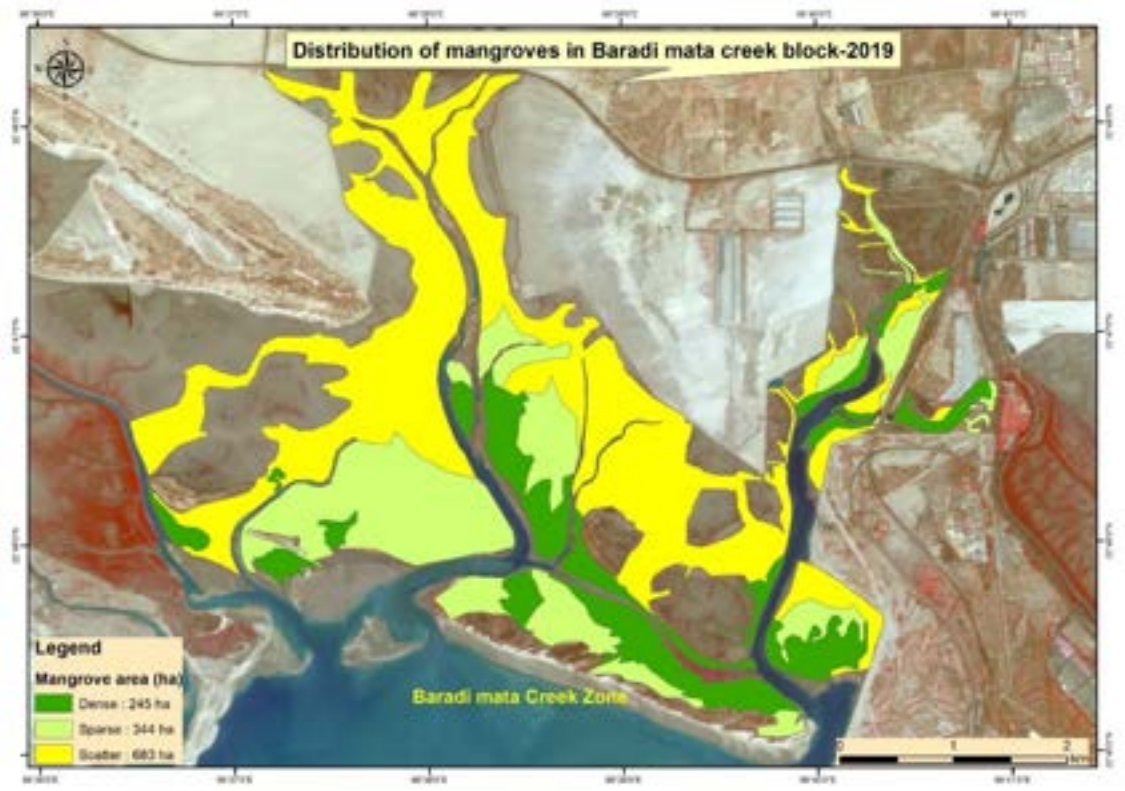

Figure 4.9: Distribution of Mangroves at Baradi Mata Creek Zone in 2019

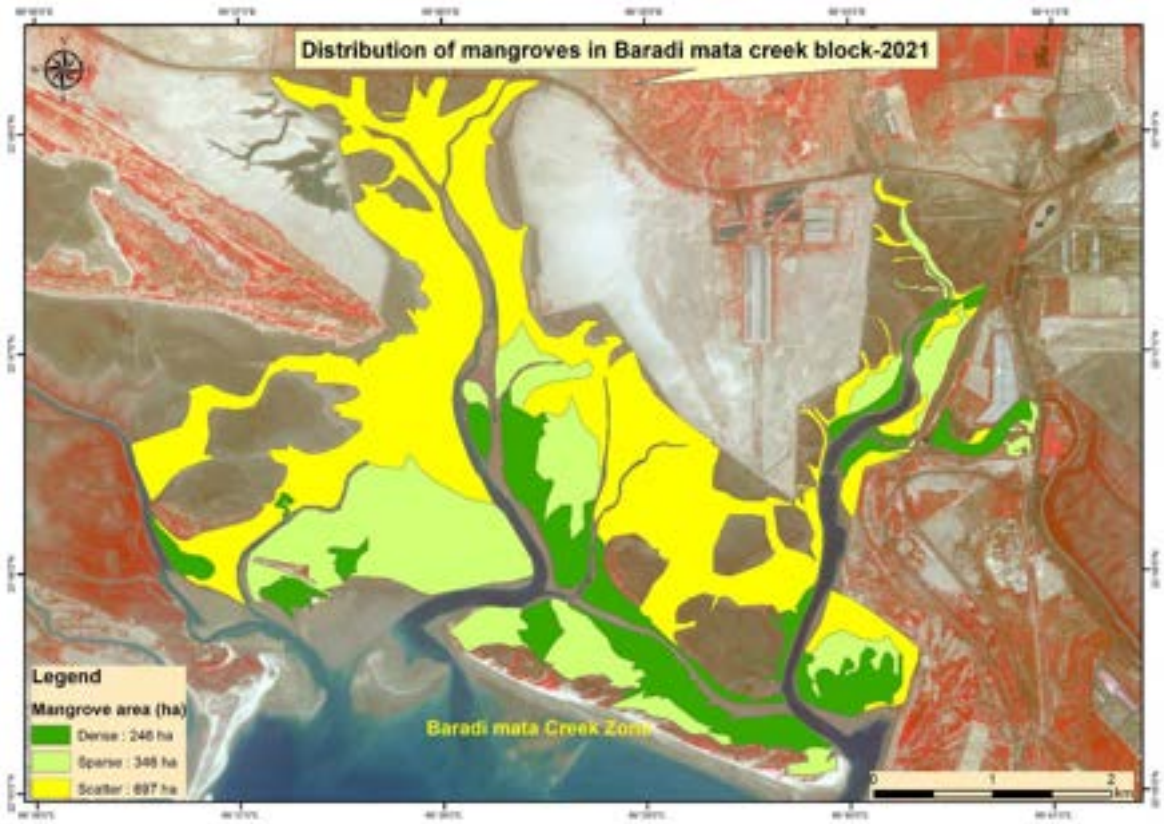

Figure 4.10: Distribution of Mangroves at Baradi mata Creek Zone in 2021

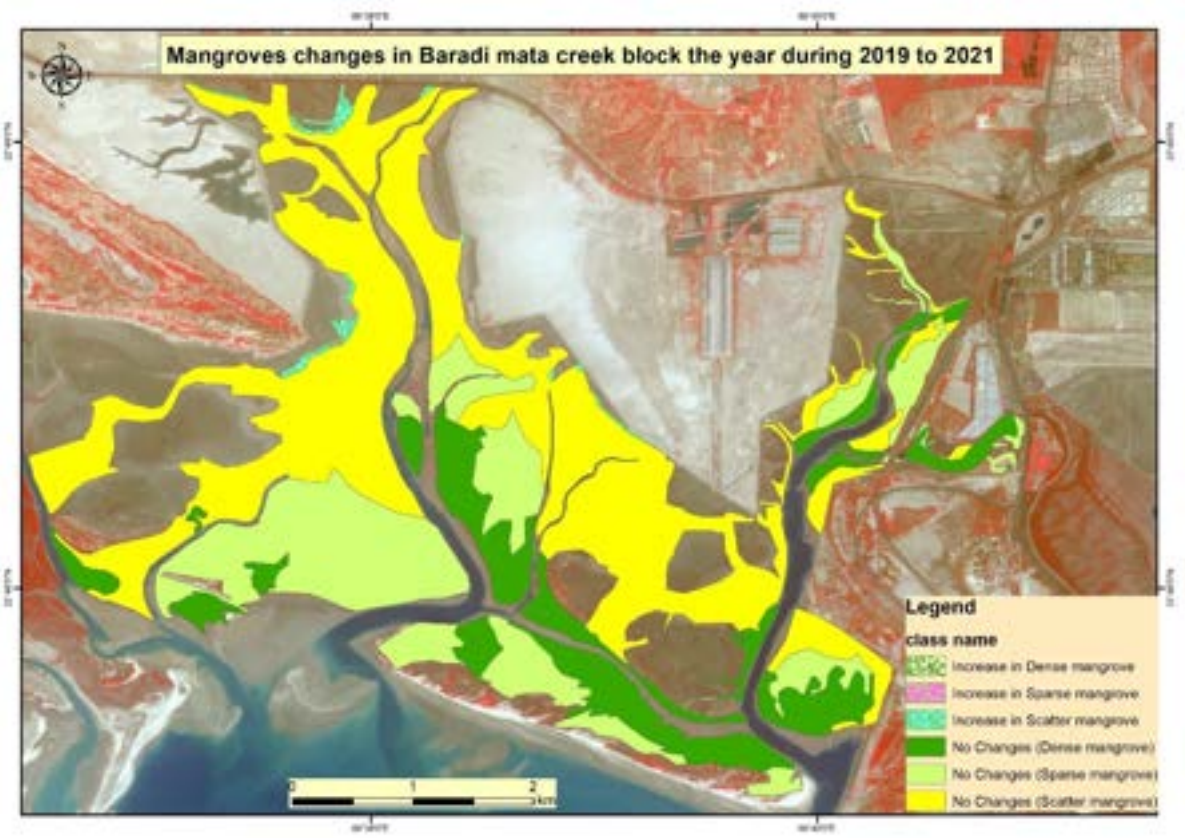

Figure 4.11: Change Analysis From 2019 To 2021 On Categories of Mangroves in Baradi Mata Creek System

4.2.3. Bocha-Navinal Creek Area

The study area comprises two creeks, Navinal creek, Bocha creek, and bocha island, thus form a complex of creek system. The Navinal creek is adjacent to Adani Port and joins the Bocha creek in the north, forming Bocha island that has dense mangroves. The mouth of Navinal creek is also known as the entrance to the Port and receives good tidal inflow. The Navinal creek narrows down as it flows northward and eastward to merge with Bocha creek (Figure 2.1). The banks of all the two creeks have fair to good mangrove growth, with dense mangroves particularly along the border of the Bocha island and the nearby minor creeks (Figure 4.12 to Figure 4.15). For the comparative study, the satellite images and field survey results on the mangrove cover for the period March 2019 and March 2021 were considered. The three classes of the mangrove types: dense, sparse, and scattered were observed. The total mangrove area has increased by 7.74 ha (1.3%) from 2019 to 2021 data (Table 4.4). These results suggest that the mangroves in

Bocha -Navinal, creek and Bocha island system are healthy and influenced by the normal regular tidal flow.

Table 4.4: Distribution of Various Categories of Mangroves in Bocha- Navinal Creek Zone During 2019 and 2021

Class Name	Area (ha)		
	2019	2021	Changes
Dense Mangrove	207.42	206.30	-1.13
Sparse Mangrove	269.44	271.43	1.98
Scatter Mangrove	89.17	96.06	6.89
Total	566.04	573.78	7.74

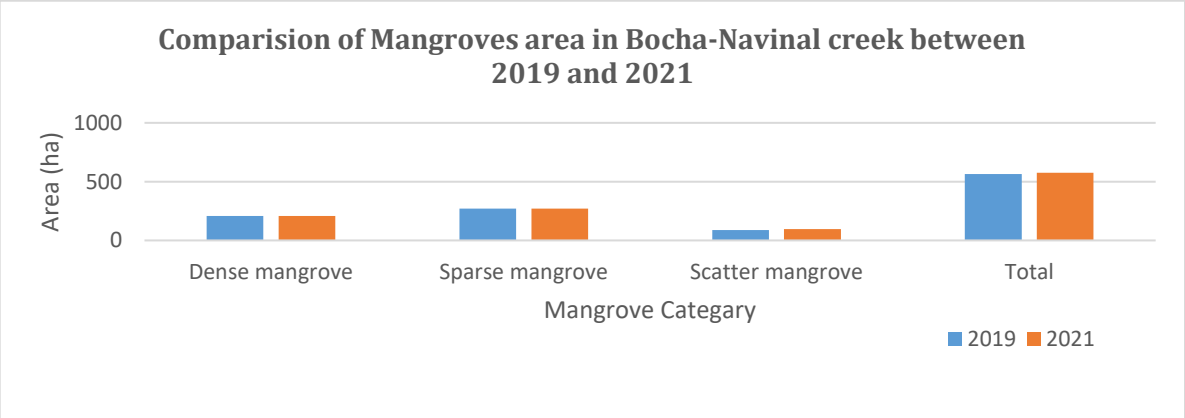

Figure 4.12: Comparison of Various Categories of Mangroves in Bocha-Navinal Creek Zone Between 2019 and 2021

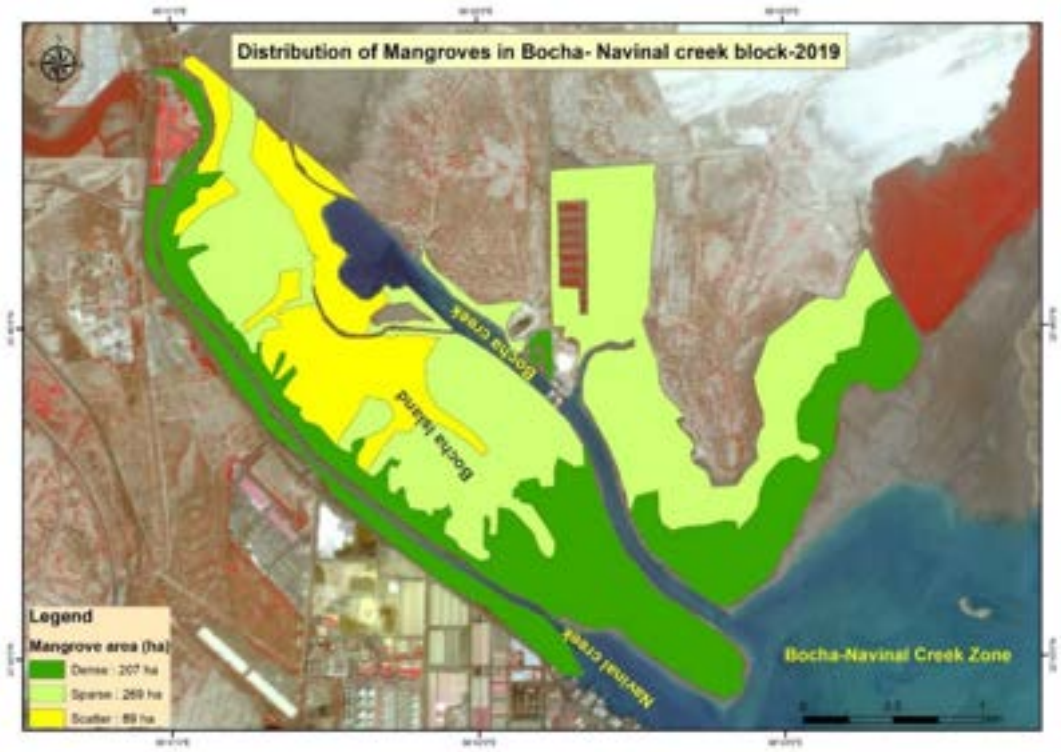

Figure 4.13: Distribution of Various Categories of Mangroves in Bocha- Navinal Creek Zone System for The Year 2019

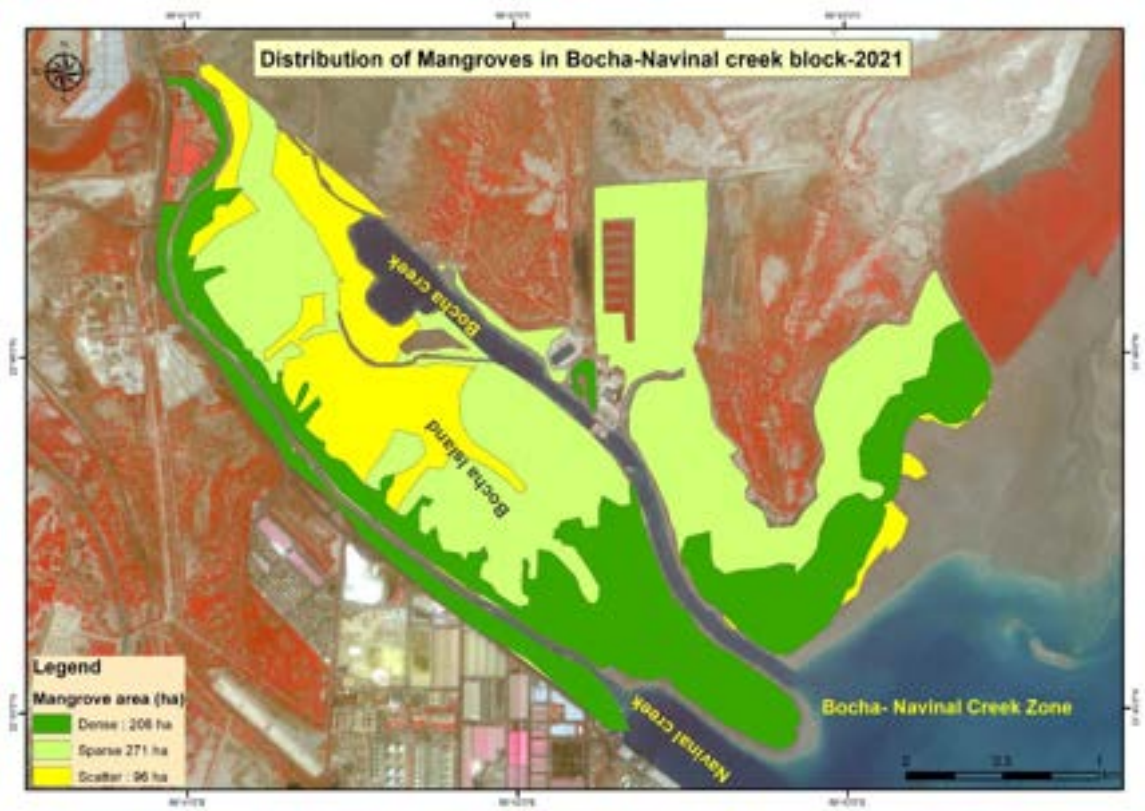

Figure 4.14: Distribution of Various Categories of Mangroves in Bocha - Navinal Creek Zone System for The Year 2021

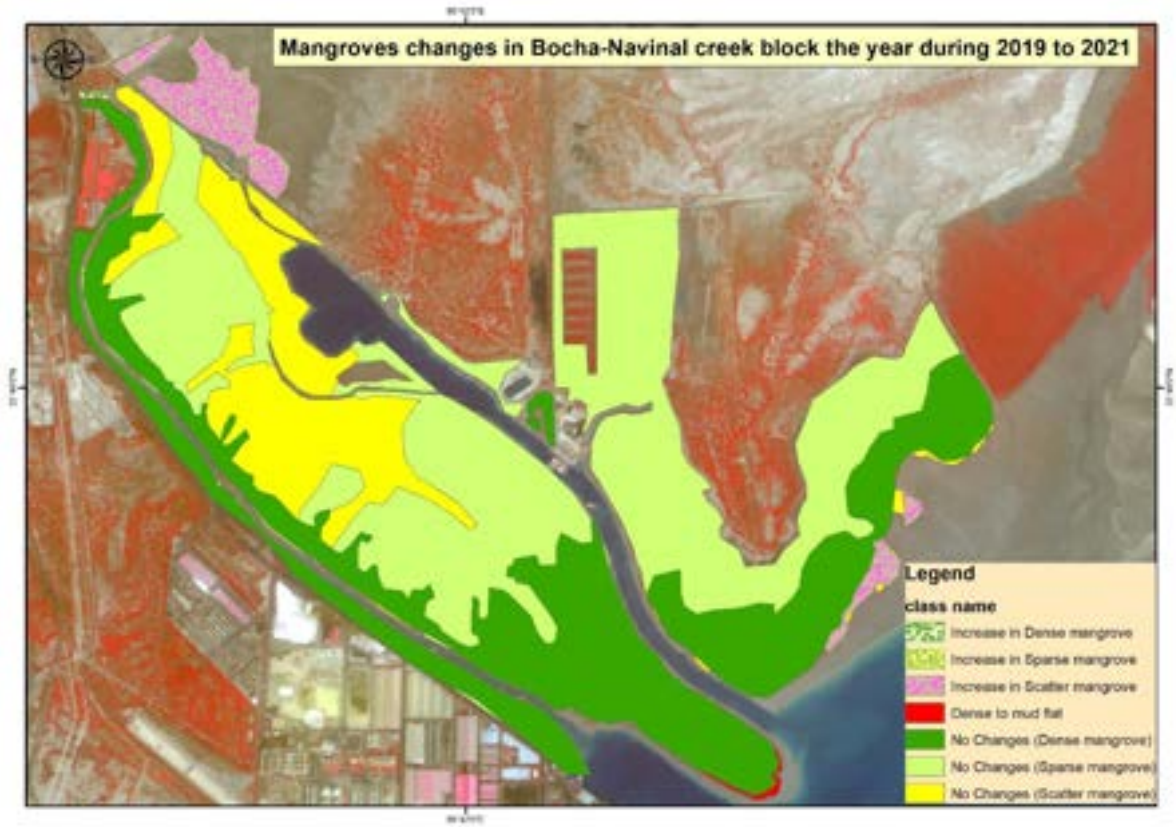

Figure 4.15: Change Analysis From 2019 To 2021 On Categories of Mangroves in Bocha- Navinal Creek System

4.2.4. Khari Creek

The creek experiences normal tidal flow with settlements located in the northern part of the creek (Junabunder village). Study is to assess the changes in mangrove distribution and density in Khari creek (Junabunder) between March 2019 and March 2021, using satellite imagery and field surveys and the data is given in Table 4.5 and Figure 4.16. and categories of mangroves are indicated in Figure 4.17 to Figure 4.19. The data indicates that there is a marginal increase of mangroves to the extent of 7.71 ha which is 2.47% compared to 2019 level. Dense mangrove is marginally increased mostly due to conversion of sparse mangrove to dense mangrove. Sparse mangrove has been increasing due to transformation of scatter to sparse category. The minor increase in scatter category is due to regeneration and recruitment class. Overall, mangrove is healthy in this block due to the favourable tidal regime and the low human pressure in the creek. the mangrove density has increased mainly due to the conversion of sparse and scatter mangroves to dense mangroves, indicating an improvement in mangrove quality.

Table 4.5: Distribution of Various Categories of Mangroves in Khari Creek Zone During 2019 and 2021

Class Name	Area (ha)		
	2019	2021	Changes
Dense Mangrove	155.26	156.90	1.64
Sparse Mangrove	146.84	149.95	3.11
Scatter Mangrove	8.80	11.75	2.95
Total	310.90	318.60	7.71

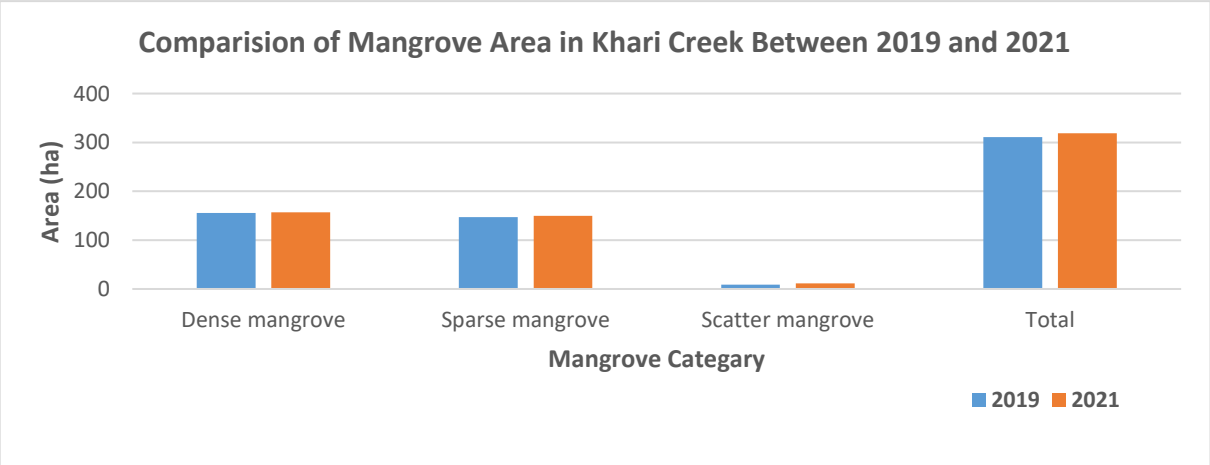

Figure 4.16 : Comparison of Various Categories of Mangroves in Khari Creek Zone Between 2019 and 2021

Figure 4.17 : Distribution of Various Categories of Mangroves in Khari Creek Zone System for The Year 2019

Figure 4.18: Distribution of Various Categories of Mangroves in Khari Creek Zone System for The Year 2021

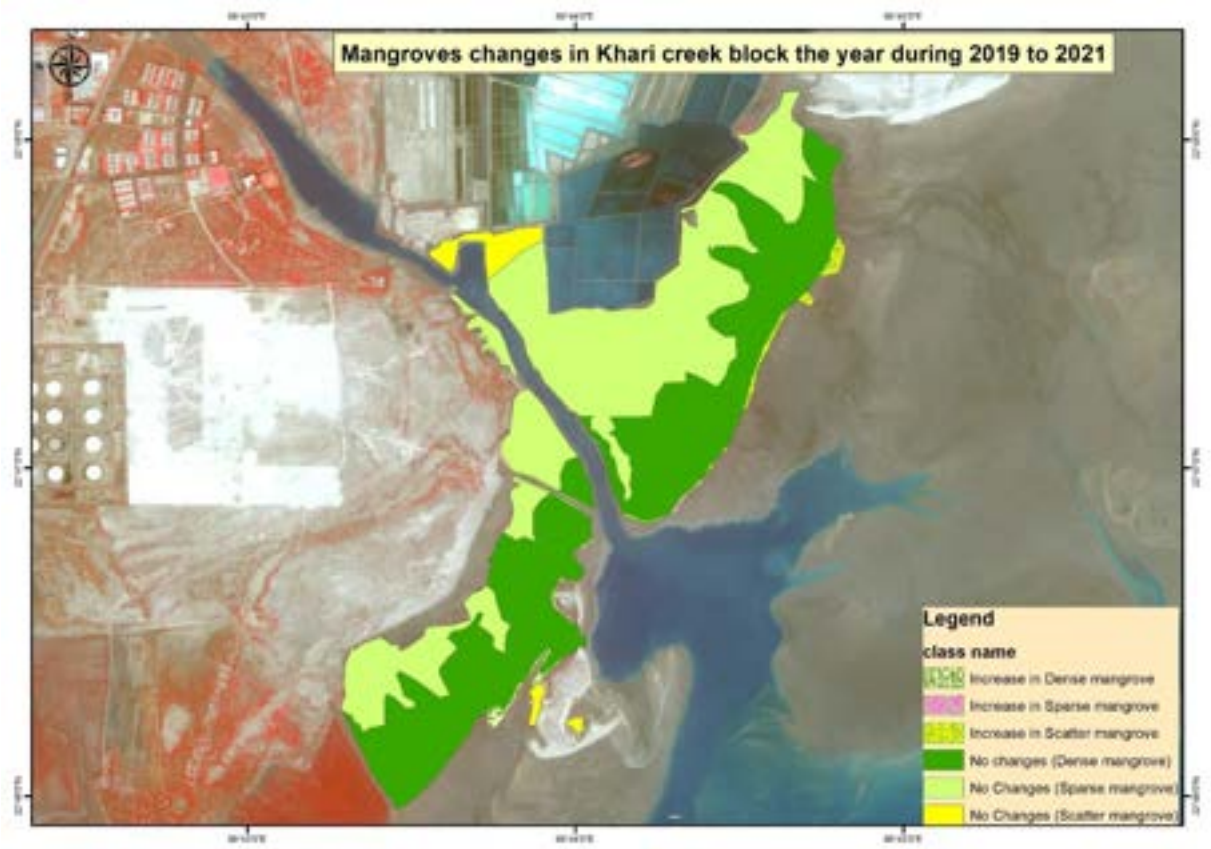

Figure 4.19: Change Analysis From 2019 To 2021 On Categories of Mangroves in Khari Creek System

4.3. Mangrove Vegetation

In India, the state of Gujarat encompasses the longest coastline (1650 km) and largest coastal area (28,000 km^2), which supports the second largest mangrove cover of the country, which is almost 23 % of the Indian mangrove cover (Devi and Pathak, 2016). Gujarat mangrove cover is divided in three parts, Kachchh and Gulf of Kachchh (GOK), Saurashtra, and Gulf of Khambhat and South Gujarat.

4.3.1. : Diversity

In Gujarat a total of 15 species of mangrove have been recognized as true mangroves (Ragavan *et al*., 2016), but this diversity is very less compared to the other Indian states. The diversity of mangroves in Gujarat is concentrated mainly in the Gulf of Khambhat and South Gujarat regions. The availability of freshwater inflow into this area resulted in the highest floristic diversity of mangroves than the other parts of the state. In general, the Gujarat mangrove cover is fully dominated by single mangrove species (Mono-floral) which is *Avicennia marina*

specifically along the coastal belt of the the Gulf of Kachchh. The extreme tolerance to low rainfall, higher salinity, evapo-transpiration and temperature, etc. of this species made it successful in the Gujarat coasts. A few true mangroves species can be found in the Gulf of Kachchh sporadically. The distribution of the other halophytes such as *Suaeda, Salvadora, Salicornia,* etc. and mangrove associate plants was also recorded. At the survey sites, two more true mangrove species which are *Rhizophora mucronata* and *Cerops tagal* plants were also found however, they are very less in number and present in small patches.

4.3.2. : Density

The overall average mature tree density (>100 cm) recorded was 1471 trees/ha (Ranging from 1120 to 1944 trees/ha) in the entire study area of APSEZ. The area wise density recorded was higher in Khari creek area (1944 trees/ ha) followed by Baradi mata area (1565 trees/ ha) and Bocha/Navinal creeks (1256 trees/ha). Among the study locations, lowest tree density was observed in the Kotadi creek area which was 1120 trees/ha. Further, major part of Bocha Island and surrounding areas supports good population of well matured and grown-up trees of *A. marina,* along with the presence of a few well matured trees of *Rhizophora mucranata* and *Cerops tagal.*

Table 4.6: Density of Trees in the Kotadi Creek Area

Q. Number	Longitude	Latitude	No of Tree Per Ha
12	69.547500	22.787778	1100
13	69.546667	22.790833	1100
14	69.560833	22.796667	500
15	69.564149	22.798420	600
18	69.569722	22.801389	0
22	69.609722	22.764722	2500
42	69.593889	22.787778	700
58	69.548977	22.797262	400
65	69.608763	22.773687	2500
66	69.601263	22.780209	1800
Average			1120

Table 4.7: Density of Trees in the Baradi mata Area

Q. Number	Longitude	Latitude	No of Tree per Ha
6	69.665460	22.764762	1200
7	69.681579	22.779167	1700
8	69.675048	22.777429	1200
9	69.667222	22.781389	1800
10	69.662609	22.778661	1200
11	69.672222	22.777778	600
19	69.665278	22.752500	2000
20	69.664964	22.752988	600
21	69.638056	22.786111	400
23	69.637289	22.795008	2400
24	69.640015	22.792505	3300
29	69.665774	22.780467	600
30	69.662420	22.773036	800
31	69.637222	22.802222	1300
32	69.655064	22.756944	1700
33	69.644627	22.763737	2300
34	69.664734	22.752103	1600
38	69.669723	22.775127	1200
39	69.624167	22.782500	2100
40	69.622222	22.783056	1400
41	69.629180	22.783226	1700
46	69.621047	22.802786	800
47	69.638582	22.802132	300
51	69.661111	22.756667	2900
52	69.668330	22.756143	2800
53	69.636389	22.763333	1900
54	69.678886	22.777405	4400
55	69.670833	22.782778	700
56	69.646111	22.774444	900
57	69.640000	22.768056	700
64	69.659048	22.756698	2000
Average			1565

Table 4.8: Density of Trees in the Bocha-Navinal Creek Area

Q. Number	Longitude	Latitude	No of Tree per Ha
1	69.684285	22.778333	200
2	69.685000	22.781944	200
3	69.687778	22.782222	1000
4	69.684722	22.780000	2100
5	69.704032	22.771389	2600
16	69.691667	22.774444	1500
17	69.690076	22.775833	1200
35	69.711667	22.751944	1800
36	69.705211	22.751960	1500
37	69.708234	22.751012	1500
43	69.697381	22.755925	1800
44	69.705000	22.766389	1100
45	69.713889	22.750278	1200
48	69.706944	22.751667	900
49	69.708669	22.754522	700
62	69.723611	22.764444	800
Average			1256

Table 4.9: Density of Trees in the Khari Creek Area

Q. Number	Longitude	Latitude	No of Tree per Ha
25	69.731567	22.795235	1800
26	69.731936	22.790986	3500
27	69.730976	22.789617	1700
28	69.733272	22.789417	1200
50	69.731111	22.770833	1800
59	69.733611	22.778333	1600
60	69.733611	22.770556	2200
61	69.733231	22.770205	2500
63	69.744444	22.791944	1200
Average			1944

4.3.3. Regeneration and Recruitment Class of Mangroves

The average density of the regeneration class of mangroves in the sampling site (saplings with a height of <50 cm) was recorded at 62,727 plants/ha (Ranging from 22,500 to 96,250 plants/ha) and for recruitment class mangrove, the overall average was recorded as 10,455 plants/ha (Ranging from 8,125 to 14,167 plants/ha) during the study. The highest regeneration class (96,250 plants/ha) was recorded in Bocha/Navinal and is followed by Kotadi creeks (78,889 plants/ha) and this creak system also supports highest density of recruitment class (14,167 plants/ ha) in the entire study area. Although, the density of trees is comparatively less in this area, it is favourable for the dispersal of seeds and germination for younger classes. This can further be representing that ecosystem is favourable for younger class mangrove formation. The lowest regeneration (22,500 plants/ ha) and recruitment (8,125 plants/ha) class was recorded in the Khari creek area; however, the mature tree density was highest in this area (1944 trees/ha. The ratio of recruitments to tree is 1:7 and regeneration to recruitment is 42:7 in the study area. The density of mature trees and younger classes (recruitment and regeneration) in the APSEZ showed that this area supports healthy mangrove ecosystem and that the mangrove area as well as the density will increase significantly in the near future.

Table 4.10: Density of Younger Classes in the Kotadi Area (Plant/Ha)

Sr No	Q. Number	Longitude	Latitude	Regeneration	Recruitment
1	12	69.547500	22.787778	10000	0
2	13	69.546667	22.790833	40000	10000
3	14	69.560833	22.796667	350000	10000
4	15	69.564149	22.798420	60000	15000
5	18	69.569722	22.801389	90000	17500
6	42	69.593889	22.787778	100000	32500
7	58	69.548977	22.797262	30000	10000
8	65	69.608763	22.773687	30000	15000
9	66	69.601263	22.780209	0	17500
Average				78,889	14167

Table 4.11: Density of Younger Classes in the Baradi mata Area (Plant/Ha)

Sr No	Q. Number	Longitude	Latitude	Regeneration	Recruitment
1	6	69.665460	22.764762	170000	7500
2	7	69.681579	22.779167	30000	10000
3	8	69.675048	22.777429	60000	20000
4	9	69.667222	22.781389	140000	10000
5	10	69.662609	22.778661	80000	0
6	11	69.672222	22.777778	40000	5000
7	19	69.665278	22.752500	0	7500
8	21	69.638056	22.786111	60000	17500
9	29	69.665774	22.780467	30000	2500
10	30	69.662420	22.773036	90000	12500
11	31	69.637222	22.802222	30000	10000
12	39	69.624167	22.782500	30000	5000
13	40	69.622222	22.783056	50000	7500
14	41	69.629180	22.783226	20000	7500
15	46	69.621047	22.802786	30000	20000
16	47	69.638582	22.802132	40000	37500
17	52	69.668330	22.756143	10000	0
18	53	69.636389	22.763333	20000	7500
19	54	69.678886	22.777405	10000	0
20	55	69.670833	22.782778	40000	5000
21	56	69.646111	22.774444	60000	7500
22	57	69.640000	22.768056	100000	10000
23	64	69.659048	22.756698	50000	7500
Average				49,583	9,063

Table 4.12: Density of Younger Classes in the Bocha-Navinal Area (Plant/Ha)

Sr No	Q. Number	Longitude	Latitude	Regeneration	Recruitment
1	1	69.684285	22.778333	10000	5000
2	2	69.685000	22.781944	20000	7500
3	3	69.687778	22.782222	110000	10000
4	4	69.684722	22.780000	140000	12500
5	5	69.704032	22.771389	260000	5000
6	16	69.691667	22.774444	140000	10000
7	17	69.690076	22.775833	50000	17500
8	43	69.697381	22.755925	40000	15000
				96,250	10,313

Table 4.13: Density of Younger Class in Khari creek

Sr No	Q. Number	Longitude	Latitude	Regeneration	Recruitment
9	50	69.731111	22.770833	20000	2500
10	59	69.733611	22.778333	20000	10000
11	60	69.733611	22.770556	20000	0
12	61	69.733231	22.770205	30000	20000
Average				22,500	8,125

Figure 4.20 : Diversity of Mangrove Species in APSEZ Area, Mundra

5. CONCLUSION

5.1. Shoreline and Mangrove Cover Changes

The distribution of mangroves in the creeks in and around APSEZ was analysed using satellite images from March 2019 and March 2021. The major findings are:

- ✓ The mangrove cover in the study area has increased by 52.79 ha from 2019 to 2021, indicating that the mangrove ecosystem and the tidal regime were not adversely affected during this period.
- ✓ The tide levels in the creeks were observed to be normal and adequate for the growth of mangroves.
- ✓ The dense mangrove cover has showed an increase in Kotadi creek, Khari Creek and Baradi mata creeks while it was not much changed in Bocha/Navinal creek system.
- ✓ Further Kotadi creek showed highest increase of sparse mangrove area (39.71ha) while Baradi mata creeks (14.10ha) and Bocha/Navinal creek system (6.89ha) showed an increase in scattered mangrove areas.
- ✓ Nevertheless, overall, an increase in all three categories of mangroves in the study area between 2019 and 2021, indicating a healthy status of mangroves.
- ✓ The study measured the density of mature trees, recruitments (young trees), and regeneration (seedlings) in different locations. Mangrove tree density is influenced by many factors like salinity, tidal inundation, fresh water flow, sediment characterises, etc. The ratio between mature tree density and recruitment class among all the stands (1:7) indicating good entrance of recruitment classes into mature tree category. A conducive physical milieu with favourable tidal range and less anthropogenic pressure seems to favour the present mangrove strands in a healthy state.
- ✓ The conservation and management and recommendation plan are indicated below:

5.2. Recommendations

- The mangrove cover in the APSEZ area was found in healthy condition with dense, sparse and scattered mangroves, which has overall increase of 52.79 ha between 2019 and 2021, indicating that the mangrove ecosystem and the tidal regime were not adversely affected during this period. Therefore, future attempt should be restoration of sparse and scattered mangrove areas and convert it into dense patches. This could be restored to dense formation through physical amendment measures *viz*., canal digging, removing blockage in natural canal systems, and by other physical means.

- The Mundra coastal scenario supports *A. marina* which is predominant, due to lack of continuous fresh water source which is atypical in this part. Nevertheless, presence of other mangrove species though sporadically recorded, *viz*., *R. mucronate* and *C. tagal,* which gives a confidence for plantation in the sparse and scattered mangrove areas following zonation techniques. Plantation of these species is expected to create a seed bank in due course of time which would eventually convert single species stand of *A. marina* into multi species formation which in turn enhance the marine biodiversity of the area.

- Kotadi creek area has highest recruitment class mangroves while highest regeneration class was recorded from Bocha/Navinal creeks. Promoting natural regeneration where the mangrove stand has got the capacity to self-renewal will ensure sustained well-being on the stand and its succession. Natural regeneration capacity of the stand is based on the extent of entrance of younger classes such as saplings into mature tree category. The observation that natural seedling recruitment is occurring normally will indicate that the system is functioning normally. The present study shows that natural regeneration in the studied mangrove formations is normal as indicated by the entrance of younger classes into adult categories. Continued observation of this natural succession in regular mangrove monitoring studies is necessary to assess and ascertain that the natural procession of succession is maintained.

- Plantation of suitable saline tolerant plant species (shrubs and trees) also helps in controlling the soil erosion along the coastal area.

- The establishment of facilities and the expansion of infrastructure over the coming years will bring about notable changes in the landscape and seascape in and around the Adani Ports and Special Economic Zone Ltd (APSEZL). Long-term human-centred/induced activity of this magnitude in any coastal belt will have repercussions on its natural resources and ecosystems. As mangroves, mudflats and tidal creeks are the major ecological entities within the Adani Ports and Special Economic Zone Ltd (APSEZL), their conservation and management warrants priority and calls for a holistic approach. Thus, measures should be taken to conserve and preserve the mudflats and mangroves within the Adani Ports and Special Economic Zone Ltd (APSEZL) to retain their tangible and intangible ecological benefits. The conservation and management plan presented in the proceeding section has the following broad aspects and different activities under each aspect are dealt with.

- The creation of baseline information to track subsequent changes in natural shoreline formation within the Adani Ports and Special Economic Zone Ltd (APSEZL) observations through GIS and RS tools have to be adopted. The GIS maps may be utilized for the purpose and could serve as a base map. Changes in creek systems, shoreline configuration and other land use categories could be monitored through this exercise once in three years.

- Periodical monitoring, preferably once in 2 years, and comparison of results with baseline data to underline changes will pave way for the formulation of mitigation and conservation efforts.

- Mudflats and mangrove conservation and restoration measures could subsequently be undertaken based on the results of the monitoring programs.

- Research needs to be undertaken to assess the economic and ecological benefits of sustainable development of shoreline configuration.

- Awareness should be generated among local people about the shoreline configuration changes in the surrounding areas and the consequences, particularly to the fishermen community.

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Annexure – 2

adani

Ports and Logistics

APSEZ, Mundra Celebrating the "International Day for the Conservation of the Mangrove Ecosystem" on 26th July-2023

About the Celebration:

APSEZ, Mundra has celebrated Mangrove Plantation & Awareness Programme at Luni Village coastal area for Students of Luni Govt. Villages & Adani Vidya Mandir, Bhadreswar and Online training awareness program to employees by Gujarat Institute of Desert Ecology, Bhuj on the occasion of **"International Day for the Conservation of the Mangrove Ecosystem" on 26th July 2023.**

Mangroves are extraordinary eco-systems found in coastal areas across the globe. They play a vital role in protecting our coastlines, supporting marine life, and com-bating climate change. World Mangrove Day is an annual celebration dedicated to raising awareness about the importance of mangroves and the need for their conservation.

Participant:

- Mangrove Plantation & Awareness Programme at Luni Village: 90 nos. of Students

Online training awareness program to employees: 65 nos.

PHOTOGRAPHS OF MANGROVE PLANTATION AND AWARENESS AT LUNI VILLAGE COASTAL AREA

APSEZ, Mundra Celebrating the "World Nature Conservation Day" on 28th July-2023

adani
Ports and Logistics

About the Celebration:

APSEZ, Mundra has conducted Mangrove Plantation Programme at coastal area near Bhadreswar Village and Online Awareness Training program on Nature & Mangrove conservation by **Dr. Jayendra J. Lakhamapurkar (Dy. Director- Gujarat Ecology Society)** the occasion of **"World Nature Conservation Day Celebration" on 28th July 2023** under the theme **"Forests and Livelihoods: Sustaining People and Planet"**

Activities:

- **Mangrove Plantation:** 2000 nos. of Saplings
- **Online Training Participants:** 30 nos.

PHOTOGRAPHS OF MANGROVE PLANTATION AND AWARENESS AT BHADRESWAR COASTL AREA

Annexure – 3

Kutch CSR

Six Monthly Report

2023-24

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

Preface

Taking inspiration from the philosophy of our Chairman of trusteeship, the Adani Foundation strives to create sustainable opportunities. It does so by facilitating quality education, enabling the youth with income-generating skills, promoting a healthy society by women empowerment and supporting infrastructure development.

With an aim to contribute to the holistic development of communities, the Adani Foundation is contributing to the global agenda of meeting Sustainable Development Goals (SDGs).

Adani Foundation Gujrat sites are catalyst for rural communities residing in villages of Kutch,, Surat and Bharuch District. AF has transformed thousands of lives by serving community to uplift their standard of living by performing CSR activities in various in terms of Infrastructure, Social development, Education, Agriculture, Women empowerment, Water conservation and management and empowering fishermen and Tribal community.

Pankti Shah
Head CSR Gujrat
Adani Foundation

INDEX

CSR Kutch

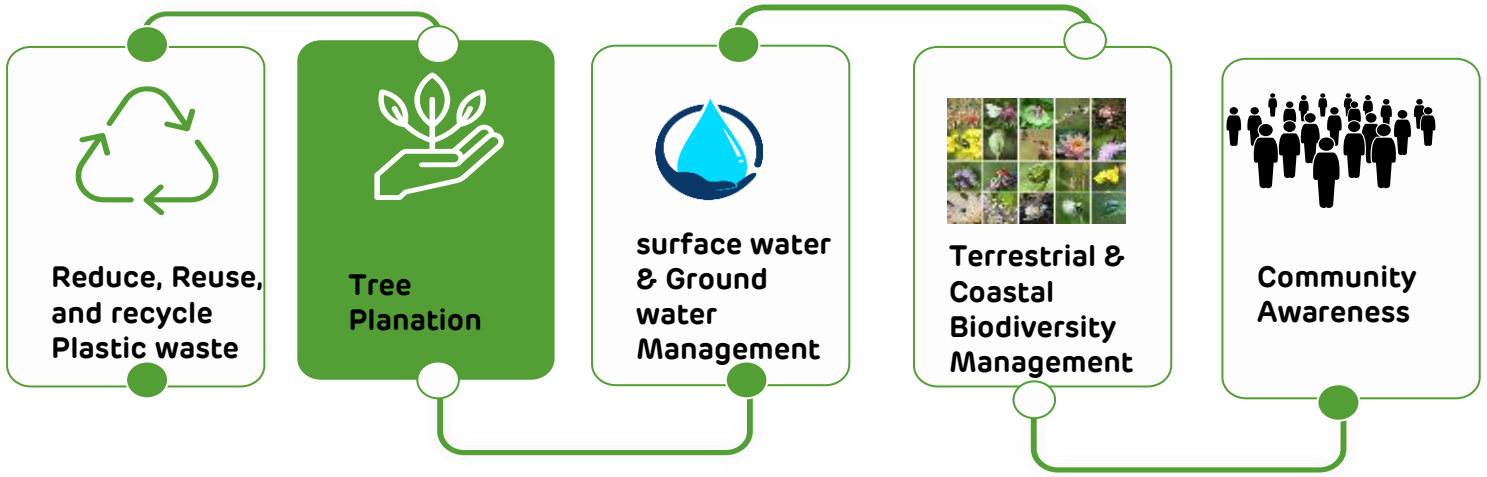
Demographic Details

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

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

Environment Sustainability

Action to environment Sustainability



The environment and biodiversity serve as the lifeblood of our planet, playing a crucial role in maintaining ecological balance and sustaining life in all its diverse forms.

Preserving them is more than a necessity; it is a shared responsibility to secure the health and well-being of both present and future generations.

Adani Foundation embodies this commitment through its varied environmental projects. These range from extensive tree plantation and mangrove restoration to innovative biogas provision, drip irrigation, groundwater recharging, and water conservation.

Environment Sustainability

Water Conservation Project

The water landscape of our Business periphery villages has undergone a significant transformation due to our proactive approach to groundwater and surface water conservation and management work. Our mission is clear – to nurture and sustain water resources. We are primarily focusing on initiatives such as pond deepening, reinforcing check dams, implementing Rainwater Harvesting Systems (RRWHS), setting up borewells, and cleaning river inlets.

These efforts have led to enhanced water storage, ensured consistent water access for drinking and agricultural use.

Sr. NO	Project	Unit	Outcome	Impact
1	Check dam Restrengthening-Nana Kapaya	1	Water Storage Capacity increased by 48000 Cum	60 + farmer's 120+Acre Area of Agri land can be Irrigated
2	Recharge Borewell	21	Reduce Salinity ingress , and preventing water run	150+ farmer's 260+ Acre Area of Agri land for Irrigated
3	Pipe Culvert at Checkdam at Bhujpur	1	prevent water runoff into sea side.	35 farmer's 120+Acre Area of Agri land can be Irrigated

*** Funded by -Mundra Petro chem Limited**

Impact

- **483** Total area covered (Acre)
- **335** Total Farmers benefitted (No)
- **7%** TDS Reduction
- **7.2%** Increase Revenue %
- **1150** Reduce in health expenses Monthly

Environment Sustainability

Vruksh Se Vikas – Massive Drive

Since 2014, we has embarked a transformative journey to execute a wide range of tree plantation drive in collaborating with local communities and forestry departments .

1.Miyawaki Forest Development: Native species planation In the 2 acre area at Nana Kapaya village creating a flourishing mini-forest with 5,508 trees,..

2.Massive Public Plantation Drives: Barren spaces were transformed into lush green havens through our massive public plantation drives. One notable example is the Bhupur Visri Mata Temple, where 25,000 trees were planted.

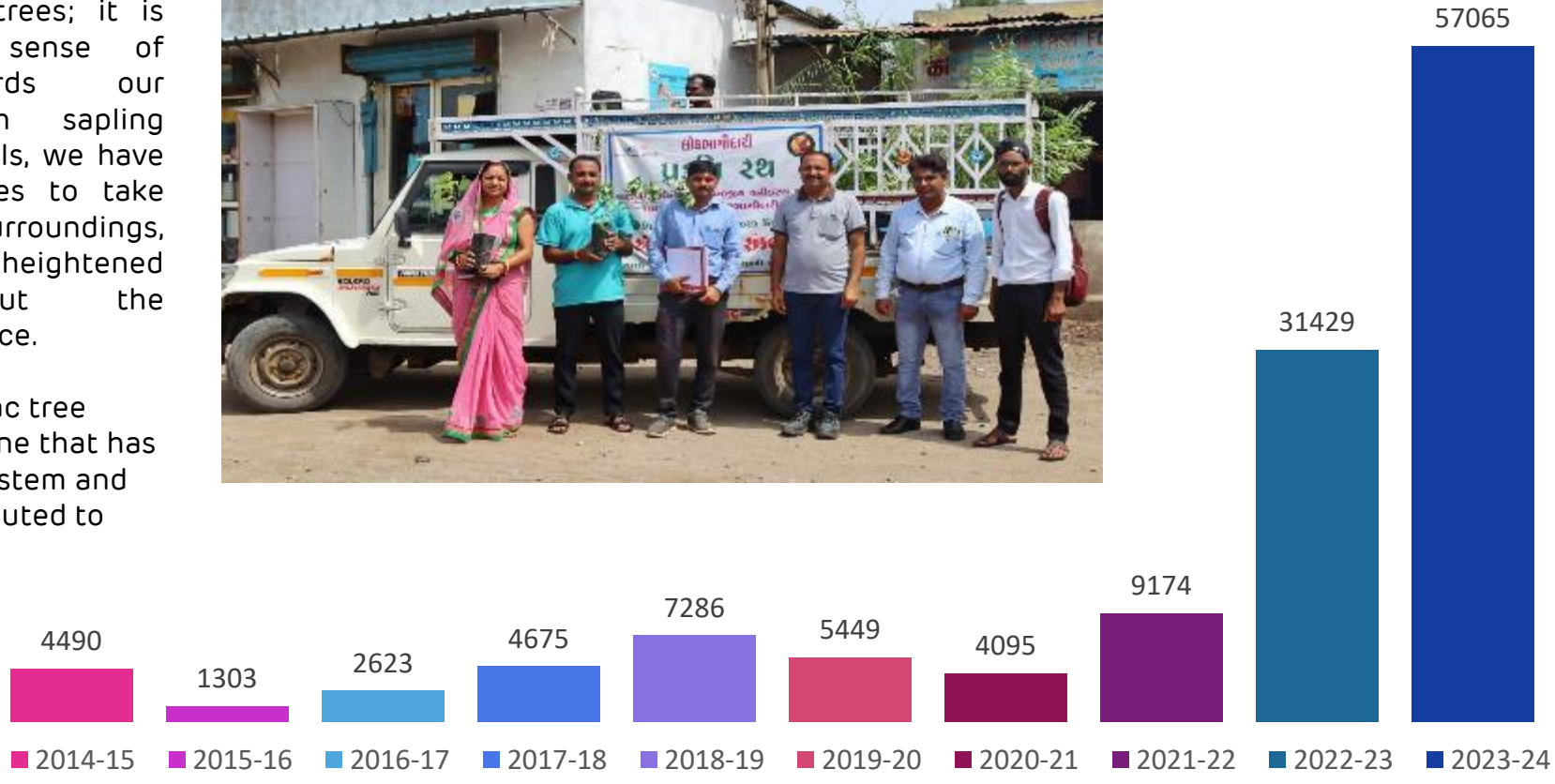
Environment Sustainability

Vruksh Se Vikas – Massive Drive

1.27 Lac tree plantation

Prakrurath: This initiative goes beyond just planting trees; it is about fostering a sense of responsibility towards our environment. Through sapling distribution to individuals, we have empowered communities to take ownership of their surroundings, leading to a heightened consciousness about the environment's significance.

Till the date Total 1.27 Lac tree plantation have been done that has enriched the local ecosystem and also significantly contributed to carbon sequestration



Environment Sustainability

Home Bio Gas

Home biogas systems, adept at converting organic waste into renewable energy, present a sustainable and eco-friendly solution for cooking. We have started this project in 2020, with farmers contributing 10% towards the cost, that persisted till 2022. Since then, we have scaled our initiative by aligning with government home biogas schemes to amplify the reach and adoption of this eco-friendly technology in wider rural regions.

The deployment of home biogas has been particularly transformative for women, offering a healthier, smoke-free cooking environment reducing greenhouse gas emissions.

Current year we process to facilitate 258 Gobardhan unit through Gov.

Phase	unit	Unit Cost In Rs.	AF Support in Lac	Beneficiaries Contribution in Lac	Gov. Convergence in Lac	Total in Lac
Phase -1	125	23200	29	3.75	0	32.75
Phase -2	100	42000	42.0	5.0	0	47
Phase -3	100	42000	0	5.0	37	42
Phase -4	258	42000	6.45	6.45	95.46	108.36
Total	**583**	**149200**	**77.45**	**20.2**	**132.46**	**230.11**

*** Funded by -Mundra Petro chem Limited**

Environment Sustainability

Mangrove Biodiversity

In 2010, we initiated a mangrove plantation project at Luni coastal belt, ultimately leading to 162 hectares of dense mangrove forests. Subsequently, we expanded our efforts by planning and implementing a multi-species mangrove plantation across an additional 20 hectares. 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..
Since PhD scholars and students frequently visit this area for study. we plan to establish it as a Center of Excellence, serving as a hub to create awareness among students and facilitating research activities for scientist

- **Spices of Mangroves** — **4+**
- **Coastal Spices as habitat preservation** — **60+**
- **Hector Avicennia marine plantation** — **160+**
- **Hector Biodiversity park** — **20+**

* Funded by -Mundra Petro chem Limited

Mangrove Plantation Work Detail

Sr. No	Year	Number	Men days	Remarks
1	2011-12	50000	3000	
2	2012-13	125000	6943	
3	2013-14	60000	1480	
4	2014-15	125000	6501	
5	2015-16	65000	3533	
6	2016-17	20000	3125	
7	2017-18	100000	3666	
8	2018-19		7539	Algal Removal work
9	2019-20		6261	Algal Removal work
10	2020-21		4830	Algal Removal work
11	2021-22	97000	5200	
12	2022-23	100000	4445	
	Total	**742000**	**56523**	

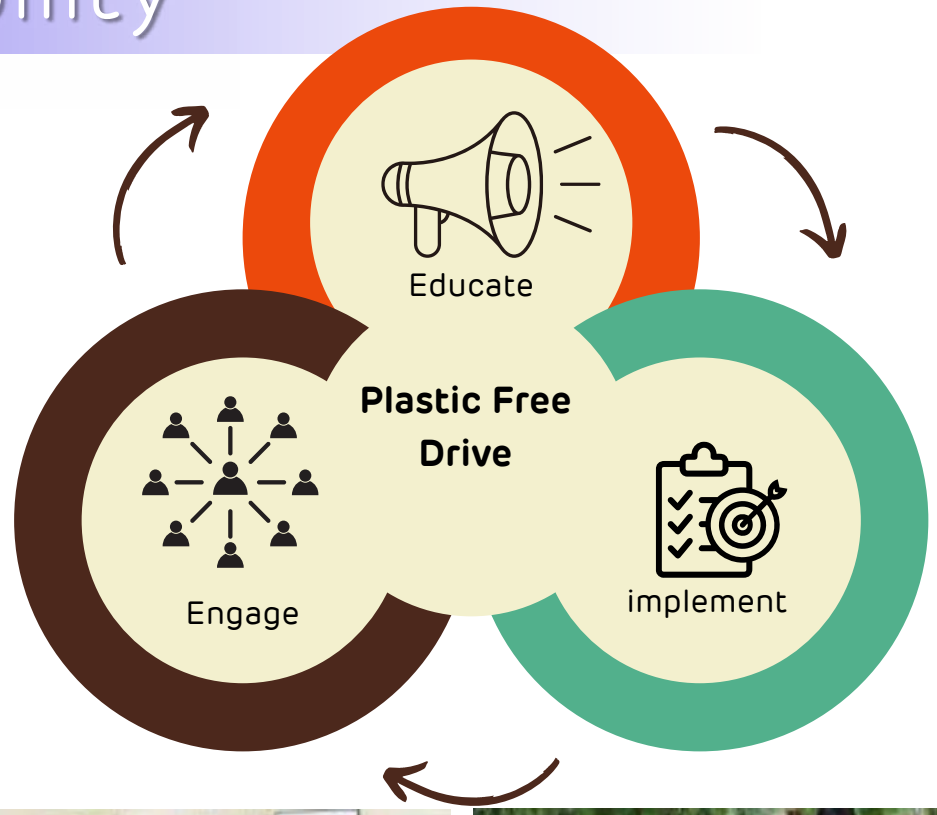
Environment Sustainability

Plastic free Drive

Objective: The central aim of the Plastic-Free Drive is to empower and enlighten students as key agents of change, enabling them to disseminate awareness and instill the practice of reducing single-use plastics within their community.

1.Educate: Spread awareness about the harmful effects of plastic on the environment, marine life, soil health, and human well-being.
2.Engage: Mobilize community members, especially the youth and family members to actively participate in plastic waste reduction activities.
3.Implement: Introduce sustainable alternatives to ensure proper disposal and recycling. As of now we supply to APSEZ plastic waste management plant.

Outreach :-
10000 Students of Primary Schools.
990 Students of Secondary Schools of Mundra Block.



* Funded by -Mundra Petro chem Limited

Environment Sustainability

Natural Farming

Natural farming is an urgent need of the hour, We have initiated a comprehensive approach to promote natural farming practices through a variety of activities aiming to minimize pesticides and chemicals uses ,lead to produce , nutritious, chemical-free produce which is benefitting both farmers and consumers by providing healthier and more sustainable food options as well as plays significant role to flourishing environment and balanced ecosystem.
Funded By GPVC- Mundra Petro chemical limited

250 Farmers	05 exposure	857 Farmers	257 Gobardhan	35 Farmers	Rs.7.47 Lacs RG
• **Awareness Sessions at Village Level:** Spreading awareness on natural farming benefits and address their concerns.	• **Hands-On Training & Exposures :** Arranged Workshop and training to emphasizing on real-world techniques.	• **Link with Government Scheme**: facilitation of govt. Cow Nurturing scheme to promote eco-friendly farming practices.	• **Bio-gas Support:** Link with Gov Gobar Dhan Biogas Unit Nutrient-rich slurry serves as an essential organic fertilizer for natural farming	• **Natural Farming Certification Process** to obtain natural farming certification through the Gujarat Organic Product Certification Agency (GOPCA) for the 35 Farmers who are Members of Raj shakti Sahakrai Mandali.	• **Marketing Assistance:** Provide platforms and resources ensuring fair prices and broader consumer reach.

UTTHAN – FLAGSHIP EDUCATION PROGRAM OF ADANI FOUNDATION

Project Utthan, launched by the Adani Foundation in 2018–19, is an innovative intervention to enhance students' learning capabilities, provide facilities to schools, and achieve better learning outcomes at the grassroots level. The project adopts government primary schools to convert it as model schools, tutors' progressive learners, introduces English as a third language, and conducts various academic and co-curricular activities to enhance quality of education. It also works on staff capacity building and engages educators, SMC members and parents, especially mothers, to improve children's basic literacy and numeracy skills.

*** Funded by – Kutchh Copper Limited**

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

UTTHAN OBJECTIVES

- Strengthening Government primary schools
- Appointing an Utthan Sahayak in each school who acts as a catalyst and facilitator
- Providing resources and facilities
- Literacy, numeracy and skills for life
- Government school teachers' capacity building
- Special focus on 'Priya' Vidyarthi's (progressive learners)
- Training students for Competitive exam

UTTHAN REACH

10499	999	250	150	150	3000
69	8	2	5	5	2
Primary School	High School	Adani Evening Education Centre	Adani Competitive Coaching Centre	Adani English Coaching Centre	IT On Wheels

PROGRESSIVE LEARNER

2541 Progressive Learner; Assessment of 6314 Students (3 to 7 Std.)

MOTHERS MEET

400+ Mothers Meet : 10000+ Mothers Joined.

COMPETITIVE EXAM

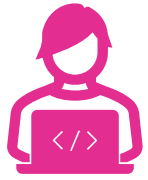
877 Students preparing Competitive Exam. 354 JNV, 273 PSE & 250 NMMS

ENGLISH : THIRD LANGUAGE

5000+ Facilitating English from Classes 1-4.

LIBRARY ACTIVITY

72000+ Book Issued : 924 Library Activities, OASIS 200+ Reading Workshop



IT ON WHEELS

4170 students Empowered with digital skills & knowledge.

SUMMER CAMP

4300+ students of Primary & High Schools participated .

Our other various initiatives include:

- ✓ Kutch University has conducted an impact assessment of IT on Wheels, which has been evaluated and certified by the DEO Office.
- ✓ Exposure Visit of Project officers from three different locations to learn about the best practices.
- ✓ Computer Classes in High school : 200 Students took advantages of this computer classes.
- ✓ Career Counselling in 8 Utthan High Schools.
- ✓ Plastic Bag Free village workshop in all High schools.
- ✓ Remedial classes during summer break.
- ✓ Day Celebration : World Book Day, World Environment Day, National Reading Day, International Yoga Day, National Plastic, Bag Free Day, Raksha Bandhan, Independence Day & Celebration of Sports Day.
- ✓ Planned various Capacity Building Program (CBP) & Exposure visit for Utthan Sahayak & Students.
- ✓ Achievements : • Utthan sahayak motivate mothers to open an account of Sukanya Samrudhi Yojana • Utthan supported Taluka levels Kala Utsav in Primary & High Schools. •Utthan Sahayak supported Taluka level Science Fair. •06 students selected in District Level Sports School (DLSS).

Utthan Aligned With GoI & GoG

NEP 2020 | Samagra Shiksha | Nipun Bharat | RTE

Utthan in High Schools

8 High school

2 teachers hired, (1 Math's & Science, and 1 English)

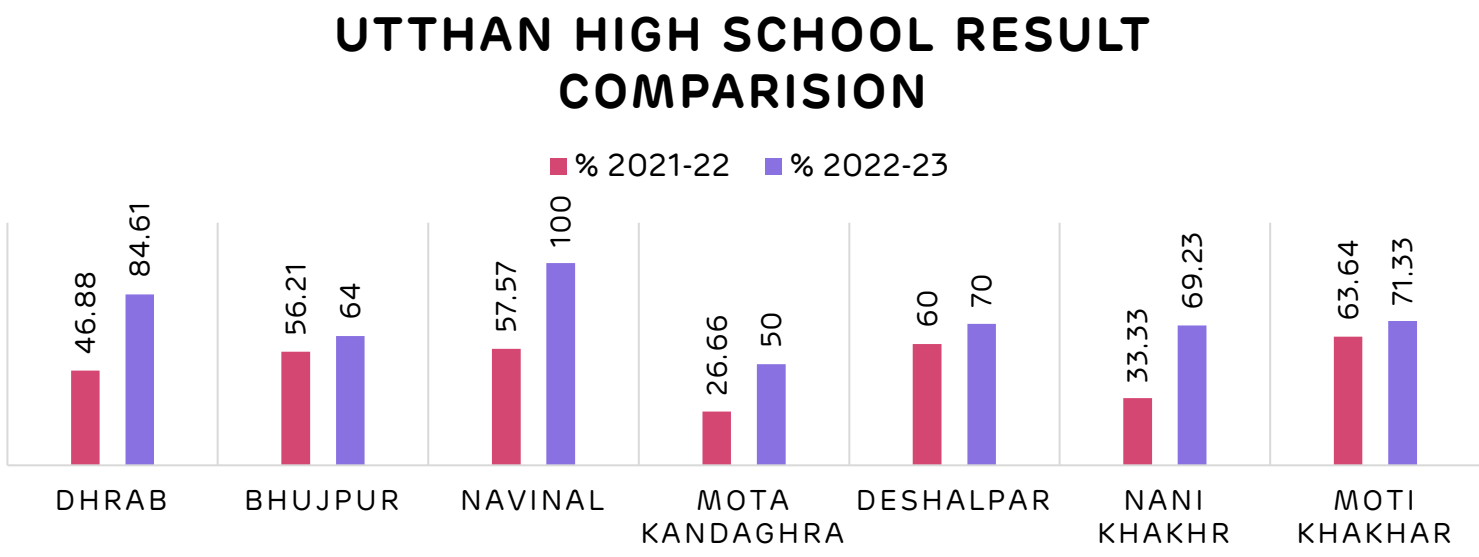
Goal is to improve the students' fundamental skills in these subjects.

2 AEEC

help students improve their academic performance by revising the syllabus and clearing their doubts

Our trained teachers and volunteers provide personalized guidance and feedback to the students in a conducive learning environment these programs will boost the confidence and skills of the students and prepare them for a brighter future.

Good Board Result



Adani Education Evening Centre is running in 2 centers, where Utthan Sahayak teaches Maths, Science & English for an additional 2 hours. This has had an impact on the board results.

Adani Vidya Mandir, Bhadreshwar

Empowering Communities through Free and Compulsory Education

Adani Vidya Mandir, Bhadreshwar, was established in June 2012 with the goal to have access of quality and cost free Education with essential amenities like food, uniforms, and books, to Financial Weaker community children of the Mundra Block.. The school boasts excellent infrastructure and resources necessary for the holistic development of each student. Children are admitted to the school form Senior Kg to 10th Standard.

Few notable points:

- We are empowering economically disadvantaged families through free and quality education
- We are fostering an environment of academic excellence.
- Pioneering Excellence: The First Gujarati Medium School in Gujarat Accredited by NABET
- Over 600 Students Learning Each Year in AVMB
- More than 35% of enrolled students in AVMB come from the Fisherfolk community.

- Work shop was conducted on Mental Health and behavioral change
- AVMB got 1st rank in Vaadan, Gayan and drawing in Kala Maha Kumbh competition and selected for Next block level competition
- AVMB selected for district level Kho-kho Match competition organized by SGFI-School Game Federation of India,
- 2 students selected for District Level Athletic Competition

AVMB STD 10 – SSC Board Result (2022-23)		
Sr. No.	**Grade**	**Student**
1	Above 80%	8
2	Above 70%	8
3	Above 60%	6
4	Above 50%	0
5	Above 40%	1
	Total Students	23

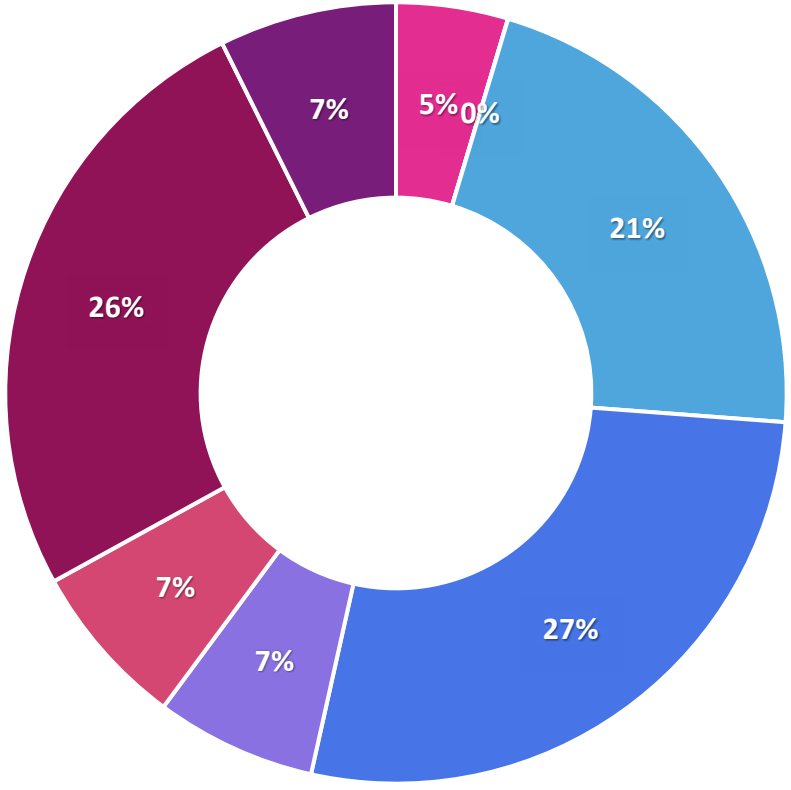
100% Success: Adani Vidya Mandir Bhadreshwar's Remarkable Achievement in Gujarat Board Standard 10th Examination.

Community Health

Quality healthcare is not just about addressing illness; it's about providing everyone an equal opportunity to not just long life, but also rich in quality.

At the Adani Foundation, our steadfast commitment is to offer accessible and affordable healthcare. Through Our diverse healthcare initiatives which are dedicated to cultivating a healthier society to the develop strong and vibrant nation."

CH MIS Data Month April to Sep - 2023		
Sr. No.	**Projects**	**Total**
1	Medical Supports	**1007**
2	Diaylsis	**58**
3	Mobile Van	**4690**
4	Rural Clinice	**5939**
5	Health Camp	**1448**
6	Speciality Health Camp	**1489**
7	Ayushman Card	**5584**
8	Blood Donation Camp	**1598**
Total		**21757**



29-Villages
31-MHCU
Stoppage
7-Rural clinic

Our Mobile Health Care Units and Rural Clinic Services have made significant strides in delivering essential healthcare to remote rural areas and underserved populations Since the inception.

MHCU Outreach :- 29 Villages -31 Stoppage
Rural Clinic:- 7 Villages Of Mundra And Mandavi Block

SROI 1:541 (Ref.Soulace impact assessment report)

- **10629 individuals** benefited from the services.
- **35 villages** villages covered.
- **20 %** average savings on healthcare-related costs.
- **25%** People are aware and become health Conscious

Medical Support Poor Patients.
Adani Foundation's Medical support program is a beacon of hope for the less fortunate, offering aid for a diverse range of ailments, from kidney problems to heart conditions and beyond at Our Adani Hospital Mundra.

In the critical cases, after stabilizing patients we refre them to GKGH, Bhuj, for advanced treatment with ened to end co-ordination

Live Impacted -1008 People

Community Health

Dialysis Support:
In Mundra, where water quality challenges contribute to a higher prevalence of urinary infection lead to kidney failure cases. Our Dialysis Support Program is designed to assist those in extreme need and Financial weaker.
The program is not only alleviating their financial burden but also enabling them to lead healthier lives.

Live Impacted:- Two Patients 58 Times

Our health camp initiatives are designed to bridge healthcare gaps in underserved regions, offering a holistic approach for community well-being with combining Preventive and Precautionary measure through Awareness session , Health check Camp, screening and treatment.

The "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.

Outreach:- 9 Villages
Lives Impacted:-473

- Comprehensive Eye Screenings at Village level
- Cataract Surgeries to GKGH ,Bhuj
- Post-Operative Care and Follow-up.

As well as we arranged gynecological and ophthalmic and general health camp at Village level in collaboration with KCL limited, GKGH Bhuj, and THO Mundra,

CH MIS Data Month April to Sep - 2023

Sr.	Projects	Total
1	Health Camp	1448
2	Speciality Health Camp	1489
3	Blood Donation Camp	1598
	Total	**4535**

*Funded by – Kutchh Copper Limited

Community Health

Ayushman card facilitation

Ayushman Bharat PM-JAY is a global healthcare milestone, offering an unprecedented health cover of Rs. 5 lakhs per family annually for secondary and tertiary care. Adani Foundation has started 100% Ayushman Card coverage in all villages of Mundra in coordination with the District Health Department.

Villages -25 Villages
Live Impacted:- 5,584 Ayushman cards have been Issue.

25 Village

5,584 Ayushman cards Issue

Women Health & Well Being
Outreach-18 Village
Lives Impacted:-2230+ women.

- **Gynec Health Check-ups:** Conducted thorough check-ups, with GKGK referrals when necessary.

Sustainable Livelihood Development

"Raj Shakti Prakrutik Kheti Sahkari Mandali

The Adani Foundation has taken a proactive step by organizing awakening and awareness sessions to promote natural farming practices in Mundra block Villages. These efforts led to the formation of the "Raj Shakti Prakrutik Kheti Sahkari Mandali," comprised of 35 dedicated farmers who are deeply committed to natural farming.

We have started green Carnival to provided a platform for these farmers to sell their agricultural produce in our two colonies in Mundra. Encouraged by positive feedback, the farmers have set-up a organic Agri produce shop in Mundra, It serves as an inspiration for others to embrace eco-friendly agricultural practices. Now 302+ farmers are collaborated with Mandli.

Previously, these farmers used to sell their produce in bulk to vendors. Now, they are able to sell directly to consumers, leading to a 35% increase in their income. Furthermore, they have applied for the "GOPCA" certificate from the Gujarat Organic Product Certification Agency, highlighting their commitment to organic farming practices.

They have started Collective organic farming in the 200 acre of agri land with proper fencing and technique.

Rajshakti Prakrut sahakari Mandali had Opportunity to meeting with honorable Governor of Gujarat Achrya devvrat at Gandhinagar on 30 August. As well as had exposure to Gautirth vidhyapith Bansi ghar Gaushala,Ahmedabad.

Sustainable Livelihood Development

Dates Restoration

In the aftermath of the devastating Bipor Joy cyclone, our farming community faced a severe setback as numerous Date, Mango, and other fruit plants were damaged and uprooted. These plants, which served as a vital source of income for farmers, were left in shambles.

To address this crisis and provide a ray of hope, we embarked on the Dates Restoration Project in collaboration with Krishi Vigyan Kendra (KVK) and other agricultural experts. This project aimed to rejuvenate and revive the fallen Date plants.

As of the current date, 615 Date plants have been successfully restored. These plants are now on the path to recovery and are expected to bear fruit in the upcoming season this will providing significant financial relief to farmers.

Kitchen Garden Kit

We have ve supported vegetable kitchen garden kits to 500 farmers with the aim to enable them to grow fresh and nutritious, chemical-free vegetables. This will enhance their food security and promote self-reliance.

Tree Restored : 500 Unit

Each Date trees is projected to yield approximately Rs. 25,000, Total Yield in Next Season:-Rs.1.53 Cr.

* Funded by – Mundra Petrochemicals Limited

Sustainable Livelihood Development

Fodder Support

Our Fodder Support Program is dedicated to assisting our neighboring villages during the challenging seasons of summer, drought, and crop failures. Through this program, we have provided a significant amount of Green and dry Fodder to ensure the well-being of both the communities

Grassland Development Program
We have started Grass land development with a primary objective to create a self-sustaining village by converting common pastureland (Gauchar) into fertile and productive grasslands to ensure a reliable source of fodder for the community, especially during challenging times.

Total area :- 213 acres of gauchar land has been cleaned and allocated for Grass land development with strong Community Contribution and Mobilization.

Villages : Zarpara ,Siracha, Gundal , Kukadsar
Out put:- Cattle relayed for one Month due to fodder Production

Cattle Health camp
we had arranged Cattle Health Camps, in close coordination with Government Veterinary doctors and the Animal Husbandry Department, dedicated to ensuring the crucial veterinary care to a significant number of cattle, effectively addressing their immediate health needs. To date, we have successfully treated more than 500 cattle, ensuring their health and vitality.

799413 Kg Dry Fodder Support

2353303 Lac Kg Green Fodder Support

24 Beneficiary Villages

16000 Cattle benefitted :-

Sustainable Livelihood –Fisherfolk Community

Education

Vehicle Transportation Facilities
We extend vehicle transportation services to school-going children from Luni and Randh Fishermen Settlements to the AVMB School, Bhadreshwar Similarly, we ensure for Juna Bandar Fisherfolk Students to the nearest Government School and enable them to school for regularity and easy to reach school.

Funded By AF	-	165 Students
Funded By	-	53 Students

Education Kits Support
Education Kits including notebooks, guides, and bags, to fisherfolk students studying in 9th to 12th standard to enhance their learning experience

Funded By AF	-	15 Students
Funded By GPVC	-	42 Students

Outcome

- Increased Attendance- 75%
- Enhanced Learning: 20%
- Parental Engagement:- 25%
- Cultural Shift:-10%

Educational awareness sessions were conducted in four Fisherfolk Vasahat of GPVC Villages to highlight the importance of education, with a particular focus on promoting girl-child education.

Primary Schools	- 445 Students
Secondary Students	- 42 Students

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.

Scholarship Support
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."

*** Funded by – Mundra Petrochemicals Limited**

Sustainable Livelihood –Fisherfolk Community

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

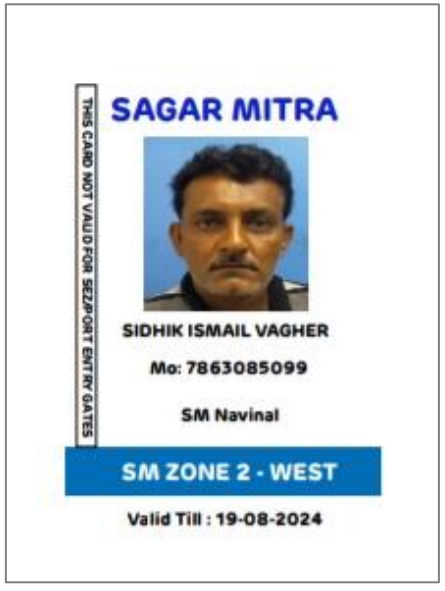
Providing access of potable Drinking water Facilities to Nine sherfolk vasahat on Daily bases, either By Water tanker or Linkage with Nearest Gram panchayat.

More than 5000 Fisherfolk Population are getting benefit which impact on their health and efficiency.

Sr. no	Vashat Name	Population	Water Quantity in KL
1	Luni Bandar	401	15000
2	Bavdi Bandar	535	20000

Sagar Mitra

We have 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."



Women Empowerment

Project Saheli

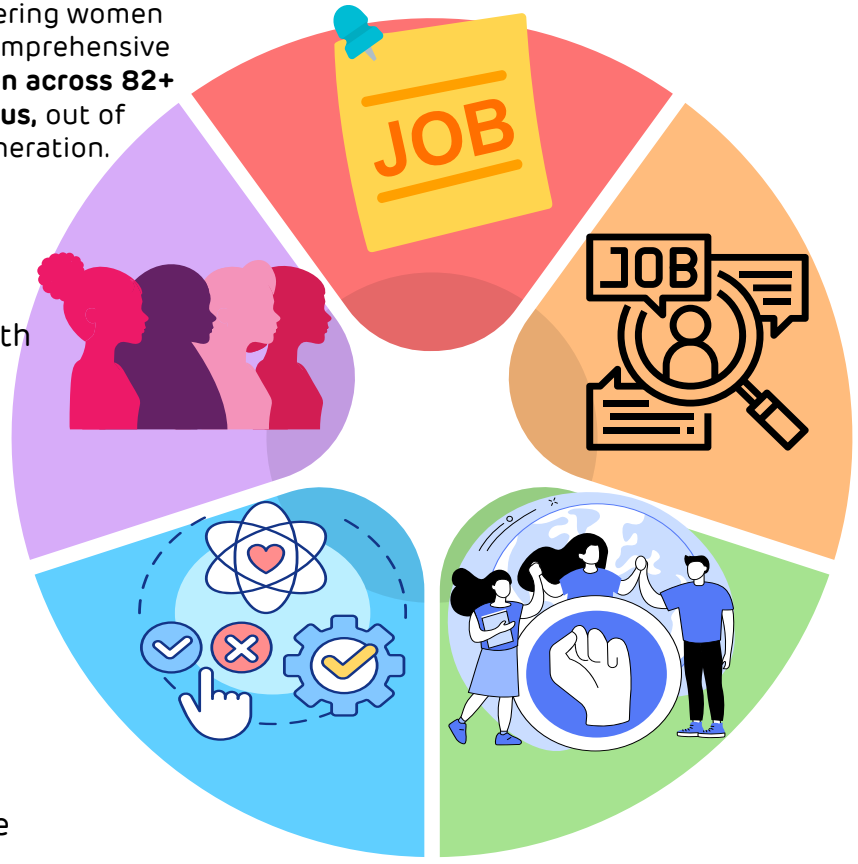
- Kutch Copper Limited is dedicated to empowering women both financially and socially. To that end, a comprehensive training program that has reached **850 women across 82+ Self Help Groups with 30+ Lacks saving Corpus,** out of which 5 groups have outstanding revenue generation.

Self Help Groups

- 82 Self Help Groups in coordination with National Rural Livlihood Mission.
- 850+ Members
- 31 Lacs Saving Amount Corpus

Making SHG Self Reliant

- 16 SHG are on path ways of self reliance.
- Various handicraft, dry and fresh food making, stitching, tie and die etc.
- 160+ women - Monthly average income @ 7000 of each member oer Month



Job Sourcing - Govt

- 11 Women supported for application and process of Gram Rakshak Dal, Bank Sakhi , Bima Sakhi and Professional Resouce Person.
- Average income 4200 Per Month

Job Sourcing - Private

- Coordination for Job by Unnati Portal with Adani Group company companies, Britania, B Medical and Emphazer company
- 387 Women supported till date for job sourcing of 18 villages
- Average income 10200 Per Month

Social Empowerment

- 2 Livlihood Enhancement Training through RSETI
- Financial support for business set up
- Legal rights and domestic violence workshops
- Family counselling for Job sourcing

*** Funded by – Kutchh Copper Limited**

Women Empowerment

Menstrual Hygiene Awareness

Objective :-
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."

18 Villages

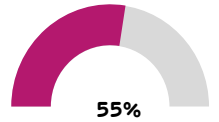
1587 Women participated

494 School girls

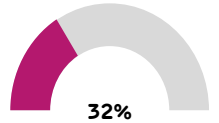
Till date 36% women had never used sanitary Napking single time now they started using due to our intervention. This will reduce UTI @ 22%. As our sample survey

Process

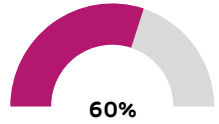
- Conducted Awareness Session at Village level
- Awareness Session at Schools
- Provide Sanitary pad
- Feed back and Evolution



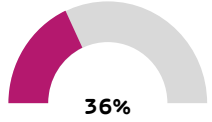
Women Never heard about Menstrual hygiene



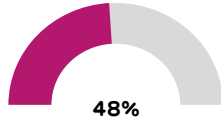
Women faced mild infection in life-time



were using cloths on regular basis



Women had never Used sanitary pads



Women had no information about UTI

Source :Women Sample Survey Report July 2023

*** Funded by – Kutchh Copper Limited**

Women Empowerment

Millet Program

Village Name	Women Participated	Millet dish prepared
Bidada	67	22
Moti Bhujpur	61	12
Mundra	50	20
Mota Bhadiya	50	22
Mandvi	50	24
Siracha	40	14
Tragdi	24	13
Nani Bhujpur	37	23
Kandagra	36	15
Navinal	36	24
Nani-Khakhar	36	18
Nana Bhadiya	25	12
Deshalpar	33	17
Total	**545**	**236**

*** Funded by – Kutchh Copper Limited**

International year of Millets-2023

With the vision of promoting the culture touch, awareness, benefits and consumption of millets in Mundra, we conducted Millet competition in Nine villages.

- Never heard about millets or it's befits 60%
- Never used millets in diet 30%
- Unhealthy lifestyle 75%
- Learned new and healthy dishes 80%
- Weight Management 55%
- Other disease 35%

Community Infrastructure Development

Adani Foundation is dedicated to enhancing the quality of life of communities under the **Community Infrastructure Development Initiative**. It acknowledges the government's role in providing fundamental infrastructure facilities and strives to bridge gaps, ensuring its activities are tailored to meet specific needs and responsive to grassroots requirements. Some of the initiatives include constructing check dams, deepening ponds to augment water storage capacity, infrastructure support to fisherfolk communities, and facilitating access to clean drinking water for villagers.

GPVC

Restrengthening & Desilting of Check dam – 720+ Benefited

Road Renovation and Civil Maintenance Work at Fisherman Vasahat – 600+ Benefited

Construction of Pipe Culvert – 400+ Benefited

River Cleaning and JCB Support - 2250+ Benefited

10 JCB Support for 45 days to Farmers for Cleaning Vadi vistar after cyclone – 1650+ Benefited

6 Percolation Bore well Recharge – 4000+ Benefited

KCL

4 location Pipe Support – 4800+ Benefited

Renovation of High School at Zaarapa – 2200+ Benefited

Renovation of Approach road Vadi Vistar at Mota bhadiya village.- 7200 Benefited

3 Villages - Renovation of Godown and Gaushala Shed

Community Infrastructure Development

377 - AC Roof sheet support to Fisherfolk Vasahat – 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

Work done during Biparjoy Cyclone

Cyclone Biparjoy caused huge losses in Mundra and nearby villages. Adani Foundation's worked for relief and recovery with Panchayat & Government body. More than 17,000 people benefited from various efforts. Adani foundation consider this as ethical responsibility and a source of satisfaction. Stakeholders and government bodies also appreciated the efforts.

Meetings with Taluka & District government officials to facilitate assistance and coordination with local authorities.

Connect With Government & community

Health teams and ambulances on standby in case of emergency.

Health Team

Reached to more than 10000 people by Awaz de to aware all, specially for fisherfolk settlement.

AWAZ DE

4500+ Workforce migration with basic amenities.

Relocate to a secure location

100+ Team member distributed for each taluka/Villages as per requirement

Duty delegation

Monitoring

Tracking the cyclone's progress by AF team member.

Connect

Team members in directly touch with 10 Temporary housing & 60 Villages.

Government

Co- ordinating with Government organizations from Talati to Collector.

Panchayat

Co-oridnate with Gram pancahayat in case they need any emergency support.

Pre-cyclone preparation

- Team distribution
- Workforce migration
- Basic amenities
- Awareness efforts.
- Meetings with government.

During cyclone

- Food and shelter provision
- Fodder support
- Awareness messages
- Vehicle support.
- Coordination with Panchayat

Post-cyclone relief

- Temporary housing
- Food packets
- Excavator support
- Transfer of affected individuals.
- Provision of fodder

Some Glimpses of BiporJoy Relief Work

PROJECT UDAAN

202 institutes visit

5 Corporate visit

13226 Participants

The Project Uddan is an educational initiative led by the Adani Foundation, with the overarching goal of inspiring students to think big through a comprehensive educational mission. As part of this initiative, educational tours are organized, allowing school and college to visit various Adani Group facilities, including Adani Port, Adani Power, and Adani Wilmar refineries at different locations. These tours provide valuable insights for students to aspire for great achievements in their own lives. Moreover, the project enhances students' learning experiences and encourages them to envision themselves as future entrepreneurs, innovators, and leaders.

During six month Udaan project had conducted 202 institutes visit and 5 corporate visit. Total 13226 participants (7688 Male Students, 4861 Female Students and 677 Faculties).

Adani Skill Development Centre

Total Admission in Both centre 2023-24

Mundra

Courses	Female	Male	Total	Revenue Generated
Digital literacy	4	3	7	4130
Hydrography	-	3	3	15,000
Advance Excel training	-	18	18	18,850
RTG Crane Operator	-	15	15	1,50,000
Mud work	30	-	30	Fees Received on F.Y. 2022-23
Solar Technician	-	-	Training Completed on F.Y. 2022-23	42260
Total	**34**	**39**	**73**	**2,30,240**

Bhuj

Courses	Female	Male	Total	Revenue Generated
Digital literacy	34	10	44	25960
Hydrography	-	9	9	45,000
EDP – Tie up with CED	09	21	30	14500
GDA	14	09	23	1,35,280
5 S	-	01	01	590
Interview Skills	-	01	01	00
Industrial Safety	-	01	01	3540
Total	**57**	**52**	**109**	**2,24,870**

Adani Skill Development Centre, Mundra

Digital Literacy

Digital literacy training was provided to seven students at Bhujpur Government High School, and as a part of the DEO project, certificates were distributed .

RTG Crane operator

RTG crane operator training is successfully given to 15 candidates.

Beauty therapist

The distribution of certificates for beauty therapist training celebrated the successful culmination of the program

Mud work

After the mud work training in Dhrab Village, a certificate distribution ceremony was held, benefiting a total of 30 female participants.

Advance Excel training

Eighteen employees from Sumitomo India Ltd. Co. underwent advanced Excel training, significantly boosting their skills.

Adani Skill Development Centre, Bhuj

Digital Literacy

ASDC has partnered with Tally as the Knowledge Partner for its Tally - GST course. The first batch, consisting of 16 students from Bhuj location, achieved a remarkable 100% pass rate.

Real-time exposure

Twenty-five Nursing Assistant trainees gained valuable real-time experience in Emergency services through interactions with 108 Ambulance services and an industry visit.

We offer on-the-job training to nursing students to build their confidence and prepare them for delivering high-quality patient care.

Hydrography training

Provided practical Hydrography training to nine participants.

Entrepreneurship Development Programme (EDP)

Conducted EDP training in collaboration with CED, Gandhinagar, for a total of 30 trainees.

Placement

We successfully hosted a placement drive at our center on April 23rd, where 11 out of 15 candidates secured positions at KK Patel Hospital with an impressive average monthly salary of Rs. 17,000.

AKBPTL - TUNA

ADANI KANDLA BULK TERMINAL PVT LTD -TUNA

Potable Water Distribution
Potable water (17.5 KL per Day) Distribution to Vira and Dhavlvaro Bandar on regular base through Water tanker Regularly through **AKBTPL and GWIL**

Fodder Support
Support of Dry & Green Fodder to Tuna and Rampar Village and Gaushala during Scarcity. That impacted on Cattle health and Milk Productivity.

Total 7410 Kg Dry and 447473 Green Fodder Distribution 1228 3 Villages1228.

Prakrut Rath –Tree Plantation
Total 3000 Tree sapling were distributed to individual And 500 tree have planted at Common place and school with ensure their responsibility for watering and caring.

The paver block work at Vandi and Tuna Common Gathering which enhances their usability and convenience for the community. During the monsoon season, certain areas of Wandi village get waterlogged , .we took measures to clean and address the issue Immediately.

AGEL-Dayapar

Dayapar Adani Wind Energy project is a large-scale wind power project located in the Kutch district of Gujarat, India. It is one of the biggest wind farms in the country, with a total capacity of 575 MW. The project was developed by Adani Group and Inox Wind, it project was commissioned in April 2019 and supplies clean energy to various states in India through power purchase agreements with Maharashtra State Electricity Distribution, NTPC, PTC India

Sr. No.	CSR Activities	Beneficiaries	
1	Ayushman Health card Camp	86	Nana Valaka & Mota Valka
2	General health camp	267	Nana Valaka & Mota Valka Ghadani, Paneli
3	Animal Health camp	1,500+	Gahadani
4	Tree Plantation	5,435	AGEL Surrounding Villages

Village Name									
Village Detail	Mota Valka	Paneli	Ghadani	Ludbay	Amara	Muru	Deshalpar	Haroda	Total
Total Household	224	87	357	278	700	218	351	120	2335
Population	926	520	2224	1509	1913	1329	2025	718	11164
Male	473	261	1110	807	943	696	1026	379	5695
Female	453	259	1114	702	970	633	999	339	5469
BPL	79	34	155	83	180	123	138	24	816
ICDS-Anganwadi	2	1	2	1	2	1	1	1	11
Children Number	180	18	112	35	65	35	32	15	492
Primary School	2	1	2	1	2	1	1	1	11
Students	298	61	242	145	325	143	237	40	1491
Higher secondary School	No	No	No	No	1	No	1	1	3
Students					35		63	20	118
Disable Person	3	3	11	7	5	2	6	5	42
Pond/Chackdams	9	12	8	8	8	6	4	7	62
Two Wheeler	125	40	100	37	80	47	117	40	586
Four Wheeler	25	10	30	15	30	21	38	3	172
Loading Vehicle	1	2	1	6	3	7	9	4	33
Cattle Poppulation	3905	672	1937	3911	1375	1250	1375	1250	15675
Cow	100	166	180	100	175	230	80	100	1131
Buffalo	3750	162	367	3756	350	220	325	250	9180
Sheep/Goat	55	344	1390	55	850	800	970	900	5364
Total Milk Production-(Ltr)	1520	1000	1100	1400	514	700	550	600	7384
Dairy	2	1	2	1	2	1	1	1	11
Land Details (Accor)	2112	3009	2914	268	3154	5678	2015	2043	21193
Farming Land (irrigated)	452	447	805	10	914	317	715	450	4110
Non Irrigated	345	300	510	94	720	335	93	110	2507
Gauchar & Other Land	1315	2262	1599	164	1520	5026	1207	1483	14576
Health Facilities									0
PHC	1	1	1	1	1	1	1	No	7
CHC	No	No	No	No	1	No	1	No	2
Drinking Water									
Home connection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Sanitation									
Toilet facilities	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Electric Facilities									
Individual home connection	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Women SHG	7	3	8	2	1	5	11	No	37

AGL Khavda

Adani Khavda renewable solar plant is a hybrid power project that will use both solar and wind energy to generate electricity It will be built in the Khavda desert along the Indo-Pak border in Kutch district of Gujarat, having Total capacity of 20,000 megawatts (MW), making it the world's largest hybrid renewable energy park and will be cover an area of 72,600 hectares of waste land[1].

It is expected to play a major role in fulfilling India's vision of generating 450 gigawatts (GW) of renewable power by 2030

Tree plantation:- We distributed 650 tree saplings to primary schools along with an awareness session highlighting the importance of trees.

Ayushman Card Facilitation to Dinara, Khavda, Birndiyari, Gorivalli Villages. Total 311 Card Issued.

We have conducted Primary baseline assessments and created Village profile of 07 villages and identify their specific needs, aspirations, and developmental potential.
Though we have started some entry point activities and Based on Village profile data Initially we will start Project Utthan and Some Health and Livelihood projects.

Village Name								
Village Detail	Mota & Kotada	Kuran	Mota Dinara	Nana Dinara	Khavda	Tuga & Jam Kunariya	Khari	Total
Total Poppulation	5500	1800	7500	4000	11000	3300	3600	36700
Total Family	700	300	3000	2500	800	673	470	8443
SC	NO	YES	NO	NO	YES	NO	YES	
ST	NO	NO	NO	NO	YES	NO	NO	
OBC	YES	YES	YES	YES	YES	YES	YES	
General	NO	YES	NO	NO	YES	NO	YES	0
BPL	35	60	500	300	37	500	100	1532
ICDS-Anganwadi	YES	YES	YES	YES	YES	YES	YES	
Children Number	250	45	350	200	300	300	150	1595
Primay School	YES	YES	YES	YES	YES	YES	YES	
Secondary School	NO	YES	NO	YES	YES	YES	NO	
Higher secondary School	NO	YES	NO	NO	YES	NO	NO	
Above 18 to 30 Yrs: 10th pass	15	200	60	12	40	50	40	417
Disable Person	40	12	100	17	10	15	25	219
Senior cityzone	100	100	100	500	500	80	300	1680
Widow	50	60	60	50	20	30	60	330
Unemployed Youth	200	45	40	20	50	120	100	575
Two Wheeler	150	150	250	50	300	70	200	1170
Four Wheeler	15	50	50	25	80	15	20	255
Loading Vehicle	10	43	50	90	100	57	30	380
Cattle Poppulation								
Cow	3400	400	4000	6000	250	8000	3000	25050
Buffalo	3000	350	3000	300	1500	600	10000	18750
Sheep	200	100	1000	1500	50	360	150	3360
Goat	600	2000	2500	200	800	3300	2500	11900
Total Milk Production-(Ltr)	1500	600	2000	6000	3000	3200	4000	20300
Dairy	2	2	3	4	2	2	2	17
Land Details (Accor)								
Farming Land	1000	2500	12500	3200	741	2000	600	22541
Gauchar	200	4500	2000	1800	100	412	480	9492
Health Facilities								
Sub-PHC	NO	YES	YES	NO	NO	NO	YES	
PHC	NO	NO	NO	YES	NO	NO	NO	
CHC	NO	NO	NO	NO	YES	NO	NO	
Drinking Water								
Home connection	YES	YES	YES	YES	YES	YES	YES	
Sanitation								
Toilet facilities	NO	YES	YES	YES	YES	YES	YES	
Electric Facilities	YES	YES	YES	YES	YES	YES	YES	
Individual home connection	YES	YES	YES	YES	YES	YES	YES	
Women SHG	NO	NO	NO	NO	NO	NO	NO	
Sakhi mandal	NO	NO	NO	NO	NO	NO	NO	

Sanghi Cement

Sanghi Cement, located near Moti ber village of Abdasa block , in Kutch, Gujarat. stands as a notable player in the cement industry. The company's presence in the region has a significant impact on the local economy and community.

We have conducted Primary baseline assessments of sanghi Cement Periphery 10 villages. The primary objective of this initiative is to gain a deep understanding of the socio-economic and environmental conditions of these villages, to identify their specific needs, aspirations, Based on that We will design Comprehensive CSR Projects in the core of education, healthcare, livelihood enhancement, women's empowerment,.

6.6 MMTPA capacity Clinker Plant

6.1 MMTPA capacity Cement Plant

143 MW capacity power plants

Village Name											
Village Detail	Nani Ber	Moti ber	Vayor	Hothaiy	Aakri Moti	Nava Vas	Golay	Pakho	Jadva	Pipar	Total
Total House Hold	137	606	1129	116	227	79	288	39	732	192	3545
Poppulation	478	2205	4027	534	426	215	642	130	254	881	9792
Male	248	1272	2715	266	224	111	316	72	373	429	6026
women	230	933	1312	268	202	104	326	58	359	452	4244
BPL											
0-16 Roster	17	24	39	7	51	13	8	9	12	41	221
0-20 Roster	53	56	76	18	70	20	44	11	25	76	449
others	36	21									57
ICDS-Anganwadi	1	3	4	1	2	1	2	0	1	1	16
Children Number	32	122	284	66	34	27	87	0	31	26	709
Boy	20	80	169	35	22	15	45	0	20	15	421
Girl	12	42	115	22	13	12	32	0	11	11	270
Primay School	1	3	2	1	2	1	1	1	1	4	17
Studnets Number	114	401	407	93	59	21	136	19	141	203	1594
Boy	64	213	219	35	33	11	74	8	72	100	829
Girl	50	188	188	22	26	10	62	11	69	103	729
Secondary School	NO	NO	1	NO	No	No	No	NO	No	No	1
Studnets Number	4	4	55	0	5	0	3	0	8	6	85
Boy	0	0	37	0		0		0			37
Girl	0	0	18	0		0					18
Higher secondary School	NO	NO	YES	NO	NO	No	No	0			0
Arts stream-Students	8	5	18	0	0	0		0	10	0	41
Science Stream	No	0	4	0	0	0		0			4
Agriculture											0
Farmers	55	85	151	35	84	15	63	0	53	43	584
Gruh Udhuog	1	0	0	0	0		0	0			1
Cattle Poppulation											0
cow	137	430	366	61	212	350	276	180	1228	581	3821
Buffalo	429	537	426	310	224	43	551	227	1127	841	4715

Village Name											
Village Detail	Nani Ber	Moti ber	Vayor	Hothaiy	Aakri Moti	Nava Vas	Golay	Pakho	Jadva	Pipar	Total
Land Details (Hector)											
Forest	195	191	0	0	0	432	1098	513	0	0	2429
not usable	128	35	406	0	705	116	23	399	1020	4236	7068
Non agri	386	323	35	466	35	0	16	478	1543	9	3291
barred	444	760	209	154	893	24	0	60	96	634	3274
Farming Land	710	281	1083	134	710	66	1167	0	338	400	4889
Gauchar	0	83	113	48	1142	0	32	128	398	98	2042
others					118						118
Irrigation Land-(Hector)		0									0
Canal	102	0	0	0		0	0	0	0		102
well	35	80	50	44	3	0	0	0	0	200	412
lift irrgation	15	44	0	0		0	16	0	56		131
Health Facilities											0
Sub-PHC	No	1	2	No	No	No	No	No	No	1	4
PHC	No	No	1	No	No	No	No	No	No	No	1
CHC	No	No	No	No	No	No	No	No	No	No	0
District Hospital	No	No	No	No	No	No	No	No	No	No	0
Drinking Water											0
Home connection	85	227	990	116	172	79	288	39	254	102	2352
without connection	52		139	0	25	0					216
Sanitation		227									227
Toilet facilities	137	227	990	116	167	60	288	39	200	100	2324
without drainage connection	50		840	0	30	19			54		993
Electric Facilities											0
individual home connection	137	227	990	116	113	60	91	37	240	100	2111
Agri connection	35		10	7	7	0		10	30	2	101
Women SHG	2	2	3	0	1	0		0	3	2	13
Sakhi mandal	11	12	23	4	1	0	5	0	4	15	75
Others											0
Senior Citizen card	5	3		2	21	2	2	0	2	10	47
Widow Penson	1	1		4	3		1	1	26	8	45
Ayushman Card	20	35		32	24		0	0	0	0	111
Disable Pension			3		0		1	0	2	0	6
LPG Gas	58	1	780	10	19	10	60		100	15	1053

ATL-Mandvi & Rapar Block Villages

Adani Transmission is a company active in the power transmission and distribution sector in India and internationally. It holds a significant position as one of India's largest private sector power transmission companies, with a combined network spanning over 12,000 circuit kilometers. We wil start CSR initiatives in 12 villages located within the Mandavi and Rapar Block areas, intersected by the Adani Transmission Line."

We have conducted Primary baseline assessments and created Village profile of 12 villages and identify their specific needs, aspirations, and developmental potential. Based on that We have started CSR Activities in the core of education, healthcare, livelihood enhancement, women's empowerment,.

Village Name							
Village Detail	Kidiyanagar	Bhimasar	Moti khakhar	Gangapar	Moti Bhadai	Nani Bhadai	Total
Total House Hold	1300	1765	436	80	250	116	3947
Poppulation	9000	15000	2139	272	1171	498	28080
BPL	250	290	50	1	31	10	
ICDS-Anganwadi	10	10	1	0	1	1	23
Children Number	30	600	34	0	38	20	722
Primay School	10	13	2	1	1	1	28
Studnets Number	1083	1547	246	6	160	160	3202
Secondary and high secondry School	125	245	144	0	120	NA	634
Agriculture							0
Farmers	650	750	150	80	200	105	1935
Gruh Udhuog	1	0	1	NA	NA	NA	2
Cattle Poppulation							
Cow	400	750	700	100	686	600	3236
Buffalo	2600	1000	500	NA	768	188	5056
Sheep	1500	2500	1000	NA	100	NA	5100
Goat	1500	2500	1000	NA	200	NA	5200
Land Details (acers)	16702	4777	1000	3000	10460.00	4637	40576
Forest	0	100	NA	50	0	NA	150
not usable	1500	100	NA	200	1000	NA	2800
Non agri	NA	386	NA	300	1000	2537	4223
barred	NA	444	NA	450	NA	NA	894
Farming Land	11500	3500	600	1800	7800	2000	27200
Gauchar	3000	237	400	200	600	100	4537
Irrigation Land-(Hector)		0					
well	550	650	150	80	200	105	1735
lift irrgation	100	100	100	60	150	80	590
Health Facilities							0
Sub-PHC	1	1	1	NA	NA	NA	3
PHC	1	1		NA	NA	NA	2
CHC	No	No		NA	NA	NA	0
District Hospital	No	No		NA	NA	NA	0
Drinking Water	1300	1765	436	80	250	116	3947
Home connection	1300	1765	436	NA	250	116	3867
without connection	0	0	0			NA	0
Sanitation							0
Toilet facilities	1200	1650	400	80	200	100	3630
without drainage connection	100	115	36	NA	50	16	317
Electric Facilities							0
individual home connection	1300	1765	436	80	250	116	3947
Agri connection	600		1	80	NA	105	786
Women SHG	2	2	1	NA	200	0	205
Sakhi mandal	10	12	3	NA	1	1	27
Others						0	0
Widow Penson	400	400	40	5	50	25	920
Disable Pension	60	55	13	2	11	10	151

Events

Mother's Day Celebration

On May 14th, we celebrated Mother's Day in Mundra. Mrs. Chhaya ben Gadhvi, former District Education Chairperson of Kutch, delivered an inspiring speech about the importance of mothers in shaping families and our nation's future. More than 200 Mother had participated.

Inauguration of Ground water Recharging projects

On May 17th, Inaugurated a groundwater recharging project involving 21 percolation wells. We were honored to have notable attendees, including Mr. S.K. Prajapati (DDO Kutch), Mr. Rakshit Shah (EDM, APSEZ, Mundra), Mr. Mahendra Gadhvi (Chairman, Kutch Jilla Panchayat), and local Taluka Panchayat Presidents at the event.

Employee Volunteer Program

On May 14th and 15th, 2023, in Samudra Township, Mundra, the Adani Foundation organized a "Joy of giving" in partnership with the Indian Coast Guard Station, Mundra, with the noble aim to assisting those in need with essential items. We gathered old but usable clothes, utensils, and books to provide support to those less fortunate.

Organic Vegetable Shop Inauguration

Adani Foundation is promoting natural farming in Mundra through the "Rajshakti Prakrutik Kheti Sahkari Mandali," a group of 32 farmers. They opened a shop on May 24th to sale their produce open market

Events

Launching Of "Prakruti Rath"

On June 2nd, 2023, Adani Foundation Mundra and Kutch Copper Limited, along with the Government of Gujarat's Social Forestry Department, launched "Prakruti Rath," a 30-day environmental initiative aimed to distribute 50,000 tree saplings to 61 villages via an innovative vehicle that educates about environmental awareness.

Vegetables Kitchne Garden Kits Distribution

On June 3rd, Mundra Petrochemical and Adani Foundation celebrated World Environment Day in collaboration with the District Horticulture Department and distributed kitchen garden kits to over 500 farmers. In the Esteemed presenece of Mr.Amit Arora Collector Kutch.

State-level Kabaddi Tournament

State-level Kabaddi tournament was scheduled through The Maharana Pratap Group of Bhujpur ,more than 21 teams had participated from across Gujarat. We sponsored Rs. 25,000 to The winning team Rs. 15,000 to runner sup Team . We continue to support and encourage young talents for their growth and achievements..

Inauguration of Dates Restoration

Adani Foundation surveyed cyclone-caused agricultural crop damage, particularly date trees. They initiated a comprehensive project in partnership with KVS to restore the trees, commencing on June 24th in the presence of Mr. Anirudh Dave, MLA of Mundra-Mandvi, and Mr. Rakshit Shah, Executive Director of APSEZ, Mundra.

Events

Education Kits Distribution

On June 23rd, Mundra Petrochemicals organized a special program to distribute education kits to students in grades 9 to 12 from the Fisherfolk community. Mr. Omprakash Sir, representing Mundra Petrochemicals, shared an inspiring message about the Important of education. 40 students had benefited.

Inauguration Of Vegetable Market

Adani Foundation developed the Vegetable Market in Mundra, offering 195 stalls for convenient vegetable trading. It was handed over to Mundra Nagarpalika on June 24th, with Mr. Anirudh Dave (MLA Mundra-Mandavi) and Mr. Rakshit Shah (Executive Director of APSEZ, Mundra) present.

Guru Purnima Day Celebration

On July 3rd, Project Uthhan Mundra celebrated Guru Purnima Day across 69 primary schools and 8 high schools. The day commenced with a special prayer dedicated to the teachers (Gurus), followed by engaging activities such as drama performances and elocution competitions among the students.

Millet Food Competition

AF organized a Millet Dish competition on July 14th. in Collaboration of ICDS Department.Top three winners were recognized, and rewarded them, encouraging millet-based cooking

Events

Conservation of the Mangrove Ecosystem

On July 26th, Mundra Petrochemical celebrated Mangrove Day with spreading awareness over 9th and 10th-grade students and Fisherfolk The session ended with a Mangrove plantation. 150 + People had participated.

Kala Utsav Program

Kalautsav program was organized in collaboration with the District Education Department, on the 11th of August. The event was featured with various competitions, including drawing, singing, and instrumental playing. 70+ students from secondary and higher secondary schools from42 School of Mundra had participated..

Rakshabadhan Celebration

On Rakshabandhan, eco-friendly Rakhi making competition took place in all Utthan schools of Mundra. 46 exceptional girl students tied their Rakhis to BSF soldiers in Jakhau as a gesture of respect and gratitude.

Dr. Priti G Adani mam's 58th Birthday

On August 29th, Mundra Petrochem Ltd. marked Dr. Priti G Adani's 58th birthday with three impactful initiatives: 8,000 tree plantings in Deshalpar village, 500 sapling distributions at Government High School, and a workshop for 60 farmers on sustainable farming, all geared towards enhancing the local ecology and community resilience.

VVIP and VIP visits

Kajal Oza – Vaidhya

Famous Gujarati author and motivational speaker Mrs. Kaajal Oza Vaidya visited our Natural farming fields in Mangra village.

Fulcrum Batch 0

HODs of different business group of Adani came for CSR visit of Batch-0 as part of Fulcrum Leadership Development Program at Mundra.

Jay Vasavda Visit

Famous Gujarati writer and orator Mr. Jay Vasavada had visited our CSR work.

Pranav Adani Sir's Visit

Mr. Pranav Adani, along with other VIP guests, visited the Mangrove Plantation area in Luni coastal.

VVIP and VIP visits

VIP Visit : Ms. Lisa

Mrs Lisa MacCallum, Independent Director of Adani Energy Solution had visited our CSR work at Mundra.

VIP Visit – Sairam Dave

Mr. Sairam Dave, a renowned humorist and educationalist, visited Uthhan to inspire and motivate the students and teachers.

Journalist Visit

All journalist team came from Jarkhand ref by Ms. Varsha Chainani. They visited Women Empowerment and Agriculture Projects

AVMB Visit – Sairam Dave

Mr. Sairam Dave, a renowned humorist and educationalist, visited AVMB to inspire and motivate the students and teachers.

Award & Recognized

The Gujarat State Disaster Management Authority has acknowledged Adani Ports and SEZ for their outstanding support in establishing the world's top-ranking Miyawaki forest at Smruti Van, Bhuj. The Adani Foundation team actively monitored the project's advancement and made frequent site visits to ensure effective coordination..

Mr. Rajubhai, a team member of the Adani Foundation, was honored with the District Level Van Mitra Award by the District Administration during the 74th Van Mahotsav for his outstanding contributions to intensive tree plantation initiatives.

Case Study

A Breath of Change: Soanbai's Bio Gas Journey

Sonbai Vishram, a diligent 46-year-old woman, resides with her close-knit family in Vadi Vistar, Zarapara. She oversees a herd of 13 cattle with enthusiasm while caring for her seven family members. However, her life was far from easy. Every day, she would wake up at the crack of dawn and head into the dense farm to gather firewood. The Chulha, a traditional clay stove, was her only means of cooking, but it came with a hefty price.

Chopping wood and inhaling the thick smoke took a toll on Sonbai's health. Her eyes stung, her chest felt heavy, and she often found herself coughing uncontrollably. Furthermore, a lot of time is consumed by cutting wood. She deeply longs for more moments with her family, rather than devoting all her time to woodcutting; this sometimes leads to feelings of regret and sadness.

Seeing her mother's condition, her daughter Jetbai felt deeply disheartened. Fortunately, she learned that Mundra Petrochem was distributing biogas through a government-funded project "Gobardhan" to assist those in needs. She reached out to the Mundra Petrochem team, and upon witnessing her helplessness, they extended their support. They took full responsibility for all the documentation, registration, banking work, and installation. They also cover 50% of beneficiaries' biogas expenses. Additionally, they offered comprehensive training in biogas usage and maintenance, along with regular follow-up visits.

As soon as the biogas stove was up and running, Sonbai's life began to transform. Cooking became a breeze, and the air in her kitchen was free of choking smoke. Now, after eight months of using biogas, Sonbai's health has shown remarkable improvement, and she feels more energetic than she has in years.

She couldn't believe the remarkable transformations that had occurred in her life. Now, whenever she meets our team, she expresses her gratitude, and witnessing her radiant smile and heartfelt thanks, we find the true reward for our efforts.

Rising Above the Menstrual Taboo

This is a story of Laxmiben and many women like her living in Zarpara village. As women, they have the incredible gift of giving birth, but they also go through the monthly menstrual cycle. However, in many villages, including Zarpara, menstruation is considered a taboo topic. Women are often hesitant to talk about their personal experiences, and many don't even know about the menstrual cycle and its science.

Seeing the challenges faced by these women, Devalben and Roopaben, with the support of the Adani Foundation, organized a menstrual hygiene awareness camp in Zarpara. In this camp, they provided education about menstrual health to all the women. In just a short session, women began to open up and talk freely about their experiences. They revealed that they had never used menstrual products and typically relied on old, used cloths. In addition to this, their daughters had to miss school due to a lack of resources and the uncomfortable feeling during their periods.

Hearing these stories, Devalben and Roopaben explained the harmful effects of using old cloths and not maintaining proper hygiene during menstruation. They introduced the women to different menstrual products and taught them how to use and dispose of them correctly. They also discussed the various health issues that could arise from poor menstrual hygiene. Many women realized that they had experienced symptoms of these health problems but had never paid attention to them.

To help the women understand better, they showed an informative video about the menstrual cycle. After the session, the women felt grateful for the knowledge they had gained. Many of them admitted that they had never taken menstruation seriously before but were now committed to practicing proper menstrual hygiene. Those with symptoms of menstrual health issues decided to seek medical advice and treatment. All the women pledged to use sanitary pads regularly and ensure that their children's health and education were not affected by menstruation.

Our team was equally delighted that these women had broken free from the menstrual taboo and were determined to prioritize their menstrual hygiene.

Mayuri's Journey: A Tale of Determination and Hope

Mayuri comes from a simple middle-class family with four sisters. Her mother is a homemaker, while her father is a wage earner. They didn't have a lot of money, and life was tough.

Despite the financial hardships, Mayuri applied for the PSE exam, hoping it would open doors for her future education. She embarked on this journey alone, being the sole girl in her class brave enough to take on the competitive exam.

Mayuri's life took a hopeful turn when she crossed paths with Utthan Sahayak. This mentor provided her with a comprehensive guide for the PSE exam. This guide was like a lifeline for her. It made her feel more confident and less confused.

Mayuri was determined to succeed. She worked really hard. She found books and old exam papers to study from. She even watched videos on YouTube to learn more. She spent 2-3 hours studying every day, sometimes giving up fun things to focus on her studies. She didn't keep all that knowledge to herself; she shared what she learned with her friends and even during school prayers.

Mayuri went to the library often and used teaching and learning materials to learn more. She read a lot and practiced so much that she became really good at school competitions and public speaking. Her general knowledge improved and she became an expert in Gujarati grammar.

But, despite all her hard work, Mayuri didn't get the top score in the PSE exam. It was really disappointing for her. She had worked so hard, and it felt like all her efforts were in vain. But, it wasn't all bad. This experience taught her to never give up and to keep hoping for a better future.

The Magic of Practice: a remarkable Handwriting Transformation

Buchiya Nita, a diligent third-grade student at Gundala Kanya School, faced a deep-seated issue - her handwriting. Despite the correctness of her content, her messy handwriting often cast a shadow on her answers, making them appear incorrect. She held a belief that her handwriting would never improve and that it didn't hold much significance.

One fateful day, a compassionate Utthan Sahayak named Chauhan Kinjalba stepped in to assist her. Kinjalba aimed to aid Nita in enhancing her handwriting and enlighten her about its importance. Kinjalba noticed the errors Nita made while writing and gently pointed them out, allowing Nita to rectify them independently.

Nita's daily homework included writing a paragraph. Through persistent practice and unwavering commitment, her handwriting gradually became neater over several months. The ultimate test arrived when a calligraphy competition was organized. To the delight of everyone, Nita secured the second position in the competition, and her heart brimmed with joy at the remarkable improvement in her handwriting.

From a mischievous troublemaker to a responsible scholar

The teacher-student relationship is like the two wheels of a cart. When both wheels work together smoothly, the cart goes forward without any interruption. However, if one wheel comes loose, the cart stops in its tracks.

One such story revolves around Kumbhar illiyash, a student at Gundala Kumar School. Utthan Sahayak learned from teachers and fellow students that Illiyash was quite mischievous. He occasionally took items from other kids in class, sometimes bothered his classmates, disrupted the class with his behavior, and frequently seemed disinterested in his lessons.

Utthan Sahayak decided to have a loving and understanding conversation with Illiyash to encourage him to change his behavior. They would sit together every day, and she would teach him new habits and engage him in various activities. Gradually, Illiyash started developing an interest in learning, and with consistent effort and engaging activities, his active mind was redirected toward education, leading to a positive change in his behavior.

Just as milk and curd complement each other, Illiyash, once a mischievous child, has transformed into a well-behaved student today.

Raisingh's Inspiring Journey: Overcoming Disability to Find Independence

This is the story of Raysi maheshwari, who lives in Mota Kapaya village. When he was just 2 years old, he was affected by polio, and as he grew, 75% of one of his legs became nonfunctional. His childhood was different from other kids, he faced a lot of difficulties in doing daily tasks and had to depend on others. It's truly hard to put into words the profound difficulties he endured because of his condition. In the face of disability, Raysi's thirst for education and his refusal to depend on others for his livelihood remained unwavering. His determination was unbreakable, and he fearlessly confronted every obstacle that crossed his path.

Raysi completed his education up to the 12th grade and started searching for a job to become financially independent. However, transportation was a big challenge for him. He had to walk long distances many times, even though it hurt because of his disability.

Fortunately, in 2021, he learned about a job fair organized by the Adani Foundation on World Divyank Day. He decided to participate and impressed the interview panel with his skills. As a result, he got a job as a Gate operator at Rangoli Gate, Adani Port with a monthly salary of Rs. 13,000. Because of his dedication and hard work, his salary was later increased to Rs. 18,000 within a short time.

In addition to the job, he received medical certificates and continuous support from our team. Raysi is married now and has two children. His wife is also disabled, and the Adani Foundation supported her with a wheelchair. Now, she can efficiently manage household chores in less time.

Raysi and his family deeply appreciate these assistances. He now earns enough to provide for his family and support his children's education. The family is no longer financially dependent on anyone and lives with dignity and happiness. The Adani Foundation feels fortunate to witness the positive changes in the lives of people like Raysi, and consider it as the most meaningful reward for their efforts.

Shaping Lives:
From Pagdiya Fishing to Prosperity

Fisherman of Luni Village, a father of four boys and a girl, toiled tirelessly in the trade of Pagdiya fishing to ensure his family's survival. Despite the inherent vulnerability and daily hardships, he nurtured a singular dream - to provide his children with education and a better quality of life.

Through immense sacrifice and unwavering determination, he managed to educate his children up to the primary level. However, as their education progressed, financial constraints became a significant impediment. Unfortunately, two of his children had to drop out after completing the seventh year of their education due to these financial limitations.

Upon learning about their struggles, our organization reached out to him, extending scholarships to support the further education of his children. This assistance rekindled hope, allowing his second child to rejoin high school. Subsequently, it paved the way for the third and fourth child to continue their studies up to the twelfth grade.
However, our support did not end after their high school graduation. We maintained consistent contact, providing guidance and mentorship to tailored their individual interests and strengths, with the aim of helping them establish their careers.

As a result of our interventions, the children have experienced a remarkable transformation. The eldest, Mr. Altaf, attended RTG training for three months and is now employed as an RTG Operator at Adani Port, earning a salary of Rs. 22,000 per month. The second son found employment at MICT as a supervisor, earning Rs. 17,000 per month. The third child pursued his passion for photography and started his own photography studio, earning more than Rs. 20,000 per month.

Their father, Ali Mammad, expressed his heartfelt gratitude towards the Adani Foundation for their scholarship support, which served as a beacon in shaping their children's lives.

Breaking Waves of Poverty: Empowering Fisher folk through Education

The Fisher folk community resides a significant distance from the main city. Their primary means of sustaining themselves centers on fishing. This community experiences financial hardship and lacks access to education. They are hesitant to explore other professions because they have no education, awareness, or support. The challenging circumstances of their parents also affect the well-being and future prospects of their children.

Due to financial struggles, the children in the fishing community could only manage to complete their primary education before being compelled to join their parents in fishing jobs. This heart-wrenching cycle not only robbed them of the opportunity for a brighter future but also kept their community trapped in the clutches of relentless poverty.

Upon discovering their dire circumstances, the Adani Foundation Team with Mundra Petrochemical empathetically engaged with the children, who tearfully expressed their deep desire for education but sadly acknowledged the lack of sufficient resources to afford the necessities for school.

In an effort to uplift underprivileged children in the community, our team decided to provide them with vital learning materials to alleviate their financial burden. We provided students in grades 9 to 12 with essential educational materials, including textbooks, notebooks, and school bags. This initiative benefited a total of 61 students from the villages: Navinal, Modva, Tragdi, and Zarapara.

As a result of our support, both the children and their parents found substantial financial relief concerning education. This resulted in a decrease in school dropouts, and the children started attending school consistently. They now study without the burden of financial constraints and have a renewed determination to chase their dreams and secure stable jobs.

We consider ourselves incredibly fortunate to have been able to assist these children. Our longstanding wish has been for the children of fisher folk not to be confined to the path of becoming fishermen but to instead pursue education and secure stable jobs, thus breaking the cycle of poverty.

Unleashing Potential: Education beyond Boundaries

Modhva is a small village in Mandvi having a handful population, the life here revolves around the gentle rhythm of fishing. Families struggle with making ends meet as meager earnings barely cover daily expenses. The children in the village receive a basic education, advancing only to classes 5 or 6. Unfortunately, after this stage, a significant number of these young learners are bound to leave school and join their parents in the fishing trade.

Acknowledging the plight of undereducated students, Adani Foundation in coordination with GPVC team organized distinct meetings with both the students and their parents. In a heartfelt confession, the students expressed their eagerness to attend school but due to the lack of a local high school and financial constraints, they were unable to attend the nearby high schools. The parents clarified that their village serves as the last settlement along the coastline. Consequently, because of its remote location, there are no available transportation facilities. Their means of livelihood barely cover their essential expenses, leaving them unable to afford personal vehicles or rely on daily public transportation. Many parents wish to educate their children but feel helpless to do so.

Recognizing the economic challenges faced by the parents and driven by a commitment to educate these vulnerable children, our team stepped forward to assist by offering a complimentary transportation solution. Through firm dedication, we secured a van capable of accommodating twelve students, which has now been provided to the villagers in need. A local resident has been entrusted with the role of the driver, receiving a fair wage for their service.

Since June 2023, a group of six girls and five boys have shown unwavering commitment to attending school in the village of Gondiyali, situated 16 km away from Modhva. The fear of dropping out no longer casts its shadow, and parents are relieved of the burden of transportation expenses.

Upholding the belief that education is a boundless right accessible to all, GPVC team wholeheartedly extend our wishes for a future brimming with opportunities and success for these children.

Shaping Lives:
From Pagdiya Fishing to Prosperity

Imagine finding yourself trapped in the clutches of old age, battling declining health, and struggling with dire financial constraints. What would be Next ? However, within these challenging and circumstances, there are some remarkable stories of individual ,Through his journey, we witness how timely intervention and unwavering support can breathe new life into individuals and their families, igniting a flame of hope, healing, and renewed optimism.
One such story is that of Siddique Bhai Khatri, a 63-year-old resident of Mundra, Kutch fighting a relentless battle with tobacco addiction, succumbs to the merciless grip of oral cancer. As he receives the devastating biopsy report, it not only reveals the grim reality of his failing health but also serves as a stark reminder of his near-empty bank balance. With the exorbitant cost of the necessary operation hovering around 2 lakhs, Siddique Bhai finds himself teetering on the precipice of desperation.

Recognizing the Adani Foundation as a trusted ally in times of health-related crises, Siddique Bhai connected to Kishor Bhai, a representative from the foundation. personally visited Siddique Bhai's home on same day, This gesture of care provided much-needed solace to Siddique Bhai and his worried wife, who openly shared their financial predicament and concerns about the illness.

Understanding the urgency of Siddique Bhai's situation, Kishor Bhai assisted him in swiftly obtaining the Ayushman Card. **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (PM-JAY), offers comprehensive healthcare coverage of up to 5 lakhs for various hospitalization** within a remarkable 8-hour timeframe. This prompt response and timely access successfully underwent Sidikbhai to the much-needed operation at Adani GK General Hospital.

After a recovery period of 8 days, Siddique Chacha returned home, reinvigorated and ready to face life's challenges anew. Today, two months later, he can be seen in the marketplace, his eyes twinkling with joy and gratitude. Meeting Kishor Bhai, Siddique Chacha's eyes speak volumes, conveying his deep appreciation for the Ayushman Card and the support provided by the Adani Foundation.

As of the date, over 5584 Ayushman cards have been issued, enabling individuals to access essential healthcare services.

Press Note

કચ્છ ભાસ્કર 25-06-2023

મુન્દ્રામાં નવી શાકમાર્કેટ અઠવાડિયામાં ધમધમતી થશે

નગર અને બારોઈરોડના તમામ લારીધારકોને સ્થાયી થવા પાલિકાનું આહવાન

સ્ટોલ દીઠ રૂ.4500 ભાડું : લાઈટ બિલ પાલિકા ભોગવશે

ગૌતમભાઈ અદાણીના ૬૧ માં જન્મદિવસની કચ્છ સ્થિત વિવિધ પ્રકલ્પો દ્વારાવિવિધ સેવાકીય કર્યો કરી ઉજવણી કરવામાં આવી

મુંદ્રા તાલુકાના તમામ લોકોને 'આયુષ્યમાન' હેઠળ આવરી લેવાશે

વાવાઝોડાનાં અસરગ્રસ્તોને ભોજન, આરોગ્ય સહિતની અદાણી જૂથની સેવા

ફાઉન્ડેશન દ્વારા લોકોને હજારો ફૂડ પેકેટ અપાયા : રેસ્ક્યુ ટીમ ખડેપગે રહાઈ

ઉમરપાડામાં ટીબીનાં ૭૦ દર્દીઓને ધારાસભ્ય ગણપત વસાવાના હસ્તે પૌષ્ટિક કીટનું વિતરણ

(તસવીર : સંતોષ મિસ્ત્રીયા)

અદાણી ફાઉન્ડેશન દ્વારા ઉમરપાડાના ટીબીના દર્દીઓને છ મહિના સુધી કીટ આપવામાં આવશે

અદાણી ફાઉન્ડેશન દ્વારા મુંદ્રાના મહિલા સ્વસહાય જૂથને ગૌ દાન !

ગાય આધારિત ઉત્પાદનો લાભાર્થીઓ માટે 'કામધેનુ' સમાન

Press Note

રાજ્યપાલનું પ્રાકૃતિક ખેતી માટે આહ્વાન

મુંદરા સ્થિત અદાણી ફાઉ. સાથે શ્રી રાજશક્તિ પ્રાકૃતિક ખેતી મંડળીના ખેડૂતોએ મુલાકાત લીધી

રાજ્યપાલ આચાર્ય દેવવ્રતજીની કચ્છની સૌપ્રથમ શ્રી રાજશક્તિ પ્રાકૃતિક ખેતી સહકારી મંડળીના ખેડૂતોએ મુલાકાત લીધી હતી. તેમની સાથે અદાણી ફાઉન્ડેશનના ગુજરાત સીએસઆર વડા પંક્તિબેન શાહ અને ધારાસભ્ય અનિરુદ્ધભાઈ દવે રહ્યા હતા.

लोकतेज

अदाणी फाउंडेशन, दहेज द्वारा 'पेड़ों के माध्यम से विकास' ग्रामीण विकास अभियान

फलदार पौधों से आने वाले वर्षों में किसान की आय में वृद्धि होगी

અદાણી ફાઉન્ડેશન અને અદાણી ગ્રીન એનર્જી દ્વારા લખપતમાં આરોગ્ય કેમ્પ યોજાયા

આયુષ્યમાન કાર્ડ, તબીબી સારવાર અને પશુઓને રસીકરણ કરાયું

અદાણી નવચેતન વિદ્યાલય, જૂનાગામમાં ફળાઉ છોડ અને શૈક્ષણિક કીટ આપી શાળા પ્રવેશોત્સવ

ભરૂચના પૂરગ્રસ્ત ત્રણ ગામમાં અદાણી ફાઉન્ડેશન દ્વારા રાશનકીટનું વિતરણ

(1.81 MB) KUTCH PATRIKA 29...

અદાણી ફાઉન્ડેશન દ્વારા બિદડામાં મધર્સ-ડે ઉજવણી અંતર્ગત મિલેટ્સની વાનગી બનાવવાની હરીફાઈનું કરાયેલું આયોજન

અદાણી ફાઉ. દ્વારા મુંદ્રામાં પશુધનની સુરક્ષા માટે પશુ આરોગ્ય કેમ્પનું આયોજન

૨૦,૦૦૦ પશુઓને તંદુરસ્ત અને નિરોગી રાખવા અનોખી પહેલ

મોરબીની બાળાઓ સુધી 'જ્ઞાનોદય' અને 'વિજ્ઞાન'ની ઉડાન

બાળકોના ભવિષ્યને ઉજ્જવળ બનાવવા અદાણી ફાઉન્ડેશનના ભગીરથ પ્રયાસો

Annexure – 4

डॉ. एम. सुरेश कुमार /Dr. M. Suresh Kumar
मुख्य वैज्ञानिक तथा प्रमुख/Chief Scientist & Head
प्रोफेसर एसीएसआईआर/Professor AcSIR
पर्यावरणीय प्रभाव एवं संधारणीय प्रभाग
Environmental Impact & Sustainability Division
Ph/Off : (91) (712) 2247844
EPABX : (91) (712) 2249885-90(Ext.354)
Fax : (91) (712) 2249896
E.Mail : ms_kumar@neeri.res.in
eisd@neeri.res.in

सीएसआईआर–राष्ट्रीय पर्यावरण अभियांत्रिकी अनुसंधान संस्थान
नेहरू मार्ग
नागपुर 440 020
(भारत)

CSIR-National Environmental Engineering Research Institute
Nehru Marg
Nagpur 440 020
INDIA

No: ECCA-AP&SEZ/CSIR-NEERI/08

Date: 01/11/2023

To,
Head-Environment,
M/s. Adani Ports and Special Economic Zone Limited,
Adani House, P.O. Box No.1,
Mundra, Kutch - 370421.

Sub: Status of SEZ Environment Clearance Compliances
Ref:

1. SEZ Environment Clearance bearing MoEF letter No. 10-138/2008-I A.III, dated 15th July, 2014 (Specific Condition No. vii)
2. SO No. 5702004926, dated: 27.01.2022
3. Site Visit dated 20-21.09.2023

With reference to the above stated subject and references, work has been awarded to us for studies through Environment Clearance compliance audit at Multi Product SEZ of M/s. Adani Ports & SEZ Limited, Mundra with reference to EC Specific Condition No. (vii).

Accordingly, the site visit was conducted on 20th to 21th September, 2023 and the compliance report (October 2022 - March, 2023) was reviewed by us. It was further assessed from the monitoring reports submitted to us and site visit carried out, as part of the compliance report that all the environmental norms meet the applicable standards.

It has been concluded all the conditions stipulated in Environment Clearances are being complied and there is no violation of any condition. The existing practices shall be continued in future as well to ensure meeting with the applicable norms.

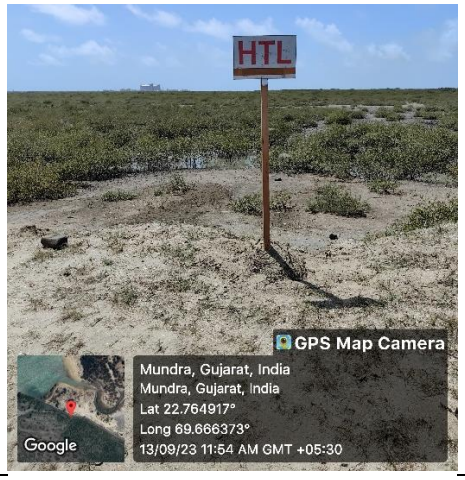
With Regards,

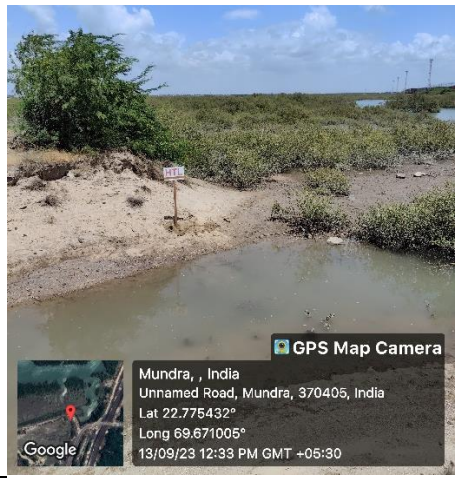
01/11/2023

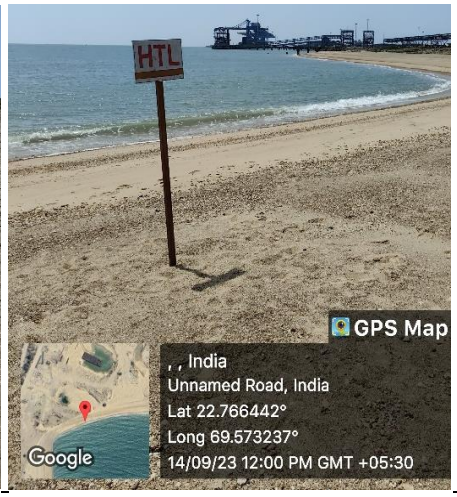
(M. Suresh Kumar)

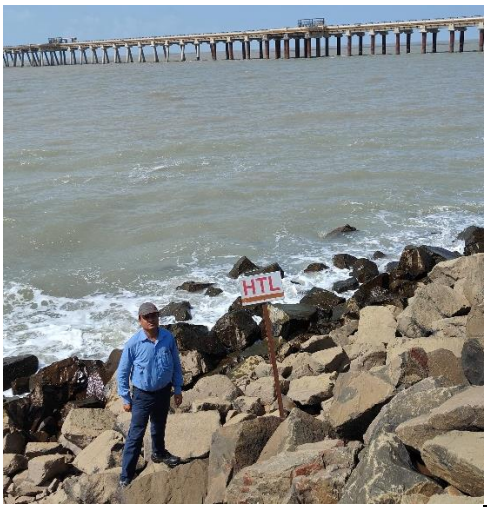
Annexure – 5

SOME PHOTOGRAPHS OF HTL BOUNDARY DEMARCATION DISPLAY BOARD









Annexure – 6

Details of Greenbelt Development at APSEZ, Mundra

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

Details of Mangrove Afforestation done by APSEZ

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

Annexure – 7

adani
Ports and Logistics

Compliance Report of EMP & Mitigation Measures

Sr. No.	Suggested Measures	Compliance Status
Construction Phase:		
1	Proper care is warranted while dredging which should be in a controlled manner. It should also be insured that reclamation, dredging, widening and slop stabilization measures do not significantly alter the stabilized erosional-accretional regime and prevailing rate of exchange of water between the outer area of the intricate creek system as well as the free flow of tidal water, to protect the mangroves.	All construction and operation activities as well as dredging and reclamation activities are being carried out as per the approvals. Please refer condition no. 8 & 9 of the CRZ recommendation compliance report for further details.
2	Good sanitation, water and fuel should be made available to the work force. Labour colonies should be set-up landward of the HTL and away from mangrove.	Most of the construction labours resides in the nearby villages where all basic facilities are easily available. However, for those residing near the construction site, infrastructure facilities such as water supply, fuel, sanitation, first aid, ambulance etc. are provided by APSEZ. Details were submitted as a part of compliance report submission for the period Apr'17 to Sep'17. Please refer general condition no. ii of the EC & CRZ clearance for further details.
Operation Phase:		
1	Wastewater such as generated during cleaning of jetties, floor washing, domestic use etc. should be collected in a settling pond and released to marine environment only after ascertaining that it is free from oil and SS. The toilets on the jetties must have compact sewage treatment facilities.	Entire quantity of sewage generated from APSEZ premises is being treated in designated ETP / STP and treated sewage is used for Horticulture purposes. Please refer specific condition no. xii of the EC & CRZ clearance or further details.
2	Dust should be routinely monitored at the vantage points and corrective measures such as water sprinkling should be practiced if it increases beyond permissible limits.	Ambient Air Quality (twice in a week) monitoring is being carried out by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Adequate safeguard measures are being taken for abatement of dust emissions.

Sr. No.	Suggested Measures	Compliance Status
		Please refer specific condition no. xi of the EC & CRZ clearance or further details.
3	It should be ensured that the effluent released into the Gulf meets the prescribed GPCB criteria at all times.	Entire quantity of effluent / sewage generated from APSEZ premises is being treated in designated ETP / STP and treated water is being utilized on land for Horticulture purposes after compliance with GPCB standards. Please refer specific condition no. xii of the EC & CRZ clearance or further details.
4	Appropriate spill response scheme (Tier-1 to Tier-3) should be in place to minimize impacts on marine environment, should a spill occur.	Oil spill contingency plan is in place to handle Tier 1 level oil spills considering different accident scenarios, and the vulnerable areas are identified and mitigation plan is prepared. Oil spill contingency response plan updated on 31.07.2022 is in place and implemented. Updated Oil spill contingency response plan was submitted in the last compliance period Apr'22 to Sep'22.
5	MPSEZL should commit mangrove restoration programme through afforestation in a defined time frame over larger and promising areas and should monitored periodically and protect from anthropogenic pressures.	APSEZ has carried out mangrove afforestation in 3890 ha. area across the coast of Gujarat. Please refer specific condition no. i & vii of the EC & CRZ clearance or further details.
6	A comprehensive marine quality monitoring programme with periodic investigations at predetermined locations should be undertaken by a specialized agency.	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. Please refer specific condition no. ix of the EC & CRZ clearance or further details.
7	The dust and noise levels at pre-decided locations including the jetty sites should be periodically monitored and remedial action taken if the levels exceed the prescribed norms.	Ambient Air Quality (twice in a week) and Noise (once in a month) monitoring are being carried out by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. Please refer specific condition no. xi of the EC & CRZ clearance or further details.
8	MPSEZL should establish an Environment Management Cell	M/s APSEZL has a well-structured Environment Management Cell, staffed

Sr. No.	Suggested Measures	Compliance Status
	(EMC) directly under the control of the Chief Executive.	with qualified manpower for implementation of the Environment Management Plan at site. Site team report to Sr. Manager (Environment) at Corporate, who heads the Environment Management Cell who directly reports to the top management. Environment Management Cell Organogram were submitted as part of compliance report submission for the duration of Apr'21 to Sep'21. And there is no further change.

Annexure – 8

F.No.11-9/2023-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
IA-III Section (CRZ)

Indira Paryavaran Bhawan
Jor Bagh Road
New Delhi – 110003
Dated: 5th April, 2023

To

M/s Adani Ports and SEZ Limited
Adani House, Nr. Mithakhali Circle
Navarangpura, Ahmedabad
Gujarat – 380009

Email: environment.mundra@adani.com

Subject: Development of Road, Rail, Utility Corridor and LPG Pipeline at Mundra, District Kutch, Gujarat by M/s Adani Ports and SEZ Limited - CRZ Clearance - regarding.

Sir,

This has reference to your proposal No. IA/GJ/CRZ/411806/2022 dated 18th January, 2023 on the above mentioned project proposal for CRZ Clearance, in accordance with the provisions of the Coastal Regulation Zone (CRZ) Notification, 2011 issued under the Environment (Protection) Act, 1986.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for CRZ Clearance to the project for Development of Road, Rail, Utility Corridor and LPG Pipeline at Mundra, District Kutch, Gujarat by M/s Adani Ports and SEZ Limited.

3. The proposal was considered by the Expert Appraisal Committee (EAC) for Infrastructure Development, Coastal Regulation Zone, Building / Construction and Miscellaneous projects, in its meeting held on 7th February, 2023. The project proponent and their consultant made detailed presentation and informed as under:

(i) M/s Adani Ports and SEZ Limited (APSEZ) has proposed to (i) develop a new utility corridor from the west side of south port, which comprises of road, rail, pipeline, HT line, other utility services and proposed to develop (ii) underground cross-country LPG pipeline route (@91.35 km) from east side of the south port connecting Mundra LPG Terminal Pvt Ltd to GAIL facility at Mithirohar, Gandhidham.

(ii) M/s APSEZ has proposed that project utility corridor will have a width of 100m and approximate length of 7 km, inclusive of 2 numbers of 4 lane roads, 2 railway lines, pipeline, HT power line and other utility lines (including facilities such as pipelines, power & networking cables, gas networks etc.). The entire stretch of the corridor will be above ground and at the creek crossing; it will be on an elevated bridge supported with pile structure. The dimension of the utility corridor as:

S. No	Type of the Corridor Lane	Proposed width of each corridor (m)
1	Utility corridor	12
2	Pipeline corridor	20
3	Rail corridor	15
4	Road corridor	35
5	Power / HT line corridor	18
	Total width	**100**

(iii) The Area falling in CRZ as:

Proposed Project Activities	CRZ IA	CRZ IB	CRZ III (NDZ)	CRZ III (200 m to 500 m)	CRZ IV B
Proposed LPG Pipeline (m)	-	-	-	1259.12	-
	370.03	59.68	91.87	-	-

	175.79	10.19	42.09	-	-
Proposed HT Power Line (Length in m)	-	-	801.85	-	46.05
	1733.08	355.70	1110.01	-	396.15
	1601.18	-	418.61	-	-
Proposed Road Corridor (Area in Ha)	2.19	0.61	0.72	-	0.22
	7.63	0.31	2.80	-	-
Proposed Pipeline Corridor (Area in Ha)	-	0.00	6.03	1.79	-
	0.91	0.33	13.15	-	0.09

(iv) The CRZ applicability for the project as:

S.No	Proposed Development	CRZ Classification	Permissible clause as per CRZ Notification 2011
1	Proposed underground LPG Line	CRZIII NDZ (Port Limit)	3(iv)(a), 4(i)(a) &(f), 4(ii)(d)
2		CRZIII (Port Limit)	3(iv)(a), 4(i)(a) &(f), 4(ii)(d)
3		CRZ IA (Mangrove Buffer)	3(iv)(a), 4(i)(a) &(f), , 4(ii)(d), 8(I)(i)(b) &(c)
4		CRZ IB	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d) and 8(I)(ii)(g)
5	Proposed HT Power Corridor	CRZIII NDZ (Port Limit)	3(iv)(a), 4(i)(a) &(f), 4(ii)(d)
6		CRZIII (Port Limit)	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d)
7		CRZIVB	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d)
8		CRZIA (Mangrove Buffer)	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d), 8(I)(i)(b) &(c)
9		CRZ IB	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d) and 8(I)(ii)(g)
10	Proposed Road and Rail Corridor	CRZIII NDZ (Port Limit)	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d)
11		CRZIA (Mangrove Buffer - On Stilts)	3(iv)(a), 4(i)(a) &(f), 4(ii)(d), 8(I)(i)(b) &(c)
12		CRZIA (On Stilts)	3(iv)(a), 4(i)(a) &(f), 4(ii)(d), 8(I)(i)(b) &(c)
13		CRZIVB	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d)
14		CRZ IB	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d) and 8(I)(ii)(g)
15	Proposed Pipeline Corridor	CRZIII NDZ (Port Limit)	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d)
16		CRZIII (Port Limit)	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d)
17		CRZ IB	3(iv)(a), 4(i)(a) &(f) , 4(ii)(d), and 8(I)(ii)(g)

(v) The total Employment likely to be about 60 during construction phase (Temporary: 50 and Permanent: 10).

(vi) The project site is falling under Zone V (Highest Risk Zone) – Seismic Zone and Disaster Management Plan has been drawn for natural disasters such as earthquake, cyclone, tsunami, flood and man-made disaster such as fire

(vii) The estimated cost of the project is approximately ₹495 Crores. The EMP budget allocated ₹35 lakhs Per Annum.

(viii) The Gujarat Coastal Zone Management Authority *vide* letter No.ENV-10-2018-76-T, dated 20/10/2022, has recommended the project for CRZ clearance.

4. The Committee made detailed deliberation on the proposal. The Committee noted that the GCZMA has recommended the project and intimated that the activity is permissible. The EAC advised to PP that the LPG pipeline is not a Public Utility Corridor and it need clarification in this regard and also suggested to submit clarification immediately by e-mail to all EAC Members. The PP has submitted clarification *vide* e-mail / letter No. Nil, dated 07/02/2023 and same also circulated to all EAC members including MoEFCC and also accepted by EAC while approving the minutes.

The Committee after detailed deliberations and based on the clarifications/ information submitted by PP recommended the proposal for CRZ Clearance, subject to certain terms and conditions.

5. Based on the recommendation of the Gujarat Coastal Zone Management Authority and considering the submissions made by the project proponent, the Ministry of Environment, Forest and Climate Change, in acceptance of the recommendations of the Expert Appraisal Committee (CRZ), hereby accords CRZ Clearance to the project for **Development of Road, Rail, Utility Corridor and LPG Pipeline at Mundra, District Kutch, Gujarat by M/s Adani Ports and SEZ Limited**, under the provisions of the CRZ Notification, 2011 and amendments thereto, subject to the compliance of terms and conditions as under:-

PART A – SPECIFIC CONDITIONS:

(i). All construction shall be strictly in accordance with the provisions of the CRZ Notification, 2011, as amended from time to time.

(ii). The utility corridor should be restricted to within port limit.

(iii). All facilities in utility corridor should comply with detailed in risk and safety management plan as presented the committee and compliance report to be submitted to Regional Office

(iv). Sufficient gap / distance between pipelines need to maintain for safety & maintenance activities.

(v). Any temporary physical infrastructure setup and excavated material shall not be dumped in water bodies or adjacent areas and the site shall be restored to its original condition after completion of construction of work.

(vi). The pipeline where crossing of water body / river / creek areas should be laid through Horizontal Directional Drilling (HDD) method.

(vii). No storage reservoir for sea water shall be permitted and only project activity i.e. pipelines conveyance system etc. shall be installed.

(viii). No groundwater shall be extracted within the CRZ area to meet the water requirements during the construction and / or operation phase of the project.

(ix). Permanent labour camp, machinery and material storage shall not be set up in the CRZ area.

(x). The prior approval from PESO should be obtained before commencement of the project.

(xi). All the conditions stipulated by the Gujarat Coastal Zone Management Authority vide its letter No.ENV-10-2018-76-T, dated 20/10/2022 and commitments made by the PP before the GCZMA and EAC shall be followed in letter and spirit.

(xii). All necessary clearance from the concerned authority, as may be applicable should be obtained prior to commencement of project or activity.

PART B - GENERAL CONDITIONS:

(i). Management of solid waste in accordance with the Solid Waste Management Rules, 2016 shall be strictly implemented.

(ii). 'Consent to Establish' and /or 'Consent to Operate' shall be obtained from State Pollution Control Board under the provisions of Air (Prevention and Control of Pollution) Act, 1981 and / or the Water (Prevention and Control of Pollution) Act, 1974, as may be applicable.

(iii). Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of Competent Authority.

(iv). All liquid waste arising from the proposed development will be disposed of as per the norms prescribed by Central / State Pollution Control Board. There shall not be any disposal of untreated effluent into the sea / coastal water bodies. It shall be ensured that the wastewater generated is treated in the STP as committed by the project proponent. The treated waste water shall be reused for landscaping, flushing and / or HVAC cooling purposes etc. within the development. The project proponent should also make alternate arrangement for situation arising due to malfunctioning of STP. There shall be regular monitoring of standard parameters of the effluent discharge from STP under intimation to the SPCB.

(v). Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

(vi). A copy of the clearance letter shall be uploaded on the website of the concerned State Coastal Zone Management Authority/State Pollution Control Board. The Clearance letter shall also be displayed at the Regional Office, District Industries Centre and Collector's Office / Tehsildar's office for 30 days.

(vii). A six-monthly monitoring report shall need to be submitted by the project proponent to the concerned Regional Office of this Ministry regarding the implementation of the stipulated conditions.

(viii). The Ministry of Environment, Forest & Climate Change or any other Competent Authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.

(ix). Full co-operation shall be extended to the officials from the Regional Office of MoEF&CC, during monitoring of implementation of environmental safeguards stipulated. It shall be ensured that documents/data sought pertinent is made available to the monitoring team. A complete set of all the documents submitted to MoEF&CC shall be forwarded to the concerned Regional Office of MoEF&CC.

(x). In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry.

(xi). The Ministry reserves the right to add additional safeguard measures subsequently, if considered necessary, and to take action to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner, including revoking of the environment clearance under the provisions of the Environmental (Protection) Act, 1986, for non-compliance.

(xii). All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponent from the respective Competent Authorities.

(xiii). The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board (SPCB) and may also be seen on the website of the Ministry of Environment, Forest and Climate Change at **https://parivesh.nic.in/**. The advertisement should be made within Seven days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the concerned Regional Office of this Ministry.

(xiv). A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.

(xv). The proponent shall upload the status of compliance of the stipulated conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB.

(xvi). The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the project proponent along with the status of compliance of clearance conditions and shall also be sent to the respective Regional Office of the Ministry by e-mail.

6. This Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.

7. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the CRZ clearance, if implementation of any of the above conditions is not found satisfactory.

8. Concealing factual data or submission of false / fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

9. Any appeal against this CRZ clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

10. The above conditions shall be enforced, *inter-alia* under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

11. This issues with approval of the Competent Authority.

(Dr. H. Kharkwal)
Scientist 'E' (CRZ)

Copy to:

1. The Additional Chief Secretary, Forest & Environment Department, Government of Gujarat, 8th Floor, Block – 14, New Sachivalaya, Gandhinagar – 382010, Gujarat.
2. The Deputy DGF (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Gandhi Nagar A wing- 407 & 409, Aranya Bhawan, Near CH-3 Circle, Sector-10A, Gandhi Nagar-382010, Gujarat.
3. The Member Secretary, Gujarat Coastal Zone Management Authority, Block No: 14/8th Floor, New Sachivalaya, Sector - 10A, Gandhinagar, Gujarat.
4. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi - 110032
5. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhavan, Sector-10A, Gandhinagar – 382010, Gujarat.
6. Guard File/Monitoring File / Website / Record File

(Dr. H. Kharkwal)
Scientist 'E' (CRZ)

Annexure – 9

"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 – 2023 to September - 2023

Submitted By

UniStar
Environment and Research Labs Pvt. Ltd.

UniStar Environment & Research Labs Pvt. Ltd.

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

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

RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	PUB ADANI HOUSE STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Apr-23		May-23		Jun-23			
			10-04-2023	25-04-2023	12-05-2023	29-05-2023	12-06-2023	26-06-2023		
1.	pH @ 25 ° C	--	7.22	7.28	7.15	7.22	7.18	7.26	6.5 to 9	APHA 23rd Ed.,2017,4500-H^+B
2.	Total Suspended Solids	mg/L	18	14	12	14	14	12	100	APHA 23rd Ed.,2017,2540 -D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	14	15	16	17	15	16	30	APHA 23rd Ed,2017,5210-B 5-6
4.	Residual chlorine	mg/L	0.84	0.71	0.82	0.88	0.84	0.72	0.5 Min.	APHA 23rd Ed.,2017,4500-Cl-B
5.	Fecal Coliform	MPN Index/100ml	80	110	170	130	140	110	1000	IS 1622: 1981

Continue…

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

RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	PUB ADANI HOUSE STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Jul-23		Aug-23		Sep-23			
			13-07-2023	25-07-2023	11-08-2023	23-08-2023	12-09-2023	21-09-2023		
1.	pH @ 25 ° C	--	7.48	7.41	7.52	7.48	7.42	7.2	6.5 to 9	APHA 23rd Ed.,2017,4500-H^+B
2.	Total Suspended Solids	mg/L	16	18	16	18	22	24	100	APHA 23rd Ed.,2017,2540 -D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	17	16	16	15	16	18	30	APHA 23rd Ed,2017,5210-B 5-6
4.	Residual chlorine	mg/L	0.68	0.64	0.72	0.78	0.88	0.82	0.5 Min.	APHA 23rd Ed.,2017,4500-Cl-B
5.	Fecal Coliform	MPN Index/100ml	70	90	110	90	130	90	1000	IS 1622: 1981

GUJARAT VAPI

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-23		May-23		Jun-23			
			10-04-2023	21-04-2023	12-05-2023	30-05-2023	12-06-2023	29-06-2023		
1.	pH @ 25 ° C	--	7.18	7.29	7.35	7.2	7.25	7.33	6.5 to 9	APHA 23rd Ed.,2017,4500-H^+B
2.	Total Suspended Solids	mg/L	24	24	18	22	16	16	100	APHA 23rd Ed.,2017,2540 -D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	14	14	15	16	13	14	30	APHA 23rd Ed,2017,5210-B 5-6
4.	Residual chlorine	mg/L	0.64	0.82	0.74	0.76	0.72	0.78	0.5 Min.	APHA 23rd Ed.,2017,4500-Cl-B
5.	Fecal Coliform	MPN Index/100ml	90	110	60	50	30	34	1000	IS 1622: 1981

Continue…

RESULTS OF STP OUTLET WATER

SR.NO.	TEST PARAMETERS	UNIT	North Gate STP OUTLET						GPCB Permissible Limit	TEST METHOD
			Jul-23		Aug-23		Sep-23			
			13-07-2023	26-07-2023	12-08-2023	23-08-2023	12-09-2023	21-09-2023		
1.	pH @ 25 ° C	--	7.36	7.31	7.41	7.44	7.35	7.22	6.5 to 9	APHA 23rd Ed.,2017,4500-H^+B
2.	Total Suspended Solids	mg/L	24	20	16	18	28	24	100	APHA 23rd Ed.,2017,2540 -D
3.	Biochemical Oxygen Demand (BOD) (5 days at 20 ° C)	mg/L	14	15	15	15	14	16	30	APHA 23rd Ed,2017,5210-B 5-6
4.	Residual chlorine	mg/L	0.66	0.68	0.72	0.64	0.68	0.74	0.5 Min.	APHA 23rd Ed.,2017,4500-Cl-B
5.	Fecal Coliform	MPN Index/100ml	26	17	33	34	23	30	1000	IS 1622: 1981

GUJARAT VAPI

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/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
1.	03-04-2023	81.59	32.37	12.74	18.52	0.47	--	NOT DETECTED
2.	06-04-2023	72.67	26.17	16.53	24.87	1.00	3.19	NOT DETECTED
3.	10-04-2023	79.71	28.64	11.77	15.14	0.69	3.47	NOT DETECTED
4.	13-04-2023	85.43	31.38	15.94	19.26	0.56	1.63	NOT DETECTED
5.	17-04-2023	74.71	24.15	10.68	14.83	0.45	1.29	NOT DETECTED
6.	20-04-2023	89.12	34.78	18.34	23.18	0.74	4.02	NOT DETECTED
7.	24-04-2023	70.88	25.12	13.28	17.85	0.38	3.27	NOT DETECTED
8.	27-04-2023	76.59	23.37	11.25	15.92	0.49	1.76	NOT DETECTED
9.	01-05-2023	89.16	32.08	14.56	18.34	1.12	2.85	NOT DETECTED
10.	04-05-2023	73.45	36.51	21.13	26.12	0.85	4.16	NOT DETECTED
11.	08-05-2023	86.54	28.12	15.76	19.58	1.00	3.31	NOT DETECTED
12.	11-05-2023	82.61	31.28	20.12	25.74	0.92	5.03	NOT DETECTED
13.	15-05-2023	85.47	38.64	23.12	27.89	1.00	4.58	NOT DETECTED
14.	18-05-2023	82.73	29.24	15.48	21.95	0.95	2.84	NOT DETECTED
15.	22-05-2023	74.91	25.10	12.46	16.32	1.07	2.36	NOT DETECTED

Continue…

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Vapi - 396 195. Gujarat, India.
Phone : +91 260 2433966 / 2425610
Email : response@uerl.in Website : www.uerl.in

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
16.	25-05-2023	69.55	22.47	14.36	17.85	0.90	2.14	NOT DETECTED
17.	29-05-2023	76.82	28.53	11.34	15.62	1.10	3.64	NOT DETECTED
18.	01-06-2023	83.49	34.61	17.32	22.92	1.00	3.70	NOT DETECTED
19.	05-06-2023	86.37	31.79	14.37	17.42	0.95	3.42	NOT DETECTED
20.	08-06-2023	81.94	27.37	12.47	16.33	0.07	3.10	NOT DETECTED
21.	12-06-2023	85.65	29.48	15.89	18.62	0.05	2.68	NOT DETECTED
22.	15-06-2023	72.56	25.14	13.21	17.25	0.02	2.55	NOT DETECTED
23.	19-06-2023	52.12	20.15	10.25	15.23	0.04	3.14	NOT DETECTED
24.	22-06-2023	54.12	17.25	9.25	14.30	0.05	2.36	NOT DETECTED
25.	26-06-2023	48.53	15.23	8.25	12.78	0.02	2.05	NOT DETECTED
26.	29-06-2023	45.25	14.28	7.60	11.21	0.05	2.54	NOT DETECTED
27.	03-07-2023	49.42	18.68	11.42	14.37	NOT DETECTED	--	NOT DETECTED
28.	06-07-2023	54.31	21.63	7.48	10.31	NOT DETECTED	NOT DETECTED	NOT DETECTED
29.	10-07-2023	46.78	17.42	6.30	8.54	NOT DETECTED	NOT DETECTED	NOT DETECTED
30.	13-07-2023	40.32	14.69	5.87	8.13	NOT DETECTED	NOT DETECTED	NOT DETECTED
31.	17-07-2023	43.25	15.74	7.53	12.74	NOT DETECTED	NOT DETECTED	NOT DETECTED

Continue…

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

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
32.	20-07-2023	51.99	17.53	10.18	13.89	NOT DETECTED	NOT DETECTED	NOT DETECTED
33.	24-07-2023	57.47	21.71	13.52	17.85	NOT DETECTED	NOT DETECTED	NOT DETECTED
34.	27-07-2023	49.74	18.63	11.57	14.38	NOT DETECTED	NOT DETECTED	NOT DETECTED
35.	31-07-2023	55.39	20.95	14.42	18.61	NOT DETECTED	NOT DETECTED	NOT DETECTED
36.	03-08-2023	57.93	22.48	14.23	19.45	NOT DETECTED	NOT DETECTED	NOT DETECTED
37.	07-08-2023	63.67	23.95	16.83	22.49	0.57	1.37	NOT DETECTED
38.	10-08-2023	69.72	25.65	19.70	25.18	0.84	1.95	NOT DETECTED
39.	14-08-2023	76.82	28.10	21.16	27.54	0.96	2.84	NOT DETECTED
40.	17-08-2023	88.54	31.79	18.28	23.93	0.73	3.16	NOT DETECTED
41.	21-08-2023	71.91	34.92	22.57	28.88	1.00	4.73	NOT DETECTED
42.	24-08-2023	76.48	37.63	25.91	31.45	1.13	5.28	NOT DETECTED
43.	28-08-2023	86.54	29.35	20.77	24.14	0.93	3.54	NOT DETECTED
44.	31-08-2023	81.38	26.59	17.24	23.45	0.81	3.12	NOT DETECTED
45.	04-09-2023	67.38	24.75	16.26	20.81	0.63	2.18	NOT DETECTED
46.	07-09-2023	73.26	27.42	18.91	23.74	0.74	2.65	NOT DETECTED
47.	11-09-2023	69.87	25.94	17.43	21.65	0.57	2.38	NOT DETECTED

Continue…

Name of Location		PUB / Adani House						
Sr. No.	Date of Monitoring	Parameter with Results						
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³	HC µg/m³	Benzene µg/m³
48.	14-09-2023	75.13	29.41	20.87	25.36	0.83	3.18	NOT DETECTED
49.	18-09-2023	63.69	21.83	14.27	18.50	0.41	1.86	NOT DETECTED
50.	21-09-2023	68.26	23.71	16.32	20.81	0.59	2.11	NOT DETECTED
51.	25-09-2023	72.47	24.60	17.91	22.53	0.80	2.87	NOT DETECTED
52.	28-09-2023	76.19	26.74	20.45	25.18	0.87	3.41	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)

GUJARAT VAPI.

Jaivik S. Tandel
(Manager - Operations)

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

Results of Ambient Air Quality Monitoring

Name of Location		Adani Guest House				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1.	03-04-2023	73.28	21.57	12.38	14.83	NOT DETECTED
2.	06-04-2023	78.54	31.48	16.53	19.67	--
3.	10-04-2023	81.48	28.64	11.93	15.36	--
4.	13-04-2023	72.96	23.61	10.48	14.91	--
5.	17-04-2023	85.48	21.32	13.27	16.48	--
6.	20-04-2023	73.18	29.86	15.73	19.82	--
7.	24-04-2023	88.79	26.71	11.46	16.37	--
8.	27-04-2023	76.48	31.37	16.83	21.43	--
9.	01-05-2023	89.53	30.38	14.59	19.66	--
10.	04-05-2023	84.67	27.92	11.57	16.21	--
11.	08-05-2023	71.59	23.42	10.86	13.69	--
12.	11-05-2023	76.31	33.96	18.84	23.46	--
13.	15-05-2023	83.84	28.59	15.17	19.38	--
14.	18-05-2023	88.94	31.27	12.36	16.07	--
15.	22-05-2023	69.28	21.43	10.62	15.16	--

Continue…

Name of Location		Adani Guest House				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
16.	25-05-2023	78.37	26.54	13.67	17.63	--
17.	29-05-2023	82.57	29.88	16.54	22.92	--
18.	01-06-2023	84.28	28.42	15.39	19.63	--
19.	05-06-2023	75.49	25.93	12.76	15.38	--
20.	08-06-2023	81.35	28.13	14.45	17.05	--
21.	12-06-2023	73.64	23.7	11.93	13.56	--
22.	15-06-2023	60.5	22.36	8.25	12.44	--
23.	19-06-2023	50.24	18.54	8.25	11.63	--
24.	22-06-2023	52.36	16.1	7.25	10.25	--
25.	26-06-2023	48.25	14.26	8.25	12.37	--
26.	29-06-2023	45.27	15.23	7.15	11.56	--
27.	03-07-2023	35.37	13.84	6.13	8.45	NOT DETECTED
28.	06-07-2023	42.83	16.32	7.63	11.87	--
29.	10-07-2023	38.39	14.63	6.42	9.53	--
30.	13-07-2023	31.93	11.29	5.47	8.62	--
31.	17-07-2023	40.62	14.56	7.15	10.17	--

Continue…

Name of Location		Adani Guest House				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
32.	20-07-2023	46.31	16.28	7.86	11.69	--
33.	24-07-2023	37.28	13.5	6.42	9.51	--
34.	27-07-2023	44.65	15.33	8.54	12.28	--
35.	31-07-2023	52.82	17.41	9.11	14.52	--
36.	03-08-2023	67.41	22.76	9.53	12.84	--
37.	07-08-2023	72.89	24.13	10.26	14.37	--
38.	10-08-2023	77.53	25.91	11.57	15.74	--
39.	14-08-2023	74.69	23.47	10.41	13.97	--
40.	17-08-2023	81.17	27.58	13.75	17.53	--
41.	21-08-2023	72.55	31.25	16.74	21.45	--
42.	24-08-2023	79.76	33.62	18.74	23.56	--
43.	28-08-2023	81.34	27.21	14.38	18.14	--
44.	31-08-2023	84.64	29.85	15.36	21.41	--
45.	04-09-2023	70.41	24.15	10.58	13.93	--
46.	07-09-2023	75.62	26.74	12.36	15.61	--
47.	11-09-2023	78.93	29.38	14.65	18.27	--

Continue…

Name of Location		Adani Guest House				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
48.	14-09-2023	74.18	25.64	12.81	14.92	--
49.	18-09-2023	65.72	21.28	8.85	11.67	--
50.	21-09-2023	68.61	24.54	10.26	13.68	--
51.	25-09-2023	64.28	20.96	8.12	10.79	--
52.	28-09-2023	70.41	24.22	12.63	15.32	--
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)

GUJARAT VAPI.

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/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1.	03-04-2023	82.89	37.62	20.13	28.84	NOT DETECTED
2.	06-04-2023	89.64	44.19	27.64	36.26	--
3.	10-04-2023	79.13	38.86	22.61	29.1	--
4.	13-04-2023	81.68	32.79	18.36	14.53	--
5.	17-04-2023	85.54	37.81	24.93	31.58	--
6.	20-04-2023	81.38	39.23	22.47	27.84	--
7.	24-04-2023	89.73	34.57	21.99	26.37	--
8.	27-04-2023	83.56	36.03	25.83	32.44	--
9.	01-05-2023	83.93	39.62	24.19	29.61	--
10.	04-05-2023	88.59	44.38	30.26	36.73	--
11.	08-05-2023	76.61	46.15	34.83	39.68	--
12.	11-05-2023	84.55	41.78	29.45	34.28	--
13.	15-05-2023	87.15	37.28	24.03	29.77	--
14.	18-05-2023	79.36	39.51	27.47	32.58	--
15.	22-05-2023	85.25	36.73	23.58	27.65	--

Continue…

Name of Location		WTP- Nr. CETP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
16.	25-05-2023	78.16	34.42	21.29	26.35	--
17.	29-05-2023	82.45	38.89	26.43	31.59	--
18.	01-06-2023	85.18	36.24	28.51	33.28	--
19.	05-06-2023	88.36	31.78	25.84	29.63	--
20.	08-06-2023	74.39	33.46	29.37	31.89	--
21.	12-06-2023	85.48	29.75	26.2	30.71	--
22.	15-06-2023	70.25	22.64	18.25	22.23	--
23.	19-06-2023	57.23	20.44	12.5	15.23	--
24.	22-06-2023	51.23	18.25	6.25	10.36	--
25.	26-06-2023	50.24	16.52	7.15	11.54	--
26.	29-06-2023	48.25	15.2	7.54	10.26	--
27.	03-07-2023	45.85	16.37	11.4	14.63	NOT DETECTED
28.	06-07-2023	52.56	18.73	14.59	18.42	--
29.	10-07-2023	43.29	15.88	12.47	16.73	--
30.	13-07-2023	47.89	16.42	15.99	18.41	--
31.	17-07-2023	54.1	19.62	17.11	20.58	--

Continue…

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Email : response@uerl.in Website : www.uerl.in

Name of Location		WTP- Nr. CETP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
32.	20-07-2023	51.58	18.07	15.78	17.35	--
33.	24-07-2023	59.74	20.48	17.34	21.42	--
34.	27-07-2023	62.53	23.16	20.48	23.85	--
35.	31-07-2023	58.69	21.74	16.13	20.88	--
36.	03-08-2023	74.31	28.74	15.48	17.55	--
37.	07-08-2023	70.62	30.12	16.53	19.64	--
38.	10-08-2023	73.58	32.76	18.23	21.38	--
39.	14-08-2023	71.43	29.76	16.89	18.65	--
40.	17-08-2023	74.75	32.17	17.54	20.81	--
41.	21-08-2023	72.47	36.89	19.32	22.56	--
42.	24-08-2023	70.38	38.63	20.74	24.11	--
43.	28-08-2023	73.64	33.22	17.16	19.75	--
44.	31-08-2023	71.2	35.47	19.31	21.49	--
45.	04-09-2023	70.16	32.63	17.41	21.86	--
46.	07-09-2023	73.86	35.87	20.28	24.65	--
47.	11-09-2023	75.91	39.81	24.17	29.52	--

Continue…

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

Name of Location		WTP- Nr. CETP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
48.	14-09-2023	72.36	34.25	19.84	23.57	--
49.	18-09-2023	70.63	31.93	16.71	20.66	--
50.	21-09-2023	71.85	30.79	15.3	18.76	--
51.	25-09-2023	73.97	33.47	17.84	21.49	--
52.	28-09-2023	74.76	36.16	20.12	24.65	--
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
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GUJARAT VAPI.

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(Manager - Operations)

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

Results of Ambient Air Quality Monitoring

Name of Location		SAMUDRA TOWNSHIP – STP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1.	03-04-2023	88.37	17.56	13.72	21.81	NOT DETECTED
2.	06-04-2023	73.14	19.68	8.47	16.63	--
3.	10-04-2023	87.64	23.79	10.83	22.12	--
4.	13-04-2023	76.98	24.13	9.98	16.46	--
5.	17-04-2023	65.26	18.77	13.45	21.84	--
6.	20-04-2023	71.32	21.58	11.24	19.52	--
7.	24-04-2023	89.73	26.81	14.93	23.79	--
8.	27-04-2023	86.25	19.58	13.45	20.13	--
9.	01-05-2023	89.42	26.18	13.64	19.38	--
10.	04-05-2023	85.27	27.12	16.37	24.61	--
11.	08-05-2023	73.84	22.4	11.59	18.42	--
12.	11-05-2023	79.16	19.67	13.14	20.61	--
13.	15-05-2023	81.36	24.16	17.63	25.58	--
14.	18-05-2023	72.19	21.76	12.98	19.13	--
15.	22-05-2023	86.53	24.78	14.24	22.65	--

Continue…

Name of Location		SAMUDRA TOWNSHIP – STP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
16.	25-05-2023	75.94	22.35	11.73	17.46	--
17.	29-05-2023	87.27	26.16	15.42	23.69	--
18.	01-06-2023	86.17	28.41	16.24	24.63	--
19.	05-06-2023	83.78	25.85	13.42	21.75	--
20.	08-06-2023	81.58	21.62	12.78	18.46	--
21.	12-06-2023	78.31	17.27	10.89	15.37	--
22.	15-06-2023	51.23	17.85	8.25	12.23	--
23.	19-06-2023	40.23	15.23	7.21	10.15	--
24.	22-06-2023	48.22	16.25	6.25	7.23	--
25.	26-06-2023	45.87	14.22	5.23	8.15	--
26.	29-06-2023	40.56	12.31	5.15	8.12	--
27.	03-07-2023	42.69	13.27	7.47	10.63	NOT DETECTED
28.	06-07-2023	36.81	12.75	5.91	7.47	--
29.	10-07-2023	31.53	11.14	5.24	8.31	--
30.	13-07-2023	39.62	13.99	6.16	10.11	--
31.	17-07-2023	45.17	16.28	8.64	12.87	--

Continue…

Name of Location		SAMUDRA TOWNSHIP – STP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
32.	20-07-2023	40.32	14.47	7.95	11.77	--
33.	24-07-2023	49.71	17.83	12.61	15.42	--
34.	27-07-2023	44.05	16.38	10.25	14.72	--
35.	31-07-2023	51.76	18.13	14.32	16.57	--
36.	03-08-2023	76.63	20.12	8.18	11.32	--
37.	07-08-2023	81.47	23.54	9.38	13.02	--
38.	10-08-2023	73.29	21.67	9.12	12.64	--
39.	14-08-2023	89.63	27.95	11.43	13.61	--
40.	17-08-2023	82.15	24.63	9.79	11.64	--
41.	21-08-2023	87.25	26.18	8.52	10.46	--
42.	24-08-2023	84.16	23.9	10.53	13.18	--
43.	28-08-2023	79.93	21.24	9.11	11.65	--
44.	31-08-2023	87.63	25.82	11.49	13.78	--
45.	04-09-2023	82.46	21.57	10.35	13.62	--
46.	07-09-2023	85.61	23.24	11.43	14.74	--
47.	11-09-2023	87.19	26.43	13.72	15.93	--

Continue…

Name of Location		SAMUDRA TOWNSHIP – STP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
48.	14-09-2023	83.61	20.38	10.22	14.58	--
49.	18-09-2023	71.38	15.79	7.31	10.76	--
50.	21-09-2023	77.43	18.28	9.57	12.28	--
51.	25-09-2023	73.65	16.4	8.26	10.77	--
52.	28-09-2023	80.11	19.53	9.75	13.12	--
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**

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CIN:U73100GJ2007PTC051463

Results of Ambient Air Quality Monitoring

Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1.	03-04-2023	88.37	21.83	15.91	21.71	NOT DETECTED
2.	06-04-2023	68.57	19.99	11.83	16.78	--
3.	10-04-2023	89.83	26.78	17.15	24.62	--
4.	13-04-2023	78.42	23.86	13.57	17.35	--
5.	17-04-2023	82.18	34.24	18.36	25.89	--
6.	20-04-2023	72.47	28.58	14.1	20.71	--
7.	24-04-2023	83.66	29.82	17.36	23.59	--
8.	27-04-2023	79.85	22.83	10.92	16.26	--
9.	01-05-2023	74.37	24.68	13.35	17.49	--
10.	04-05-2023	83.28	21.47	15.23	22.64	--
11.	08-05-2023	87.73	28.61	12.18	16.39	--
12.	11-05-2023	76.29	25.46	10.93	14.78	--
13.	15-05-2023	84.81	31.38	14.51	19.78	--
14.	18-05-2023	73.35	24.79	11.28	16.37	--
15.	22-05-2023	86.24	32.73	16.49	24.58	--

Continue…

Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
16.	25-05-2023	68.46	27.19	14.77	21.26	--
17.	29-05-2023	79.57	30.61	17.38	23.79	--
18.	01-06-2023	82.48	27.65	16.24	20.12	--
19.	05-06-2023	86.73	30.12	17.41	22.73	--
20.	08-06-2023	79.52	26.49	14.38	16.26	--
21.	12-06-2023	73.19	23.37	11.98	14.23	--
22.	15-06-2023	53.26	21.31	9.25	13.05	--
23.	19-06-2023	45.21	15.95	8.44	11.23	--
24.	22-06-2023	50.34	14.12	7.36	8.25	--
25.	26-06-2023	47.82	13.21	7.12	9.15	--
26.	29-06-2023	42.35	13.55	6.18	9.23	--
27.	03-07-2023	50.61	18.37	11.14	14.62	NOT DETECTED
28.	06-07-2023	44.78	15.56	9.85	11.42	--
29.	10-07-2023	41.35	14.84	7.79	9.63	--
30.	13-07-2023	35.93	12.07	7.12	9.42	--
31.	17-07-2023	39.26	13.51	8.63	10.17	--

Continue…

Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
32.	20-07-2023	46.74	16.28	10.31	13.01	--
33.	24-07-2023	51.12	18.53	11.26	14.43	--
34.	27-07-2023	42.49	15.3	8.64	10.17	--
35.	31-07-2023	53.67	17.92	10.97	12.55	--
36.	03-08-2023	61.48	21.88	10.27	13.75	--
37.	07-08-2023	74.82	24.58	12.54	15.38	--
38.	10-08-2023	68.48	22.65	10.19	12.96	--
39.	14-08-2023	72.91	23.65	12.52	15.12	--
40.	17-08-2023	77.26	25.75	15.83	18.65	--
41.	21-08-2023	81.43	28.11	17.42	21.53	--
42.	24-08-2023	85.51	29.72	16.84	20.76	--
43.	28-08-2023	76.46	25.57	13.26	17.61	--
44.	31-08-2023	79.12	27.28	14.53	16.15	--
45.	04-09-2023	74.37	23.15	12.43	14.78	--
46.	07-09-2023	77.51	24.74	13.58	16.46	--
47.	11-09-2023	81.13	27.41	15.32	18.23	--

Continue…

Name of Location		SAMUDRA TOWNSHIP CUSTOMER CARE				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
48.	14-09-2023	79.54	25.35	13.18	15.36	--
49.	18-09-2023	61.38	18.57	9.36	11.93	--
50.	21-09-2023	68.54	21.83	11.34	14.72	--
51.	25-09-2023	63.78	19.61	10.83	13.27	--
52.	28-09-2023	71.37	22.26	12.42	14.91	--
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**

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CIN:U73100GJ2007PTC051463

Results of Ambient Air Quality Monitoring

Name of Location		AIR STRIP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
1.	03-04-2023	89.84	35.63	23.58	28.73	0.09
2.	06-04-2023	75.48	26.16	13.35	19.63	NOT DETECTED
3.	10-04-2023	87.57	36.38	19.85	24.74	1.12
4.	13-04-2023	83.16	31.92	15.26	21.88	0.08
5.	17-04-2023	88.27	28.31	18.46	26.14	0.07
6.	20-04-2023	72.14	25.84	13.29	17.15	NOT DETECTED
7.	24-04-2023	81.65	28.51	21.89	25.52	0.08
8.	27-04-2023	87.86	32.47	22.53	28.13	1
9.	01-05-2023	81.46	39.24	22.46	25.31	0.09
10.	04-05-2023	84.38	33.68	17.37	20.92	1.17
11.	08-05-2023	78.17	37.82	21.79	25.63	1
12.	11-05-2023	87.84	33.68	19.74	21.62	0.07
13.	15-05-2023	74.13	30.61	15.33	18.26	0.05
14.	18-05-2023	68.83	27.47	17.83	23.54	0.15
15.	22-05-2023	78.55	32.18	20.75	25.81	0.92

Continue…

Name of Location		AIR STRIP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
16.	25-05-2023	72.38	25.53	18.25	21.67	1
17.	29-05-2023	80.02	31.49	21.72	24.62	1.12
18.	01-06-2023	89.61	36.26	20.73	24.16	0.1
19.	05-06-2023	85.43	32.89	17.54	21.38	0.08
20.	08-06-2023	78.1	27.47	14.69	17.42	0.1
21.	12-06-2023	83.32	31.41	18.83	23.35	0.05
22.	15-06-2023	62.15	20.21	17.52	21.84	0.03
23.	19-06-2023	50.23	18.5	11.84	16.23	0.02
24.	22-06-2023	48.44	15.23	7.25	11.2	0.05
25.	26-06-2023	45.21	14.2	7.4	10.36	0.02
26.	29-06-2023	44.23	13.87	6.85	10.25	0.05
27.	03-07-2023	47.19	19.53	10.46	13.89	NOT DETECTED
28.	06-07-2023	56.73	22.64	12.42	16.58	NOT DETECTED
29.	10-07-2023	45.39	19.25	9.63	12.56	NOT DETECTED
30.	13-07-2023	41.47	17.11	8.62	10.65	NOT DETECTED
31.	17-07-2023	50.61	20.48	10.54	14.32	NOT DETECTED

Continue…

Name of Location		AIR STRIP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
32.	20-07-2023	43.83	18.51	9.88	12.54	NOT DETECTED
33.	24-07-2023	47.99	18.78	10.64	14.29	NOT DETECTED
34.	27-07-2023	53.15	20.21	13.52	17.69	NOT DETECTED
35.	31-07-2023	56.72	22.54	15.76	19.42	NOT DETECTED
36.	03-08-2023	52.76	20.37	10.24	15.99	0.04
37.	07-08-2023	57.43	22.56	12.53	17.11	0.05
38.	10-08-2023	63.98	23.71	14.76	18.58	0.07
39.	14-08-2023	70.14	25.68	15.96	23.53	0.08
40.	17-08-2023	67.62	23.02	13.51	17.54	0.05
41.	21-08-2023	74.92	26.59	16.47	21.72	0.07
42.	24-08-2023	81.56	28.31	17.48	24.65	0.1
43.	28-08-2023	78.23	27.42	15.31	22.49	0.08
44.	31-08-2023	72.75	25.54	14.68	19.84	0.05
45.	04-09-2023	69.79	24.26	14.29	17.31	0.02
46.	07-09-2023	73.51	26.83	15.84	18.1	0.04
47.	11-09-2023	75.36	27.63	17.11	20.75	0.03

Continue…

Name of Location		AIR STRIP				
Sr. No.	Date of Monitoring	Parameter with Results				
		PM_{10} µg/m³	$PM_{2.5}$ µg/m³	SO_2 µg/m³	NO_2 µg/m³	CO mg/m³
48.	14-09-2023	81.16	29.79	20.51	23.28	0.06
49.	18-09-2023	62.85	22.4	13.65	16.49	NOT DETECTED
50.	21-09-2023	65.36	24.81	14.38	17.65	NOT DETECTED
51.	25-09-2023	70.49	25.68	15.39	18.91	0.02
52.	28-09-2023	73.56	27.41	17.85	20.52	0.03
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
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Results of Noise Level Monitoring

Location Name		PUB / Adani House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		03-04-2023	01-05-2023	01-06-2023	03-07-2023	03-08-2023	04-09-2023
1	06:00 to 07:00	67.5	61.9	61.3	62.5	60.5	62.8
2	07:00 to 08:00	63.2	63.5	63.5	60.9	62.7	63.9
3	08:00 to 09:00	67.4	66.1	66.7	63.2	64.1	65.3
4	09:00 to 10:00	64.8	67.8	67.5	67.4	65.4	63.7
5	10:00 to 11:00	65.3	62.4	68.6	65.2	68.4	63.1
6	11:00 to 12:00	69.1	65.4	61.5	68.9	67.3	64.7
7	12:00 to 13:00	67.4	63.9	66.4	64.8	63.2	66.1
8	13:00 to 14:00	66.9	64.5	68.9	62.3	62.3	63.7
9	14:00 to 15:00	68.4	64.3	66.7	68.6	65.8	64.6
10	15:00 to 16:00	65.7	65.8	67.1	61.2	60.3	62.8
11	16:00 to 17:00	62.7	69.4	68.5	67.2	64.3	64.1
12	17:00 to 18:00	65.9	65.4	68.5	65.5	66.7	65.3
13	18:00 to 19:00	61.5	66.1	66.9	63.4	62.4	62.7
14	19:00 to 20:00	64.6	63.8	62.5	64.7	63.8	63.2
15	20:00 to 21:00	63.6	63.5	63.3	61.4	60.4	64.6
16	21:00 to 22:00	64.9	62.6	58.9	60.1	59.7	61.4
Day Time		<75 dB (A)					

Continue...

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

Location Name		PUB / Adani House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		03-04-2023	01-05-2023	01-06-2023	03-07-2023	03-08-2023	04-09-2023
1	22:00 to 23:00	58.6	58.5	60.2	56.8	58.2	56.8
2	23:00 to 24:00	57.5	58.3	62.5	59.4	60.1	56.9
3	24:00 to 01:00	58.2	57.5	60.4	60.2	60.7	58.4
4	01:00 to 02:00	56.9	57.8	60.4	57.1	58.3	61.3
5	02:00 to 03:00	58.5	55.9	60.5	57.3	57.3	59.7
6	03:00 to 04:00	57.5	55.5	59.6	62.9	59.4	55.4
7	04:00 to 05:00	56.5	58.2	58.5	60.2	61.2	58.2
8	05:00 to 06:00	57.2	57.5	59.7	59.8	57.3	56.1

Night Time	<70 dB (A)

Test Method	IS: 9989 : 1981

Nikunj D. Patel
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(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					
		28-04-2023	31-05-2023	28-06-2023	29-07-2023	29-08-2023	27-09-2023
1	06:00 to 07:00	62.9	62.5	58.5	59.4	57.3	58.4
2	07:00 to 08:00	64.2	63.5	60.5	62.7	60.4	60.3
3	08:00 to 09:00	62.5	62.8	62.5	65.4	63.8	66.4
4	09:00 to 10:00	63.6	64.5	63.5	63.7	61.8	63.7
5	10:00 to 11:00	60.6	63.5	62.8	62.1	63.7	64.2
6	11:00 to 12:00	63.5	62.8	64.5	64.5	66.8	66.4
7	12:00 to 13:00	63.5	60.5	63.5	64.7	67.3	67.1
8	13:00 to 14:00	66.7	65.3	65.3	62.8	63.7	63.2
9	14:00 to 15:00	65.5	62.8	62.8	61.1	62.1	65.7
10	15:00 to 16:00	68.2	64.2	64.2	64.8	65.8	64.2
11	16:00 to 17:00	64.5	61.6	61.7	63.9	65.7	65.9
12	17:00 to 18:00	66.7	58.7	59.5	63.3	61.9	63.2
13	18:00 to 19:00	62.4	60.5	58.9	67.5	65.6	60.5
14	19:00 to 20:00	61.5	58.7	61.8	64.7	62.3	64.2
15	20:00 to 21:00	63.2	56.3	59.4	62.4	61.9	59.5
16	21:00 to 22:00	61.7	54.9	58.5	62.5	60.3	57.6
Day Time		<75 dB (A)					

Continue...

Location Name		Adani Guest House					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		28-04-2023	31-05-2023	28-06-2023	29-07-2023	29-08-2023	27-09-2023
1	22:00 to 23:00	59.4	57.9	57.4	58.6	57.9	58.9
2	23:00 to 24:00	60.4	59.8	61.3	56.2	60.5	61.6
3	24:00 to 01:00	57.4	56.7	60.2	56.8	61.6	57.4
4	01:00 to 02:00	58.5	57.2	59.4	54.3	58.9	59.2
5	02:00 to 03:00	57.1	55.5	60.6	58.4	62.6	60.6
6	03:00 to 04:00	59.9	58.4	60.8	58.5	57.9	57.4
7	04:00 to 05:00	56.7	59.8	58.7	59.4	60.3	59.4
8	05:00 to 06:00	59.5	56.5	56.5	58.4	55.9	61.7

Night Time	<70 dB (A)

Test Method	IS: 9989 : 1981

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Results of Noise Level Monitoring

Location Name		WTP- Nr. CETP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		12-04-2023	06-05-2023	03-06-2023	05-07-2023	05-08-2023	06-09-2023
1	06:00 to 07:00	60.5	64.5	61.9	58.3	60.7	64.1
2	07:00 to 08:00	58.4	63.5	63.5	63.2	61.4	62.5
3	08:00 to 09:00	62.5	62.8	58.9	66.8	64.7	65.7
4	09:00 to 10:00	66.1	60.5	63.5	64.5	66.3	68.4
5	10:00 to 11:00	65.4	65.3	67.8	68.6	65.3	66.9
6	11:00 to 12:00	66.3	62.8	68.5	65.2	62.8	67.3
7	12:00 to 13:00	65.5	66.7	65.5	67.1	65.9	69.3
8	13:00 to 14:00	67.3	69.8	62.6	66.1	67.8	63.2
9	14:00 to 15:00	65.8	65.5	63.5	69	64.6	64.7
10	15:00 to 16:00	62.8	68.2	66.7	68.2	66.9	66.5
11	16:00 to 17:00	65.4	66.5	68.5	66.9	63.7	68.6
12	17:00 to 18:00	66.1	66.1	66.9	62.8	65.8	67.1
13	18:00 to 19:00	63.8	67.3	62.5	65.8	63.6	63.7
14	19:00 to 20:00	63.5	66.7	65.2	61.3	60.8	64.8
15	20:00 to 21:00	66.4	65.4	62.3	68.9	64.6	62.1
16	21:00 to 22:00	60.7	63.9	60.7	64.1	63.1	61.2
Day Time		<75 dB (A)					

Continue...

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

Location Name		WTP- Nr. CETP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		12-04-2023	06-05-2023	03-06-2023	05-07-2023	05-08-2023	06-09-2023
1	22:00 to 23:00	60.5	59.6	59.6	59.3	57.3	56.2
2	23:00 to 24:00	59.5	59.9	60.3	59.1	60.3	59.8
3	24:00 to 01:00	60.5	62.6	60.5	61.6	62.8	61.3
4	01:00 to 02:00	58.1	61.8	55.4	56.4	61.8	60.1
5	02:00 to 03:00	60.5	55.4	59.4	57.3	64.3	58.3
6	03:00 to 04:00	57.5	55.5	60.2	53.1	61.7	56.4
7	04:00 to 05:00	55.6	55.2	59.8	58.4	58.9	58.2
8	05:00 to 06:00	55.5	56.2	56.4	57.5	54.8	60.4

Night Time	<70 dB (A)

Test Method	IS: 9989 : 1981

Nikunj D. Patel
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GUJARAT VAPI.

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					
		22-04-2023	13-05-2023	07-06-2023	15-07-2023	11-08-2023	13-09-2023
1	06:00 to 07:00	63.9	61.2	60.3	60.9	63.2	62.7
2	07:00 to 08:00	67.8	62.8	62.5	61.4	64.6	65.4
3	08:00 to 09:00	68.9	68.9	68.5	66.7	67.1	63.3
4	09:00 to 10:00	67.1	65.4	65.5	63.3	65.8	67.2
5	10:00 to 11:00	68.5	69.1	64.2	68.2	67.4	64.7
6	11:00 to 12:00	69.1	62.4	64.5	62.9	65.1	66.3
7	12:00 to 13:00	67.5	69.7	65.2	65.4	63.4	67.4
8	13:00 to 14:00	66.9	62.2	66.1	69.1	65.7	65.8
9	14:00 to 15:00	61.8	68.2	60.6	65.5	66.8	68.6
10	15:00 to 16:00	63.8	63.1	61.8	68.9	65.9	65.3
11	16:00 to 17:00	66.7	65.7	62.5	64.3	65.2	64.8
12	17:00 to 18:00	65.3	66.9	61.5	61.3	63.6	66.4
13	18:00 to 19:00	66.7	67.2	64.6	65.8	64.6	62.5
14	19:00 to 20:00	62.9	65.5	60.2	65.9	67.1	63.1
15	20:00 to 21:00	64.2	68.2	63.5	61.5	64.2	64.3
16	21:00 to 22:00	60.1	64.7	60.5	64.7	61.7	60.7
Day Time		<75 dB (A)					

Continue...

Location Name		SAMUDRA TOWNSHIP – STP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		22-04-2023	13-05-2023	07-06-2023	15-07-2023	11-08-2023	13-09-2023
1	22:00 to 23:00	61.3	58.5	60.8	57.2	59.4	59.5
2	23:00 to 24:00	59.7	58.3	56.7	55.8	56.9	61.4
3	24:00 to 01:00	57.4	57.5	53.9	56.3	59.4	58.7
4	01:00 to 02:00	56.9	55.2	54.2	57.3	62.8	60.4
5	02:00 to 03:00	59.4	56.5	53.6	53.2	61.8	57.4
6	03:00 to 04:00	60.3	54.2	54.7	57.1	59.5	60.1
7	04:00 to 05:00	58.4	55.3	57.2	55.8	60.4	61.4
8	05:00 to 06:00	60.6	56.5	57.3	58.3	57.8	62.6

Night Time	<70 dB (A)

Test Method	IS: 9989 : 1981

Nikunj D. Patel
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GUJARAT VAPI.

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(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					
		18-04-2023	20-05-2023	20-06-2023	19-07-2023	18-08-2023	20-09-2023
1	06:00 to 07:00	62.8	66.7	60.5	60.3	58.9	63.5
2	07:00 to 08:00	64.2	68.8	62.8	62.7	61.3	61.2
3	08:00 to 09:00	63.9	67.3	66.1	66.4	65.8	64.5
4	09:00 to 10:00	64.5	65.7	65.5	67.8	64.9	65.8
5	10:00 to 11:00	62.9	66.2	62.8	63.2	65.8	67.4
6	11:00 to 12:00	63	66.2	66.9	68.4	67.4	65.7
7	12:00 to 13:00	60.4	65.4	65.6	62.1	62.8	63.8
8	13:00 to 14:00	67.1	65.8	65.2	65.7	63.6	67.2
9	14:00 to 15:00	64.5	66.2	64.2	68.2	67.1	64.1
10	15:00 to 16:00	69.6	69.5	67.2	63.8	62.9	62.7
11	16:00 to 17:00	65.2	66.7	66.5	61.9	64.8	65.3
12	17:00 to 18:00	63.2	65.4	68.5	64.8	67.9	63.8
13	18:00 to 19:00	61.5	68.2	63.2	64.2	62.8	59.8
14	19:00 to 20:00	66.7	65.1	60.2	65.5	63.9	60.4
15	20:00 to 21:00	60.5	64.7	59.5	62.8	60.1	62.1
16	21:00 to 22:00	63.9	62.6	61.3	60.5	57.9	58.8
Day Time		<75 dB (A)					

Continue...

Location Name		SAMUDRA TOWNSHIP CUSTOMER CARE					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) – Night Time					
		18-04-2023	20-05-2023	20-06-2023	19-07-2023	18-08-2023	20-09-2023
1	22:00 to 23:00	60.2	60.8	57.9	58.5	56.7	56.8
2	23:00 to 24:00	64.2	56.7	58.3	54.4	59.4	60.4
3	24:00 to 01:00	58.2	53.9	57.3	59.3	62.6	57.3
4	01:00 to 02:00	57.3	54.2	61.2	58.3	60.4	61.3
5	02:00 to 03:00	63.2	53.1	58.9	57.8	57.4	57.9
6	03:00 to 04:00	64.3	55.5	58.8	58.5	61.3	59.4
7	04:00 to 05:00	55.1	58.8	56.3	56.1	56.8	60.1
8	05:00 to 06:00	58.4	57.9	55.9	56.9	58.1	58.9

Night Time	<70 dB (A)

Test Method	IS: 9989 : 1981

Nikunj D. Patel
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Results of Noise Level Monitoring

Location Name		AIR STRIP					
Sr. No.	Sampling Date and Time	Noise Level Leq. dB(A) - Day Time					
		22-04-2023	27-05-2023	24-06-2023	22-07-2023	25-08-2023	23-09-2023
1	06:00 to 07:00	63.9	63.4	61.1	62.6	61.5	60.7
2	07:00 to 08:00	67.8	64.2	68.5	68.3	64.7	63.6
3	08:00 to 09:00	68.9	65.5	65.5	64.2	62.6	65.8
4	09:00 to 10:00	67.1	64.9	64.1	69.8	65.7	66.2
5	10:00 to 11:00	68.5	63.6	68.9	65.8	66.3	65.8
6	11:00 to 12:00	69.1	65.3	67.1	68.1	64.7	62.5
7	12:00 to 13:00	67.5	62.8	68.3	67.2	66.8	65.7
8	13:00 to 14:00	66.9	60.4	64.2	62.5	64.1	66.1
9	14:00 to 15:00	61.8	59.4	62.3	67.1	65.3	63.7
10	15:00 to 16:00	63.8	67.3	69.4	61.5	63.7	65.9
11	16:00 to 17:00	66.7	64.8	66.5	65.6	67.9	63.1
12	17:00 to 18:00	65.3	64.1	62.6	68.8	65.8	60.7
13	18:00 to 19:00	66.7	62.6	65.9	65.4	63.2	63.6
14	19:00 to 20:00	62.9	60.5	63.5	61.7	60.7	62.6
15	20:00 to 21:00	64.2	63.6	61.7	59.5	58.3	61.8
16	21:00 to 22:00	60.1	59.8	60.1	57.7	58.1	59.3
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					
		22-04-2023	27-05-2023	24-06-2023	22-07-2023	25-08-2023	23-09-2023
1	22:00 to 23:00	61.3	59.6	58.1	57.8	59.1	60.1
2	23:00 to 24:00	59.7	57.8	60.4	58.3	56.9	62.3
3	24:00 to 01:00	57.4	58.3	57.8	61.2	60.3	59.8
4	01:00 to 02:00	56.9	61.2	57.6	59	63.8	57.4
5	02:00 to 03:00	59.4	59	60.3	58.7	64.1	54.3
6	03:00 to 04:00	60.3	58.7	56.2	61.1	61.9	57.8
7	04:00 to 05:00	58.4	61.1	56.9	57.3	58.8	58.2
8	05:00 to 06:00	60.6	58.2	57.1	54.7	56.4	60.2

Night Time	<70 dB (A)

Test Method	IS: 9989 : 1981

Nikunj D. Patel
(Chemist)

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CIN:U73100GJ2007PTC051463

Results of Stack Monitoring					
Monitoring Period: April - 2023 to September - 2023					
Sr. No.	Parameter	Unit	Adani Hospital DG Set Sep-23 01-09-2023	GPCB LIMIT	Method of Test
1	Particulate Matter	mg/Nm^3	20.11	150	IS 11255 (Part - 1)
2	Sulfur Dioxide as SO_2	ppm	7.68	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	27.91	50	IS 11255 (Part - 7)

Sr. No.	Parameter	Unit	WTP Nr CETP D.G.Set No. S-1 (380 KVA) Sep-23 16-09-2023	GPCB LIMIT	Method of Test
1	Particulate Matter	mg/Nm^3	24.74	150	IS 11255 (Part - 1)
2	Sulfur Dioxide as SO_2	ppm	9.3	100	IS 11255 (Part - 2)
3	Oxides of Nitrogen as NO_X	ppm	33.58	50	IS 11255 (Part - 7)

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CIN:U73100GJ2007PTC051463

Results of Stack Monitoring					
Monitoring Period: April - 2023 to September - 2023					
Sr. No.	Parameter	Unit	Adani House D.G.Set No. S-1 (750 KVA) Sep-23 16-09-2023	GPCB LIMIT	Method of Test
1	Particulate Matter	mg/Nm^3	23.41	**150**	**IS 11255 (Part - 1)**
2	Sulfur Dioxide as SO_2	ppm	11.3	**100**	**IS 11255 (Part - 2)**
3	Oxides of Nitrogen as NO_X	ppm	26.95	**50**	**IS 11255 (Part - 7)**

Sr. No.	Parameter	Unit	D.G.Set No. S-2 (500 KVA –PUB) Sep-23 16-09-2023	GPCB LIMIT	Method of Test
1	Particulate Matter	mg/Nm^3	21.6	**150**	**IS 11255 (Part - 1)**
2	Sulfur Dioxide as SO_2	ppm	11.2	**100**	**IS 11255 (Part - 2)**
3	Oxides of Nitrogen as NO_X	ppm	36.41	**50**	**IS 11255 (Part - 7)**

GUJARAT VAPI.

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

RESULTS OF BOREHOLE WATER SAMPLE

Sr. No	Parameters	Method	Unit	01-09-2023 Nr. PUB Building.	01-09-2023 Nr. CETP	01-09-2023 Nr.flyover bridge	01-09-2023 Dhrub
1	pH @ 25 ° C	IS 3025(Part 11)1983	--	7.11	8.12	7.44	7.46
2	Salinity	APHA 23rd Ed.,2017,2520 B	ppt	21.11	1.75	10.37	3.6
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)	BDL(MDL:0.01)	BDL(MDL:0.01)
6	Arsenic as As	APHA 23rd Ed.,2017,3114-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	0.345	0.079	0.184	0.781
8	Total Chromium as Cr	IS 3025 (PART 52) 2003	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	0.165
9	Cadmium as Cd	IS 3025(PART 41) 1992	mg/L	0.154	0.04	0.074	0.446
10	Mercury as Hg	APHA 23rd Ed.,2017, 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	0.242	0.09	0.124	0.257
12	Copper as Cu	IS 3025 (PART 42) 1992	mg/L	BDL(MDL:0.05)	BDL(MDL:0.05)	BDL(MDL:0.05)	0.101
13	Iron as Fe	IS 3025(PART 53) 2003	mg/L	0.422	0.331	0.182	1.263
14	Insecticides/Pesticides	USEPA 8081 B	µg/L	Absent	Absent	Absent	Absent
15	Depth of Water Level from Ground Level	--	meter	2.15	2.2	2.15	2.18

Mr. Nilesh Patel
Sr. Chemist

GUJARAT VAPI

Mr. Nitin Tandel
Technical Manager

RESULTS OF SOIL SAMPLE

SR.NO.	TEST PARAMETERS	UNIT	01-09-2023	01-09-2023	01-09-2023	01-09-2023
			PUB Building	Dhrub	Near Flyover Bridge	Near CETP
1	pH	--	8.94	8.62	8.48	9.12
2	Nitrogen as N	%	0.14	0.33	0.29	0.38
3	Phosphorus as P	mg/kg	1284.2	710.5	864.4	502.5
4	Potassium as K	mg/kg	44.52	1244.9	222.8	164.5
5	Baron as B	mg/kg	1.82	2.02	2.11	2.99
6	Calcium as Ca	mg/kg	338.4	3422.5	1004	401.4
7	Magnesium as Mg	mg/kg	164.2	5537.4	448.5	62.2
8	Iron as Fe	%	0.64	1.21	0.92	0.88
9	Moisture	%	0.54	3.12	0.57	1.72
10	Organic Matter	%	0.54	1.56	1.48	1.42
11	Cation exchange capacity (CEC)	meq/100gm	9.68	15.1	10.47	10.02
12	TVC	CFU/gm	$2.7x10^6$	2.9×10^6	2.3×10^6	2.0×10^6
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…

17	Lead as Pb	mg/kg	10.11	9.18	18.02	7.44
18	Chromium as Cr	mg/kg	3.46	9.11	4.09	4.31
19	Cobalt as Co	mg/kg	9.85	10.34	8.75	9.84
20	Copper as Cu	mg/kg	8.02	11.41	30.84	15.94
21	Nickel as Ni	mg/kg	11.4	14.34	13.24	13.75
22	Manganese and Mn	mg/kg	402.5	229.5	220.4	180.62
23	Vanadium as V	mg/kg	7.65	7.89	8.54	8.21

Mr. Nilesh Patel
Sr. Chemist

GUJARAT VAPI

Mr. Nitin Tandel
Technical Manager

Minimum Detection Limit			
Ambient Air Quality Monitoring			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	Particulate Matter (PM10)	µg/m3	5 µg/m3
2	Particulate Matter (PM10)	µg/m3	5 µg/m3
3	Sulphur Dioxide (SO2)	µg/m3	4 µg/m3
4	Nitrogen Dioxide (NO2)	µg/m3	5 µg/m3
5	Carbon Monoxide (CO)	mg/m3	1-30 mg/m3
6	Ammonia (NH3)	µg/m3	5 µg/m3
7	Ozone (O3)	µg/m3	5 µg/m3
8	Lead (Pb)	µg/m3	0.5 µg/m3
9	Nickle (Ni)	ng/m3	1 ng/m3
10	Arsenic (As)	ng/m3	1 ng/m3
11	Benzene	µg/m3	1µg/m3
12	Benzo(o)Pyrene	ng/m3	0.1 ng/m3
14	Hydro Carbon	µg/m3	1 µg/m3
Stack Emission Monitoring			
Sr. No.	**Test Parameter**	**Unit**	**MDL**
1	Suspended particulate matter	mg/Nm3	2 mg/Nm3
2	Sulphur Dioxide SOX	mg/Nm3	4 mg/Nm3
3	Oxides of Nitrogen NOX	mg/Nm3	5 mg/Nm3

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			
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	

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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 - 2023

Name of Location : Village - Siracha

ID No. : **URA/ID/A-23/04/001**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/04/2023	64.4	29.9	17.6	22.6		--
2.	07/04/2023	62.7	25.7	15.8	24.0		--
3.	11/04/2023	44.2	21.3	11.9	17.3		--
4.	14/04/2023	57.6	29.6	14.6	21.2		--
5.	18/04/2023	59.3	28.5	15.8	23.0	18.5	BDL
6.	21/04/2023	53.0	28.9	13.0	18.3		--
7.	25/04/2023	69.2	29.2	17.7	21.5		--
8.	28/04/2023	62.6	25.4	18.0	20.6		--
Average		**59.1**	**27.3**	**15.6**	**21.1**		--

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

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, **PM_{10} –** IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** – 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 µg/m3

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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 - 2023

Name of Location : Village – Kandagara

ID No. : **URA/ID/A-22/04/002**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/04/2023	53.0	23.7	18.0	24.0		--
2.	07/04/2023	63.0	31.5	16.9	21.5		--
3.	11/04/2023	57.2	28.1	14.5	18.2		--
4.	14/04/2023	46.1	27.5	12.2	15.4		--
5.	18/04/2023	65.5	28.3	14.9	23.9	19.6	BDL
6.	21/04/2023	59.3	30.5	13.7	27.1		--
7.	25/04/2023	57.6	28.0	15.0	20.3		--
8.	28/04/2023	61.4	32.6	15.2	20.2		--
Average		**57.9**	**28.5**	**15.1**	**21.3**		**--**

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

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, **PM_{10}**– IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2**– 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 µg/m3

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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 - 2023

Name of Location : Village - Wandh

ID No. : **URA/ID/A-23/04/003**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/04/2023	57.5	27.1	19.8	25.2		--
2.	07/04/2023	60.4	30.8	18.3	27.3		--
3.	11/04/2023	65.7	33.0	15.6	20.2		--
4.	14/04/2023	73.5	34.6	20.8	22.3		--
5.	18/04/2023	61.1	28.7	16.7	22.2	23.8	BDL
6.	21/04/2023	63.6	31.7	14.3	19.8		--
7.	25/04/2023	57.3	26.9	19.1	23.8		--
8.	28/04/2023	63.3	30.2	13.9	22.9		--
Average		**62.8**	**30.4**	**17.3**	**23.0**		**--**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr.20 MLD Plant

ID No. : **URA/ID/A-23/04/004**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	17/04/2023	57.4	25.2	14.8	20.3	15.8	BDL
Average		**57.4**	**25.2**	**14.8**	**20.3**	**15.8**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr. Shantiniketan - 1

ID No. : **URA/ID/A-23/04/005**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	17/04/2023	51.3	22.6	12.9	18.7	14.2	BDL
Average		**51.3**	**22.6**	**12.9**	**18.7**	**14.2**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Village - Siracha

ID No. : **URA/ID/A-23/08/001**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/08/2023	46.2	22.4	12.8	16.5		--
2.	08/08/2023	57.3	25.1	14.2	18.7		--
3.	11/08/2023	Due to Rainfall Monitoring not Performed					
4.	15/08/2023	54.2	24.3	12.1	15.2	15.2	BDL
5.	18/08/2023	60.0	27.2	13.6	16.8		--
6.	22/08/2023	49.3	21.5	16.3	21.3		--
7.	25/08/2023	51.6	27.1	11.5	14.8		--
8.	29/08/2023	68.1	29.0	15.7	20.1		--
Average		**55.3**	**25.2**	**13.7**	**17.6**		--

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

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, **PM_{10} –** IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2 –** 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 µg/m3

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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 - 2023

Name of Location : Village – Kandagara

ID No. : **URA/ID/A-22/08/002**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/08/2023	50.5	22.0	13.0	17.7		--
2.	08/08/2023	60.9	24.5	12.9	15.1		--
3.	11/08/2023	Due to Rainfall Monitoring not Performed					
4.	15/08/2023	51.9	30.5	14.7	20.3	17.8	BDL
5.	18/08/2023	57.2	32.1	17.3	23.4		--
6.	22/08/2023	62.5	31.2	10.5	14.7		--
7.	25/08/2023	48.6	28.3	12.6	16.5		--
8.	29/08/2023	63.1	30.3	13.6	18.9		--
Average		**56.4**	**28.4**	**13.5**	**18.1**		**--**

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

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, **PM_{10}**– IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2**– 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 µg/m3

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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 - 2023

Name of Location : Village - Wandh

ID No. : **URA/ID/A-23/08/003**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/08/2023	61.3	27.3	12.3	16.3		--
2.	08/08/2023	54.8	26.3	16.8	22.9		--
3.	11/08/2023	Due to Rainfall Monitoring not Performed					
4.	15/08/2023	48.8	21.8	14.1	17.0	22.7	BDL
5.	18/08/2023	61.5	31.0	11.7	15.3		--
6.	22/08/2023	59.0	23.7	17.2	22.1		--
7.	25/08/2023	57.8	26.2	15.7	20.4		--
8.	29/08/2023	70.0	33.3	14.8	18.5		--
Average		**59.1**	**27.1**	**14.7**	**18.9**		**--**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr.20 MLD Plant

ID No. : **URA/ID/A-23/08/004**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	17/08/2023	51.4	23.4	15.4	21.3	16.3	BDL
Average		**51.4**	**23.4**	**15.4**	**21.3**	**16.3**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr. Shantiniketan - 1

ID No. : **URA/ID/A-23/08/005**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	17/08/2023	48.3	18.5	13.1	19.5	14.2	BDL
Average		**48.3**	**18.5**	**13.1**	**19.5**	**14.2**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Village - Siracha

ID No. : **URA/ID/A-23/07/001**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/07/2023	46.8	20.9	14.3	17.1		--
2.	08/07/2023	Due to Rainfall Monitoring Not Performend					
3.	11/07/2023	58.5	24.6	16.7	20.5		--
4.	14/07/2023	44.6	19.8	13.5	14.8	16.8	BDL
5.	18/07/2023	60.1	27.6	12.8	15.7		--
6.	22/07/2023	Due to Rainfall Monitoring Not Performend					
7.	25/07/2023	Due to Rainfall Monitoring Not Performend					
8.	29/07/2023	Due to Rainfall Monitoring Not Performend					
Average		**52.5**	**23.2**	**14.3**	**17.0**		--

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

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, **PM_{10}** – IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** – 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 µg/m3

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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 - 2023

Name of Location : Village – Kandagara

ID No. : **URA/ID/A-22/07/002**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/07/2023	46.3	20.7	13.6	18.6		--
2.	08/07/2023	Due to Rainfall Monitoring Not Performend					
3.	11/07/2023	64.6	28.6	15.2	21.4		--
4.	14/07/2023	51.5	18.3	11.8	15.7	15.4	BDL
5.	18/07/2023	56.1	21.3	13.8	16.1		--
6.	22/07/2023	Due to Rainfall Monitoring Not Performend					
7.	25/07/2023	Due to Rainfall Monitoring Not Performend					
8.	29/07/2023	Due to Rainfall Monitoring Not Performend					
Average		**54.6**	**22.2**	**13.6**	**18.0**		**--**

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

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, **PM_{10}**– IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2**– 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 µg/m3

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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 - 2023

Name of Location : Village - Wandh

ID No. : **URA/ID/A-23/07/003**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	04/07/2023	56.1	25.5	15.9	18.1		--
2.	08/07/2023	Due to Rainfall Monitoring Not Performend					
3.	11/07/2023	50.5	23.1	17.1	21.3		--
4.	14/07/2023	62.5	31.4	14.3	19.2	19.7	BDL
5.	18/07/2023	58.5	26.4	14.8	22.7		--
6.	22/07/2023	Due to Rainfall Monitoring Not Performend					
7.	25/07/2023	Due to Rainfall Monitoring Not Performend					
8.	29/07/2023	Due to Rainfall Monitoring Not Performend					
Average		**56.9**	**26.6**	**15.5**	**20.3**		**--**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr.20 MLD Plant

ID No. : **URA/ID/A-23/07/004**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	26/07/2023	48.9	21.2	13.8	20.8	15.2	BDL
Average		**48.9**	**21.2**	**13.8**	**20.8**	**15.2**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr. Shantiniketan - 1

ID No. : **URA/ID/A-23/07/005**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	26/07/2023	42.7	16.8	12.0	18.7	13.8	BDL
Average		**42.7**	**16.8**	**12.0**	**18.7**	**13.8**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Village - Siracha

ID No. : **URA/ID/A-23/06/001**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	$PM_{2.5}$ µg/M³	Sulphur Dioxide (SO_2) µg/M³	Nitrogen Dioxide (NO_2) µg/M³	Ozone (O_3) µg/M³	Mercury (Hg) µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	02/06/2023	64.1	28.7	16.8	21.1		--
2.	06/06/2023	54.0	21.8	14.2	18.7		--
3.	09/06/2023	46.4	24.5	13.9	15.6	17.6	BDL
4.	13/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
5.	16/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
6.	20/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
7.	23/06/2023	48.5	21.6	13.8	19.2		--
8.	30/06/2023	Due to Rainfall Monitoring Not Performend					
Average		**53.3**	**24.2**	**14.7**	**18.7**		--

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

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, **PM_{10} –** IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2 –** 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 µg/m3

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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 - 2023

Name of Location : Village – Kandagara

ID No. : **URA/ID/A-22/06/002**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	02/06/2023	63.9	29.2	14.1	19.2		--
2.	06/06/2023	57.7	25.5	16.5	23.1		--
3.	09/06/2023	49.6	26.5	13.4	18.0	18.6	BDL
4.	13/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
5.	16/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
6.	20/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
7.	23/06/2023	49.2	27.8	14.2	17.9		--
8.	30/06/2023	Due to Rainfall Monitoring Not Performend					
Average		**55.1**	**27.2**	**14.6**	**18.7**		**--**

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

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, **PM_{10}**– IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2**– 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 µg/m3

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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 - 2023

Name of Location : Village - Wandh

ID No. : **URA/ID/A-23/06/003**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	02/06/2023	67.9	30.0	16.5	17.6		--
2.	06/06/2023	62.0	29.6	18.2	24.0		--
3.	09/06/2023	53.6	27.5	13.6	20.8	21.3	BDL
4.	13/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
5.	16/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
6.	20/06/2023	Due to Cyclone and Rainfall Monitoring Not Performend					
7.	23/06/2023	54.1	24.7	13.1	16.8		--
8.	30/06/2023	Due to Rainfall Monitoring Not Performend					
Average		**59.4**	**28.0**	**15.4**	**19.8**		**--**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr.20 MLD Plant

ID No. : **URA/ID/A-23/06/004**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	08/06/2023	51.3	23.8	14.2	22.8	16.8	BDL
Average		**51.3**	**23.8**	**14.2**	**22.6**	**16.8**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr. Shantiniketan - 1

ID No. : **URA/ID/A-23/06/005**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	08/06/2023	47.6	18.9	12.8	20.3	14.2	BDL
Average		**47.6**	**18.9**	**12.8**	**20.3**	**14.2**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Village - Siracha

ID No. : **URA/ID/A-23/05/001**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	$PM_{2.5}$ µg/M³	Sulphur Dioxide (SO_2) µg/M³	Nitrogen Dioxide (NO_2) µg/M³	Ozone (O_3) µg/M³	Mercury (Hg) µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1.	02/05/2023	54.1	25.5	14.7	22.3		--
2.	05/05/2023	50.8	24.9	17.8	21.1		--
3.	09/05/2023	69.5	29.6	16.3	17.5	19.3	BDL
4.	12/05/2023	58.2	27.0	20.5	22.2		--
5.	16/05/2023	68.4	30.2	14.3	19.5		--
6.	19/05/2023	47.0	22.7	19.6	22.4		--
7.	23/05/2023	60.2	27.4	17.2	21.7		--
8.	26/05/2023	58.9	26.1	15.8	20.6		
9.	30/05/2023	57.6	26.4	12.3	17.5		--
Average		**58.3**	**26.7**	**16.5**	**20.5**		--

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

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, **PM_{10}** – IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** – 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 µg/m3

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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 - 2023

Name of Location : Village – Kandagara

ID No. : **URA/ID/A-22/05/002**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	$PM_{2.5}$ µg/M³	Sulphur Dioxide (SO_2) µg/M³	Nitrogen Dioxide (NO_2) µg/M³	Ozone (O_3) µg/M³	Mercury (Hg) µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	02/05/2023	59.1	25.3	18.5	21.7		--
2.	05/05/2023	52.8	24.3	16.8	18.3		--
3.	09/05/2023	60.5	26.9	13.2	20.5	20.5	BDL
4.	12/05/2023	53.2	27.6	18.5	18.7		--
5.	16/05/2023	70.4	33.3	20.3	24.2		--
6.	19/05/2023	52.0	27.5	14.8	20.5		--
7.	23/05/2023	45.2	26.6	12.2	17.6		--
8.	26/05/2023	60.9	28.5	14.6	23.2		
9.	30/05/2023	62.6	27.6	16.8	18.3		--
Average		**57.4**	**27.5**	**16.2**	**20.3**		--

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

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, **PM_{10}**– IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2**– 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 µg/m3

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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 - 2023

Name of Location : Village - Wandh

ID No. : **URA/ID/A-23/05/003**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	$PM_{2.5}$ µg/M³	Sulphur Dioxide (SO_2) µg/M³	Nitrogen Dioxide (NO_2) µg/M³	Ozone (O_3) µg/M³	Mercury (Hg) µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	02/05/2023	63.6	30..8	17.5	22.6		--
2.	05/05/2023	55.2	24.5	15.8	20.5		--
3.	09/05/2023	61.4	30.7	14.0	21.5	24.9	BDL
4.	12/05/2023	60.4	28.8	15.5	18.7		--
5.	16/05/2023	72.1	34.3	21.3	26.2		--
6.	19/05/2023	63.5	29.0	13.8	17.5		--
7.	23/05/2023	59.1	32.9	17.2	20.6		--
8.	26/05/2023	60.2	28.5	19.7	24.1		
9.	30/05/2023	62.2	31.2	15.5	18.7		--
Average		**62.2**	**31.2**	**15.5**	**18.7**		--

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr.20 MLD Plant

ID No. : **URA/ID/A-23/05/004**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	$PM_{2.5}$ µg/M³	Sulphur Dioxide (SO_2) µg/M³	Nitrogen Dioxide (NO_2) µg/M³	Ozone (O_3) µg/M³	Mercury (Hg) µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	12/05/2023	59.8	26.7	15.3	22.4	17.3	BDL
Average		**59.8**	**26.7**	**15.3**	**22.4**	**17.3**	BDL

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr. Shantiniketan - 1

ID No. : **URA/ID/A-23/05/005**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	$PM_{2.5}$ µg/M³	Sulphur Dioxide (SO_2) µg/M³	Nitrogen Dioxide (NO_2) µg/M³	Ozone (O_3) µg/M³	Mercury (Hg) µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		100	60	80	80	100	N.A.
1	12/05/2023	53.7	21.5	13.1	19.2	15.8	BDL
Average		53.7	21.5	13.1	19.2	15.8	BDL

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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Research Labs Pvt. Ltd.

(Authorized Signatory)

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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 - 2023

Name of Location : Village - Siracha

ID No. : **URA/ID/A-23/09/001**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	01/09/2023	55.0	30.3	12.1	15.5		--
2.	05/09/2023	63.9	29.4	12.7	16.2		--
3.	08/09/2023	50.1	26.3	16.5	21.1		--
4.	12/09/2023	Due to Rainfall Monitoring not Performed					
5.	15/09/2023	47.8	22.9	13.4	17.3	18.6	BDL
6.	19/09/2023	52.4	31.3	17.1	22.4		--
7.	22/09/2023	56.7	32.9	14.9	18.7		--
8.	26/09/2023	67.1	33.3	15.6	21.7		--
9.	29/09/2023	59.0	29.1	14.3	17.6		--
Average		**56.5**	**29.4**	**14.6**	**18.8**		--

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

Analysis Method Reference: SPM – IS: 5182 (Part 4), 1999, **PM_{10}** – IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** – 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 µg/m3

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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 - 2023

Name of Location : Village – Kandagara

ID No. : **URA/ID/A-22/09/002**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	01/09/2023	59.1	25.5	15.3	19.4		--
2.	05/09/2023	61.5	31.9	13.7	18.6		--
3.	08/09/2023	56.3	28.4	16.3	21.7		--
4.	12/09/2023	Due to Rainfall Monitoring not Performed					
5.	15/09/2023	50.3	27.3	15.4	23.0	19.2	BDL
6.	19/09/2023	64.1	29.6	14.3	17.7		--
7.	22/09/2023	59.6	26.7	18.2	24.6		--
8.	26/09/2023	69.6	32.4	13.5	16.4		--
9.	29/09/2023	51.0	24.1	16.7	21.9		--
Average		**58.9**	**28.2**	**15.4**	**20.4**		**--**

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

Analysis Method Reference: SPM– IS: 5182 (Part 4), 1999, **PM_{10}**– IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2**– 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 µg/m3

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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 - 2023

Name of Location : Village - Wandh

ID No. : **URA/ID/A-23/09/003**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1.	01/09/2023	55.6	26.5	14.4	16.1		--
2.	05/09/2023	62.6	30.7	15.5	19.4		--
3.	08/09/2023	61.6	32.5	14.9	17.9		--
4.	12/09/2023	Due to Rainfall Monitoring not Performed					
5.	15/09/2023	64.3	37.4	18.5	23.8	25.9	BDL
6.	19/09/2023	52.5	26.1	13.7	19.5		--
7.	22/09/2023	53.8	28.2	12.9	17.1		--
8.	26/09/2023	70.5	36.6	15.8	22.7		--
9.	29/09/2023	57.3	24.0	17.5	24.0		--
Average		**59.8**	**30.2**	**15.4**	**20.1**		**--**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr.20 MLD Plant

ID No. : **URA/ID/A-23/09/004**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	26/09/2023	54.8	25.7	16.8	22.4	19.2	BDL
Average		**54.8**	**25.7**	**16.8**	**22.4**	**19.2**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

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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 - 2023

Name of Location : Nr. Shantiniketan - 1

ID No. : **URA/ID/A-23/09/005**

Sr. No.	Sampling Date	Concentration in Ambient Air (µg /m³)					
		PM_{10} µg/M³	**$PM_{2.5}$** µg/M³	**Sulphur Dioxide (SO_2)** µg/M³	**Nitrogen Dioxide (NO_2)** µg/M³	**Ozone (O_3)** µg/M³	**Mercury (Hg)** µg/M³
GPCB Permissible Limit (TWA for 24 hrs.)		**100**	**60**	**80**	**80**	**100**	**N.A.**
1	26/09/2023	50.4	21.3	14.2	20.7	16.8	BDL
Average		**50.4**	**21.3**	**14.2**	**20.7**	**16.8**	**BDL**

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

Analysis Method Reference: SPM - IS: 5182 (Part 4), 1999, **PM_{10}** - IS: 5182 (Part 23), 2006, **$PM_{2.5}$**- Guidelines by CPCB (Vol-1), **SO_2** - 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 µg/m3

UniStar Environment &
Research Labs Pvt. Ltd.

(Authorized Signatory)

Report Reff. No: EE/ENV/2023/06/130 **Report Date: 28/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/DW1	**Sample Location**	--
Sampling Date	21/06/2023	**Type of Sample**	Drinking Water
Sample Received Date	21/06/2023	**Quantity of Sample**	2 Litre
Analysis Start Date	22/06/2023	**Sampling Method**	APHA 24th Ed. 1060 B : 2022
Analysis End Date	30/06/2023	**Sample Collection By**	Earth Envirotech Team

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Desirable Limit IS-10500-2012
1.	pH	--	7.33	6.5-8.5
2.	Odour	--	Odourless	Unobjectionable
3.	Color	Pt. Co.	Colorless	05
4.	Taste	-	Agreeable	Agreeable
5.	Turbidity	NTU	Nil	05
6.	Total Dissolved Solids	mg/L	247	500
7.	Total Hardness (as $CaCO_3$)	mg/L	46.21	300
8.	Chloride	mg/L	66.54	250
9.	Iron	mg/L	BDL	0.3
10.	Residual Free Chlorine	mg/L	BDL	0.2
11.	Calcium (as Ca)	mg/L	26.30	75
12.	Magnesium (as Mg)	mg/L	11.61	30
13.	Copper	mg/L	BDL	0.08
14.	Manganese	mg/L	BDL	0.12
15.	Sulphate	mg/L	31.28	200
16.	Fluoride	mg/L	BDL	0.87
17.	Zinc	mg/L	BDL	03
18.	Anionic Detergents	mg/L	BDL	0.1
19.	Mineral Oil	mg/L	BDL	0.01
20.	Alkalinity	mg/L	26.76	200
21.	Aluminium	mg/L	BDL	0.02
22.	Boron	mg/L	BDL	0.84
23.	Barium	mg/L	BDL	0.7
24.	Silver	mg/L	BDL	0.1
25.	Selenium	mg/L	BDL	0.01

Report Reff. No: EE/ENV/2023/06/130				Report Date: 30/06/2023
26.	Molybdenum	mg/L	BDL	0.07
27.	Sulphide	mg/L	BDL	0.05
28.	Ammonia	mg/L	BDL	0.5
29.	Chloramine	mg/L	BDL	4.0
30.	Phenolic Compound	mg/L	BDL	0.001
31.	Nitrate	mg/L	0.33	46
32.	Bacteriological Examination			
	E. Coli Test	Per 100ml	Absent	Absent

Note: BDL - Below Detectable Limit.

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/126

Report Date: 30/06/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/N1-N5	**Sampling Location**	As per table
Measurement Start Date	21/06/2023	**Type of Sample**	Noise Monitoring
Measurement End Date	21/06/2023	**Sampling Instrument**	Sound Level Meter
Measurement Done By	Earth Envirotech Team	**Sampling Method**	IS 9989 : 2020

ANALYSIS RESULTS

Sr. No.	Location Name	Unit	Day Time	Night Time
			Spot Noise Level dB(A) Maximum	Spot Noise Level dB(A) Maximum
	Standard Limit		75.0	70.0
1.	Near Admin Office	dB(A)	65.8	62.4
2.	Near Cream Area	dB(A)	69.0	61.7
3.	Near Cream Preparation Room	dB(A)	73.7	64.5
4.	Near Biscuit Outline Sugar Grinder	dB(A)	68.3	67.0
5.	Near D.G.Set Area	dB(A)	74.0	61.2

Day Time: 06:00 AM to 10:00 PM
Night Time: 10:00 PM to 06:00 AM

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/127 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/L1-L6	**Sampling Location**	As per table
Measurement Start Date	21/06/2023	**Type of Sample**	Lux Monitoring
Measurement End Date	21/06/2023	**Sampling Instrument**	Lux Meter
Measurement Done By	Earth Envirotech Team	**Sampling Method**	Lutron – LX-101 Inst. Manual

ANALYSIS RESULTS

Sr. No.	Location Name	In Lux (Day Time)	In Lux (Night Time)
1.	Near Cream Area	423	364
2.	Near Sugar Grading Room	405	337
3.	In RM storage room	419	314
4.	In Finished product storage Area	527	355
5.	Rusk Line	483	376
6.	Biscuit Line	559	330

Analyzed By:

EARTH ENVIRO (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

FORM NO.37

(Prescribed under rule 12-B)

Register containing particulars of monitoring of working environment required under section 7-A (a) (e).

1. **Name of Unit:** M/s. Britannia Industries Ltd.
   Location: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch.

2. **Raw materials:** Maida, Sugar etc.

   Finished Products:

Products	Quantity (MT/Month)
Biscuits	2000
Rusks	500

3. **Particular of sampling:**

ISSUE DATE	30/06/2023
REF. NO	BIL/F37/132

Date of Sampling: 21/06/2023

Sr. No.	Location / Operation Monitored	Identified Contaminant	Sampling Instrument Used	Air Borne Contamination		
				Number Of Sample	Range	Average
1.	Mixing Area - Rusk Plant	RSPM (Total Dust)	Respirable Dust Sampler	02	3 - 6	4.9

TWA Concentration (As Given in Second Schedule) Mg/m^3	Reference Method	Number of Worker exposed at the Location being Monitored	Remarks	Signature Person taking Samples	Name of taking Person Samples
10	Gravimetric	05	--		Mr. Sagar Bhanderi

For, Earth Envirotech

Authorized Signatory

FORM NO.37

(Prescribed under rule 12-B)

Register containing particulars of monitoring of working environment required under section 7-A (a) (e)

1. **Name of Unit:** M/s. Britannia Industries Ltd.
   Location: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch.

2. **Raw materials:** Maida, Sugar etc.

   Finished Products:

Products	Quantity (MT/Month)
Biscuits	2000
Rusks	500

3. **Particular of sampling:**

ISSUE DATE	30/06/2023
REF. NO	BIL/F37/131

Date of Sampling: 21/06/2023

Sr. No.	Location / Operation Monitored	Identified Contaminant	Sampling Instrument Used	Air Borne Contamination		
				Number Of Sample	Range	Average
1.	Packing Area (Rusk Toast tea)	RSPM (Total Dust)	Respirable Dust Sampler	02	4 - 6	5.8

TWA Concentration (As Given in Second Schedule) Mg/m^3	Reference Method	Number of Worker exposed at the Location being Monitored	Remarks	Signature Person taking Samples	Name of taking Person Samples
10	Gravimetric	04	--		Mr. Sagar Bhanderi

For, Earth Envirotech

Authorized Signatory

FORM NO.37

(Prescribed under rule 12-B)

Register containing particulars of monitoring of working environment required under section 7-A (a) (e).

1. **Name of Unit:** M/s. Britannia Industries Ltd.
   Location: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch.

2. **Raw materials:** Maida, Sugar etc.

   Finished Products:

Products	Quantity (MT/Month)
Biscuits	2000
Rusks	500

3. **Particular of sampling:**

Date of Sampling: 21/06/2023

ISSUE DATE	30/06/2023
REF. NO	BIL/F37/136

Sr. No.	Location / Operation Monitored	Identified Contaminant	Sampling Instrument Used	Air Borne Contamination		
				Number Of Sample	Range	Average
1.	Mixing area -Biscuit plant	RSPM (Total Dust)	Respirable Dust Sampler	02	5 - 6	5.7

TWA Concentration (As Given in Second Schedule) Mg/m^3	Reference Method	Number of Worker exposed at the Location being Monitored	Remarks	Signature Person taking Samples	Name of taking Person Samples
10	Gravimetric	04	--		Mr. Sagar Bhanderi

For, Earth Envirotech

Authorized Signatory

FORM NO.37

(Prescribed under rule 12-B)

Register containing particulars of monitoring of working environment required under section 7-A (a) (e).

1. **Name of Unit:** M/s. Britannia Industries Ltd.
   Location: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch.

2. **Raw materials:** Maida, Sugar etc.

   Finished Products:

Products	Quantity (MT/Month)
Biscuits	2000
Rusks	500

3. **Particular of sampling:**

Date of Sampling: 21/06/2023

ISSUE DATE	30/06/2023
REF. NO	BIL/F37/135

Sr. No.	Location / Operation Monitored	Identified Contaminant	Sampling Instrument Used	Air Borne Contamination		
				Number Of Sample	Range	Average
1.	Maida Handling area - Rusk	RSPM (Total Dust)	Respirable Dust Sampler	02	4 - 5	4.9

TWA Concentration (As Given in Second Schedule) Mg/m^3	Reference Method	Number of Worker exposed at the Location being Monitored	Remarks	Signature Person taking Samples	Name of taking Person Samples
10	Gravimetric	05	--		Mr. Sagar Bhanderi

For, Earth Envirotech

Authorized Signatory

FORM NO.37

(Prescribed under rule 12-B)

Register containing particulars of monitoring of working environment required under section 7-A (a) (e).

1. **Name of Unit:** M/s. Britannia Industries Ltd.
   Location: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch.

2. **Raw materials:** Maida, Sugar etc.

   Finished Products:

Products	Quantity (MT/Month)
Biscuits	2000
Rusks	500

3. **Particular of sampling:**

Date of Sampling: 21/06/2023

ISSUE DATE	30/06/2023
REF. NO	BIL/F37/134

Sr. No.	Location / Operation Monitored	Identified Contaminant	Sampling Instrument Used	Air Borne Contamination		
				Number Of Sample	Range	Average
1.	Maida and Sugar Handling area	RSPM (Total Dust)	Respirable Dust Sampler	02	2 - 4	3.1

TWA Concentration (As Given in Second Schedule) Mg/m^3	Reference Method	Number of Worker exposed at the Location being Monitored	Remarks	Signature Person taking Samples	Name of taking Person Samples
10	Gravimetric	06	--		Mr. Sagar Bhanderi

For, Earth Envirotech

GUJARAT

Authorized Signatory

FORM NO.37

(Prescribed under rule 12-B)

Register containing particulars of monitoring of working environment required under section 7-A (a) (e).

1. **Name of Unit:** M/s. Britannia Industries Ltd.
   Location: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch.

2. **Raw materials:** Maida, Sugar etc.

   Finished Products:

Products	Quantity (MT/Month)
Biscuits	2000
Rusks	500

3. **Particular of sampling:**

Date of Sampling: 21/06/2023

ISSUE DATE	30/06/2023
REF. NO	BIL/F37/133

Sr. No.	Location / Operation Monitored	Identified Contaminant	Sampling Instrument Used	Air Borne Contamination		
				Number Of Sample	Range	Average
1.	Raw Material Area	RSPM (Total Dust)	Respirable Dust Sampler	02	5 - 6	5.2

TWA Concentration (As Given in Second Schedule) Mg/m^3	Reference Method	Number of Worker exposed at the Location being Monitored	Remarks	Signature Person taking Samples	Name of taking Person Samples
10	Gravimetric	04	--		Mr. Sagar Bhanderi

For, Earth Envirotech

Authorized Signatory

Report Reff. No: EE/ENV/2023/06/128

Report Date: 30/06/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/WW1	**Sample Location**	ETP Outlet
Sampling Date	21/06/2023	**Type of Sample**	Waste Water
Sample Received Date	21/06/2023	**Quantity of Sample**	2 Litre
Analysis Start Date	22/06/2023	**Sampling Method**	APHA 24th Ed. 1060 B : 2022
Analysis End Date	30/06/2023	**Sample Collection By**	Earth Envirotech Team

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Gujarat Pollution Control Board Accepted Limit
1.	pH	---	7.80	6.5 – 8.5
2.	Temperature	°C	25.7	45 °C
3.	Colour	Units	3	100
4.	Suspended Solids	mg/L	92	100
5.	Oil & Grease	mg/L	1.23	10
6.	Phenolic Compound	mg/L	BDL	01
7.	Sodium	mg/L	27.36	60
8.	Biochemical Oxygen Demand (5 days at 20°C)	mg/L	11	30
9.	Chemical Oxygen Demand	mg/L	35	100
10.	Chlorides as Cl	mg/L	368.14	600
11.	Sulphate as SO_4	mg/L	190.38	1000
12.	Total Dissolved Solids	mg/L	1176	2100

Analyzed By:

Authorized Signatory:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/129 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details

Name: M/s. Britannia Industries Ltd.
Address: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details

Sample ID	BIL/WW2	**Sample Location**	STP Outlet
Sampling Date	21/06/2023	**Type of Sample**	Waste Water
Sample Received Date	21/06/2023	**Quantity of Sample**	2 Litre
Analysis Start Date	22/06/2023	**Sampling Method**	APHA 24th Ed. 1060 B : 2022
Analysis End Date	30/06/2023	**Sample Collection By**	Earth Envirotech Team

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Gujarat Pollution Control Board Accepted Limit
1.	pH	---	7.48	6.5 – 9.0
2.	Temperature	°C	26.3	--
3.	Colour	Units	13	--
4.	Suspended Solids	mg/L	25	<50
5.	Oil & Grease	mg/L	2.47	--
6.	Ammonical Nitrogen	mg/L	7.2	--
7.	Biochemical Oxygen Demand (5 days at 20°C)	mg/L	17	20
8.	Chemical Oxygen Demand	mg/L	55	--
9.	Chlorides	mg/L	229.84	--
10.	Total Dissolved Solids	mg/L	718.30	--

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/108 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/AA1	**Sample Location**	Near Main Gate
Sampling Date	20/06/2023	**Type of Sample**	Ambient Air
Sample Received Date	20/06/2023	**Sampling Method**	IS 5182 (Part - 5) : 2020 Gaseous Pollutants
Analysis Start Date	21/06/2023		
Analysis End Date	27/06/2023		IS 5182 (Part - 23) : 2022- PM_{10}
Sample Collection By	Earth Envirotech Team		EE-WI-7.3.2A1 - $PM_{2.5}$

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method	National Ambient Air Quality Standards (NAAQS)
1	Particulate Matter PM_{10}	$\mu g/m^3$	30.26	IS 5182 (Part 23) : 2022	100
2	Particulate Matter $PM_{2.5}$	$\mu g/m^3$	12.80	EE-WI-7.2.2A	60
3	Sulphur Dioxide (SO_2)	$\mu g/m^3$	07.59	IS 5182 (Part 2) : 2022	80
4	Nitrogen Dioxide (NO_2)	$\mu g/m^3$	14.17	IS 5182 (Part 6) : 2022	80

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorised Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/124

Report Date: 30/06/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST16	**Sample Location**	D. G. set
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.9	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	6.1	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	154	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	109	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	70.43	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	18.11	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	13.42	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/123 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details

Name: M/s. Britannia Industries Ltd.
Address: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details

Sample ID	BIL/ST15	**Sample Location**	L3-RT-BS-31
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	17.1	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.82	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	12	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	301	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	21.66	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.70	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.86	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)
Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/122

Report Date: 30/06/2023

TEST REPORT

(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST14	**Sample Location**	L3-RT-BS-21
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	17.4	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.50	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	13.8	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	299	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	23.42	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.98	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.37	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/121 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST13	**Sample Location**	L3-RT-BS-11
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.8	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	2.09	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	12.6	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	230	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	24.72	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.56	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.89	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/120

Report Date: 30/06/2023

TEST REPORT
(For the Month of June - 2023)

Client Details

Name: M/s. Britannia Industries Ltd.
Address: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details

Sample ID	BIL/ST12	**Sample Location**	L3-RB-BS-21
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	17.6	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	2.65	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	13	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	266	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	24.39	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	3.86	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.77	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)
Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/119 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST11	**Sample Location**	L3-RB-BS-11
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.2	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	4.3	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	15.1	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	169	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	24.19	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	3.46	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	1.71	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/118 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST10	**Sample Location**	L1-SD-BS
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	17.7	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	2.35	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	13.2	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	259	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	21.55	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.24	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	1.39	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)
Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/117 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST9	**Sample Location**	L1-SD-BS-41
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.4	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	2.27	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	12.5	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	321	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	20.61	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	3.60	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.18	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENT ENGINEERING LABORATORY)
Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/116

Report Date: 30/06/2023

TEST REPORT
(For the Month of June - 2023)

Client Details

Name: M/s. Britannia Industries Ltd.
Address: Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details

Sample ID	BIL/ST8	**Sample Location**	L1-SD-BS-31
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.9	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.3	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	11.6	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	502	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	22.18	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.40	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.62	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)
Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/115

Report Date: 30/06/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST7	**Sample Location**	L1-SD-BS-21
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.5	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.7	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	10.4	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	305	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	18.73	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.48	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.27	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/114 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST6	**Sample Location**	L1-SD-BS-11
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.8	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.66	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	11.3	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	259	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	18.91	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.26	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.52	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/113 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST5	**Sample Location**	L2-C-BS
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	19.0	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	2.29	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	13	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	236	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	24.07	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	3.56	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	1.43	IS 11255 (Part 7) : 2022

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/112 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST4	**Sample Location**	L2-C-BS-41
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.6	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.5	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	11	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	365	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	24.72	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.51	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.60	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)
Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/111 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST3	**Sample Location**	L2-C-BS-31
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	17.8	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.4	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	09	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	469	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	20.75	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.66	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.48	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/110 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST2	**Sample Location**	L2-C-BS-21
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.1	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.7	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	10.3	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	322	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	23.97	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	3.90	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.35	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)
Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/109 **Report Date: 30/06/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST1	**Sample Location**	L2-C-BS-11
Sampling Date	20/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	20/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	21/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	18.4	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	1.7	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	16	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	206	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	21.60	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	4.73	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	2.39	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Reff. No: EE/ENV/2023/06/125

Report Date: 30/06/2023

TEST REPORT

(For the Month of June - 2023)

Client Details
Name: M/s. Britannia Industries Ltd. **Address:** Survey No. 169/p, Adani Port & Special Economic Zone, Tal. Mundra, Dist. Kutch

Sample Details			
Sample ID	BIL/ST17	**Sample Location**	Diesel Engine Pump
Sampling Date	21/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	21/06/2023	**Sampling Method**	Guidelines on Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis Start Date	22/06/2023		
Analysis End Date	30/06/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1	Oxygen (O_2)	%	15.3	Flue Gas Analyzer
2	Carbon dioxide (CO_2)	%	13	Flue Gas Analyzer
3	Carbon Monoxide (CO)	ppm	291	Flue Gas Analyzer
4	Stack Temperature (ST)	°C	149	Flue Gas Analyzer
5	Suspended Particulate Matter (SPM)	mg/Nm^3	61.80	IS 11255 (Part 1) : 2019
6	Sulphur Di Oxide (SO_2)	ppm	13.47	IS 11255 (Part 2) : 2019
7	Oxides of Nitrogen (NO_x)	ppm	10.09	IS 11255 (Part 7) : 2022

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

ULR No.: TC-10939/23/0/00000084P **Report Issue Date :26/08/2023**

TEST REPORT

WATER QUALITY ANALYSIS REPORT

Name of Customer : Oriental Carbon & Chemicals Ltd.
Address of Customer : 141/P Survey no. Mundra SEZ, Ta. Mundra, Town. Mundra, Dist.: Kutch, Pincode: 370421

Sample ID	: ASP-W-R-23-08-004	Sample Collected by	: ASP Team
Sample Type	: Grab	Sample Submitted by	: ASP Team
Sample Collection Date	: 16-08-2023	Sampling Method	: IS 3025 & APHA
Receipt Date	: 18-08-2023	Analysis Method	: IS 3025 & APHA
Analysis Start Date	: 19-08-2023	Sampling Location	: ETPInlet
Completion Date	: 25-08-2023	Sample Description	: Waste Water
Quantity /No. of sample	: 5 L	Packing /Seal	: Cap seal
Type of Container	: Plastic		

Sr. No.	Parameter	Test Method	Unit	Result	Specification
1	pH	IS 3025 (Part 11): 2017	-	6.72	-
2	Temperature	IS 3025 (Part 09): 2017	°C	25	-
3	Color	IS 3025 (Part 04): 2017	CU	175	-
4	Total Suspended Solids	IS 3025 (Part 17): 2017	mg/L	202	-
5	Total Dissolved Solids	IS 3025 (Part 16). 2017	mg/L	862	-
6	Oil and Grease	APHA 5520 B: 2017	mg/L	17.89	-
7	Biochemical Oxygen Demand (3 days at 27° C)	IS 3025 (Part 44): 2019	mg/L	209.3	-
8	Chemical Oxygen Demand	IS 3025 (Part 58): 2017	mg/L	370.74	-
9	Chlorides	IS 3025 (Part 32). 2019	mg/L	179.16	-
10	Sulphates	IS 3025 (Part 24). 2019	mg/L	557.86	-
11	Ammonical Nitrogen	IS 3025 (Part 34): 2019	mg/L	5	
12	Percent Sodium*	IS 3025 (Part 45): 2019	%	35.7	-

[**ADL** -Above Detection Limit, **BDL** - Below Detection Limit]

Notes:

1. These results related to the sample tested and applicable parameter only.
2. The report shall not be reproduced in full or in part and cannot be used as evidence in court of law without written consent/approval of the laboratory division of ASP.
3. The sample will be destroyed after retention time (14 days) unless specified specially.Reanalysis sample will be done, if required within 14 days from the date of report of sample, if the sample are not consumed during analysis.
4. Laboratory Division of ASP strictly maintains confidentiality of all the analysis, test results and customer supplied product/sample and will not reveal this information to the third party unless required for the statutory compliance.
5. The result reported above relate to the sample identified under sample details and for that day only.
6. Specifications based on SPCB norms / provided by party.
7. Parameters mention with '*' beside them are non-accredited parameters.

Analysed By
(D.U. Dave)

For Aura Solution Providers,
Reviewed & Authorized By
(P.J. Vachhani)

---------- End of the Test Report ----------

P.J. Vachhani
Rajkot Head Office
1003-B, Alpha Plus, Near Raiya Telephone Exchange, 150 Feet Ring Road, RAJKOT 360007
Y. A. Tai
Ahmedabad Branch Head
Godown No. 1 & 2, Kana Estate, Plot No. 100/3, Suej Farm, Opp. Pumping Station, Sayadi, Narol, Ahmedabad 382405

ULR No.: TC-10939/23/0/00000085P **Report Issue Date :26/08/2023**

TEST REPORT

WATER QUALITY ANALYSIS REPORT

Name of Customer : Oriental Carbon & Chemicals Ltd.
Address of Customer : 141/P Survey no. Mundra SEZ, Ta. Mundra, Town. Mundra, Dist.: Kutch, Pincode: 370421

Sample ID	: ASP-W-R-23-08-005	Sample Collected by	: ASP Team
Sample Type	: Grab	Sample Submitted by	: ASP Team
Sample Collection Date	: 16-08-2023	Sampling Method	: IS 3025 & APHA
Receipt Date	: 18-08-2023	Analysis Method	: IS 3025 & APHA
Analysis Start Date	: 19-08-2023	Sampling Location	: ETP secondary outlet
Completion Date	: 25-08-2023	Sample Description	: Partially Treated Waste Water
Quantity /No. of sample	: 5 L	Packing /Seal	: Cap seal
Type of Container	: Plastic		

Sr. No.	Parameter	Test Method	Unit	Result	Specification
1	pH	IS 3025 (Part 11): 2017	-	8.32	-
2	Temperature	IS 3025 (Part 09): 2017	°C	25	-
3	Color	IS 3025 (Part 04): 2017	CU	25	-
4	Total Suspended Solids	IS 3025 (Part 17): 2017	mg/L	132.4	-
5	Total Dissolved Solids	IS 3025 (Part 16). 2017	mg/L	627.94	-
6	Oil and Grease	APHA 5520 B: 2017	mg/L	6	-
7	Biochemical Oxygen Demand (3 days at 27° C)	IS 3025 (Part 44): 2019	mg/L	49.09	-
8	Chemical Oxygen Demand	IS 3025 (Part 58): 2017	mg/L	130.15	-
9	Chlorides	IS 3025 (Part 32). 2019	mg/L	127.3	-
10	Sulphates	IS 3025 (Part 24). 2019	mg/L	332.03	-
11	Ammonical Nitrogen	IS 3025 (Part 34): 2019	mg/L	BDL (<1)	-
12	Percent Sodium*	IS 3025 (Part 45): 2019	%	36.3	-

[**ADL** -Above Detection Limit, **BDL** - Below Detection Limit]

Notes:

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5. The result reported above relate to the sample identified under sample details and for that day only.
6. Specifications based on SPCB norms / provided by party.
7. Parameters mention with '*' beside these are non-accredited parameters.

Analysed By
(D.U. Dave)

SOLUTION PROVIDERS RAJKOT

For Aura Solution Providers,
Reviewed & Authorized By
(P.J. Vachhani)

---------- End of the Test Report ----------

P.J. Vachhani
Rajkot Head Office
1003-B, Alpha Plus, Near Raiya Telephone Exchange, 150 Feet Ring Road, RAJKOT 360007.

Y. A. Tai
Ahmedabad Branch Head
Godown No. 1 & 2, Kana Estate, Plot No. 100/3, Suej Farm, Opp. Pumping Station, Savadi - Narol, Ahmedabad-382405.
E-mail: asp.ahmedabad20@gmail.com

ULR No.: TC-10939/23/0/00000086P **Report Issue Date :26/08/2023**

TEST REPORT

WATER QUALITY ANALYSIS REPORT

Name of Customer : Oriental Carbon & Chemicals Ltd.
Address of Customer : 141/P Survey no. Mundra SEZ, Ta. Mundra, Town. Mundra, Dist.: Kutch, Pincode: 370421

Sample ID	: ASP-W-R-23-08-006	Sample Collected by	: ASP Team
Sample Type	: Grab	Sample Submitted by	: ASP Team
Sample Collection Date	: 16-08-2023	Sampling Method	: IS 3025 & APHA
Receipt Date	: 18-08-2023	Analysis Method	: IS 3025 & APHA
Analysis Start Date	: 19-08-2023	Sampling Location	: ETP outlet
Completion Date	: 25-08-2023	Sample Description	: Treated Waste Water
Quantity /No. of sample	: 5 L	Packing /Seal	: Cap seal
Type of Container	: Plastic		

Sr. No.	Parameter	Test Method	Unit	Result	Specification
1	pH	IS 3025 (Part 11): 2017	-	6.95	6.5-8.5
2	Temperature	IS 3025 (Part 09): 2017	°C	25	40
3	Color	IS 3025 (Part 04): 2017	CU	15	100
4	Total Suspended Solids	IS 3025 (Part 17): 2017	mg/L	97.4	100
5	Total Dissolved Solids	IS 3025 (Part 16). 2017	mg/L	554	2100
6	Oil and Grease	APHA 5520 B: 2017	mg/L	5.32	10
7	Biochemical Oxygen Demand (3 days at 27° C)	IS 3025 (Part 44): 2019	mg/L	26.7	30
8	Chemical Oxygen Demand	IS 3025 (Part 58): 2017	mg/L	99.78	100
9	Chlorides	IS 3025 (Part 32). 2019	mg/L	84.87	600
10	Sulphates	IS 3025 (Part 24). 2019	mg/L	390.5	1000
11	Ammonical Nitrogen	IS 3025 (Part 34): 2019	mg/L	BDL.(<1)	50
12	Percent Sodium*	IS 3025 (Part 45): 2019	%	33.9	60

[**ADL** -Above Detection Limit, **BDL** - Below Detection Limit]

Notes:

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5. The result reported above relate to the sample identified under sample details and for that day only.
6. Specifications based on SPCB norms / provided by party.
7. Parameters mention with '*' beside them are non-accredited parameters.

Analysed By
(D.U. Dave)

AURA SOLUTION PROVIDERS RAJKOT

For Aura Solution Providers,
Reviewed & Authorized By
(P.J. Vachhani)

---------- End of the Test Report ----------

P.J. Vachhani
Rajkot Head Office
1003-B, Alpha Plus, Near Raiya Telephone Exchange, 150 Feet Ring Road, RAJKOT 360007.

Y. A. Tai
Ahmedabad Branch Head
Godown No. 1 & 2, Kana Estate, Plot No. 100/3, Suej Farm, Opp. Pumping Station, Savadi - Narol, Ahmedabad-382405

ULR No.: TC-10939/23/0/00000087F | Report Issue Date :26/08/2023

TEST REPORT

STACK MONITORING

Name of Customer	: Oriental Carbon & Chemicals Ltd.
Address of Customer	: 141/P Survey no. Mundra SEZ, Ta. Mundra, Town. Mundra. Dist.: Kutch, Pincode: 370421

SAMPLE DETAILS

Sample ID	: AURA/AS-23-08-002	Client Representative	: Mr. Alok Gupta
Sampling Date	: 16-08-2023	Sampling Duration	: 40 min
Sampling Start Time	: 4:30 PM	Sample Collected By	: Aura Solution Providers
Analysis Start Date	: 19-08-2023	Sampling Bottle	: Sealed
Analysis Completion Date	: 20-08-2023	Thimble	: Packed
Sampling Procedure	: IS 11255 (Part 3): 2018		
Environment Condition During Sampling	: 29 ± 3°C		
Environment Condition During Testing	: 25 ± 3°C		

STACK DETAILS

Sr. No.	Parameter	Unit	Description
1	Stack attached to	-	CF Boiler
2	Height	m	40
3	Diameter	mm	1000
4	Temperature	°C	128
5	Velocity	m/s	3.05
6	Type of Fuel	-	Coal/ Agro Waste
7	Air Pollution Control Measure	-	ESP Water scrubber

TEST RESULT

Sr. No.	Parameter	Test Method	Unit	Result	Specification
1	Suspended Particulate Matter	IS 11255 :Part 1:1985	mg/Nm^3	14.64	150
2	Sulphur Dioxide (SO_2)	IS 11255 :Part 2:1985	mg/Nm^3	62.90	100
3	Oxides of Nitrogen (NO_x)	IS 11255 :Part 7 :2005	mg/Nm^3	7.83	50

[**ADL** -Above Detection Limit, **BDL** - Below Detection Limit]

Notes:

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5. The result reported above relate to the sample identified under sample details and for that day only.
6. Specifications based on SPCB norms / provided by party.

For Aura Solution Providers,

Analysed By
(D.U. Dave)

AURA SOLUTION PROVIDERS RAJKOT

Reviewed & Authorized By
(P.J. Vachhani)

---------- End of the Test Report ----------

P.J. Vachhani
Rajkot Head Office
1003-B, Alpha Plus, Near Raiya Telephone Exchange, 150 Feet Ring Road, RAJKOT 360007

Y. A. Tai
Ahmedabad Branch Head
Godown No. 1 & 2, Kana Estate, Plot No. 100/3, Suej Farm, Opp. Pumping Station, Savadi - Narol, Ahmedabad-382405

Report Ref. No: EE/ENV/2023/07/023

Report Date: 06/07/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/AA1	**Sample Location**	Near Main Entrance Area
Sampling Date	29/06/2023	**Type of Sample**	Ambient Air
Sample Received Date	29/06/2023	**Sampling Method**	IS 5182 (Part 23) : 2022 – PM_{10}
Analysis Start Date	30/06/2023		EE-WI-7.3-2A (1) – $PM_{2.5}$
Analysis End Date	06/07/2023		Gaseous Pollutant IS 5182 (Part 5) : 2020
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method	National Ambient Air Quality Standards
1.	Particulate Matter PM_{10}	$\mu g/m^3$	53.61	IS 5182 (Part 23) : 2022	100
2.	Particulate Matter $PM_{2.5}$	$\mu g/m^3$	21.94	EE-WI-7.2.2A	60
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	13.72	IS 5182 (Part 2) : 2022	80
4.	Nitrogen Dioxide (NO_2)	$\mu g/m^3$	15.38	IS 5182 (Part 6) : 2022	80

Analyzed By:

Authorized Signatory:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/07/024

Report Date: 06/07/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/AA2	**Sample Location**	Near Workshop Area
Sampling Date	29/06/2023	**Type of Sample**	Ambient Air
Sample Received Date	29/06/2023	**Sampling Method**	IS 5182 (Part 23) : 2022 – PM_{10}
Analysis Start Date	30/06/2023		EE-WI-7.3-2A (1) – $PM_{2.5}$
Analysis End Date	06/07/2023		Gaseous Pollutant IS 5182 (Part 5) : 2020
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method	National Ambient Air Quality Standards
1.	Particulate Matter PM_{10}	$\mu g/m^3$	45.69	IS 5182 (Part 23) : 2022	100
2.	Particulate Matter $PM_{2.5}$	$\mu g/m^3$	20.44	EE-WI-7.2.2A	60
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	18.35	IS 5182 (Part 2) : 2022	80
4.	Nitrogen Dioxide (NO_2)	$\mu g/m^3$	19.16	IS 5182 (Part 6) : 2022	80

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/07/025 **Report Date: 06/07/2023**

TEST REPORT
(For the Month of June-2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/ST1	**Stack Attached to**	Boiler
Sampling Date	29/06/2023	**Type of Sample**	Stack Emission
Sample Received Date	29/06/2023	**Sampling Instrument**	Stack Monitoring Kit
Analysis Start Date	30/06/2023	**Sampling Method**	Guidelines On Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis End Date	06/07/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method	Limit as per GPCB Norms
1.	Suspended Particulate Matter (SPM)	mg/Nm^3	70.24	IS 11255 (Part 1) : 2019	150
2.	Sulphur Dioxide (SO_2)	ppm	12.90	IS 11255 (Part 2) : 2019	100
3.	Oxides of Nitrogen (NO_x)	ppm	08.56	IS 11255 (Part 7) : 2022	50

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/07/026

Report Date: 06/07/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/N1-N6	**Sampling Location**	As per table
Measurement Start Date	29/06/2023	**Type of Sample**	Noise Monitoring
Measurement End Date	29/06/2023	**Sampling Instrument**	Sound Level Meter
Measurement Done By	Earth Envirotech Team	**Sampling Method**	IS 9989 : 2020

ANALYSIS RESULTS

Sr. No.	Location Name	Unit	Day Time	Night Time
			Spot Noise Level dB(A) Maximum	Spot Noise Level dB (B)
Permissible Limit			**75.0**	**70.0**
1.	Inside Raw material Area	dB(A)	73.6	67.8
2.	Inside Store Area	dB(A)	71.5	66.4
3.	Inside Recycle Area	dB(A)	71.8	63.5
4.	Inside Lab Area	dB(A)	66.3	62.8
5.	Inside Winder Area	dB(A)	69.1	60.5
6.	Inside Utility Area	dB(A)	67.4	63.1

Day Time: 06:00 AM to 10:00 PM
Night Time: 10:00 PM to 06:00 AM

Analyzed By:

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/07/027

Report Date: 06/07/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/L1-L3	**Sampling Location**	As per table
Measurement Start Date	29/06/2023	**Type of Sample**	Lux Monitoring
Measurement End Date	29/06/2023	**Sampling Instrument**	Lux Meter
Measurement Done By	Earth Envirotech Team	**Sampling Method**	Lutron – LX-101 Inst. Manual

ANALYSIS RESULTS

Sr. No.	Location Name	In Lux (Day Time)	In Lux (Night Time)
1.	Inside Converting Area	400	344
2.	Inside Recycle Area	422	311
3.	Inside Lab Area	449	335

Analyzed By:

Authorized Signatory:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/07/028 **Report Date: 06/07/2023**

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/WW1	**Sample Location**	STP Outlet
Sampling Date	29/06/2023	**Type of Sample**	Waste Water
Sample Received Date	29/06/2023	**Quantity of Sample**	2 Litre
Analysis Start Date	30/06/2023	**Sampling Method**	APHA 24th Ed. 1060 B : 2022
Analysis End Date	06/07/2023	**Sample Collection By**	Earth Envirotech Team

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1.	pH	---	7.60	IS 3025 (P-11) : 2022
2.	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	19	IS 3025 (P-44) : 2019
3.	Total Suspended Solids	mg/L	46.2	IS 3025 (P-17) : 2022
4.	Fecal coliform MPN/100	MPN/100	23	APHA 24th Ed. 9221 : 2022

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/07/029

Report Date: 06/07/2023

TEST REPORT
(For the Month of June - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/WW2	**Sample Location**	ETP Outlet
Sampling Date	29/06/2023	**Type of Sample**	Waste Water
Sample Received Date	29/06/2023	**Quantity of Sample**	2 Litre
Analysis Start Date	30/06/2023	**Sampling Method**	APHA 24th Ed. 1060 B : 2022
Analysis End Date	06/07/2023	**Sample Collection By**	Earth Envirotech Team

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1.	pH	---	7.11	IS 3025 (P-11) : 2022
2.	Temperature	°C	25.2	APHA 24th Ed. 2550 B : 2022
3.	Total Suspended Solids	mg/L	75.29	IS 3025 (P-17) : 2022
4.	Oil & Grease	mg/L	1.42	IS 3025 (P-39) : 2021
5.	Phenolic Compound	mg/L	0.061	IS 3025 (P-43) : 2022
6.	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	23	IS 3025 (P-44) : 2019
7.	Chemical Oxygen Demand	mg/L	76	IS 3025 (P-58) : 2022
8.	Chlorides	mg/L	549.61	IS 3025 (P-32) : 2019
9.	Sulphates	mg/L	355.37	IS 3025 (P-24) : 2022
10.	Total Dissolved Solids	mg/L	1658	IS 3025 (P-16) : 2023
11.	Percentage Sodium	%	18.33	IS 3025 (P-45) : 2019

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/09/039

Report Date: 19/09/2023

TEST REPORT
(For the Month of September - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/AA1	**Sample Location**	Near Main Entrance Area
Sampling Date	12/09/2023	**Type of Sample**	Ambient Air
Sample Received Date	12/09/2023	**Sampling Method**	IS 5182 (Part 23) : 2022 – PM_{10}
Analysis Start Date	13/09/2023		EE-WI-7.3-2A (1) – $PM_{2.5}$
Analysis End Date	16/09/2023		Gaseous Pollutant IS 5182 (Part 5) : 2020
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method	National Ambient Air Quality Standards
1.	Particulate Matter PM_{10}	$\mu g/m^3$	55.85	IS 5182 (Part 23) : 2022	100
2.	Particulate Matter $PM_{2.5}$	$\mu g/m^3$	23.50	EE-WI-7.2.2A	60
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	16.04	IS 5182 (Part 2) : 2022	80
4.	Nitrogen Dioxide (NO_2)	$\mu g/m^3$	18.76	IS 5182 (Part 6) : 2022	80

Analyzed By:

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/09/040

Report Date: 19/09/2023

TEST REPORT
(For the Month of September - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/AA2	**Sample Location**	Near Workshop Area
Sampling Date	12/09/2023	**Type of Sample**	Ambient Air
Sample Received Date	12/09/2023	**Sampling Method**	IS 5182 (Part 23) : 2022 – PM_{10}
Analysis Start Date	13/09/2023		EE-WI-7.3-2A (1) – $PM_{2.5}$
Analysis End Date	16/09/2023		Gaseous Pollutant IS 5182 (Part 5) : 2020
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method	National Ambient Air Quality Standards
1.	Particulate Matter PM_{10}	$\mu g/m^3$	48.59	IS 5182 (Part 23) : 2022	100
2.	Particulate Matter $PM_{2.5}$	$\mu g/m^3$	21.73	EE-WI-7.2.2A	60
3.	Sulphur Dioxide (SO_2)	$\mu g/m^3$	15.29	IS 5182 (Part 2) : 2022	80
4.	Nitrogen Dioxide (NO_2)	$\mu g/m^3$	17.37	IS 5182 (Part 6) : 2022	80

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/09/041

Report Date: 19/09/2023

TEST REPORT
(For the Month of September-2023)

Client Details

Name: M/s. Terram Geosynthetics Pvt. Ltd.
Address: Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details

Sample ID	TGPL/ST1	**Stack Attached to**	Boiler
Sampling Date	12/09/2023	**Type of Sample**	Stack Emission
Sample Received Date	12/09/2023	**Sampling Instrument**	Stack Monitoring Kit
Analysis Start Date	13/09/2023	**Sampling Method**	Guidelines On Methodologies For Source Emission Monitoring LATS/80/2013-14
Analysis End Date	16/09/2023		
Sample Collection By	Earth Envirotech Team		

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method	Limit as per GPCB Norms
1.	Suspended Particulate Matter (SPM)	mg/Nm^3	67.67	IS 11255 (Part 1) : 2019	150
2.	Sulphur Dioxide (SO_2)	ppm	10.91	IS 11255 (Part 2) : 2019	100
3.	Oxides of Nitrogen (NO_x)	ppm	06.42	IS 11255 (Part 7) : 2022	50

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiclary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/09/042

Report Date: 19/09/2023

TEST REPORT
(For the Month of September - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/N1-N6	**Sampling Location**	As per table
Measurement Start Date	12/09/2023	**Type of Sample**	Noise Monitoring
Measurement End Date	12/09/2023	**Sampling Instrument**	Sound Level Meter
Measurement Done By	Earth Envirotech Team	**Sampling Method**	IS 9989 : 2020

ANALYSIS RESULTS

Sr. No.	Location Name	Unit	Day Time	Night Time
			Spot Noise Level dB(A) Maximum	Spot Noise Level dB(B)
Permissible Limit			75.0	70.0
1.	Inside Raw material Area	dB(A)	73.8	66.5
2.	Inside Store Area	dB(A)	64.8	55.9
3.	Inside Recycle Area	dB(A)	72.8	60.4
4.	Inside Lab Area	dB(A)	67.7	58.1
5.	Inside Winder Area	dB(A)	72.1	63.0
6.	Inside Utility Area	dB(A)	77.7	59.4

Day Time: 06:00 AM to 10:00 PM
Night Time: 10:00 PM to 06:00 AM

Analyzed By:

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/09/043

Report Date: 19/09/2023

TEST REPORT
(For the Month of September - 2023)

Client Details
Name: M/s. Terram Geosynthetics Pvt. Ltd. **Address:** Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details			
Sample ID	TGPL/L1-L3	**Sampling Location**	As per table
Measurement Start Date	12/09/2023	**Type of Sample**	Lux Monitoring
Measurement End Date	12/09/2023	**Sampling Instrument**	Lux Meter
Measurement Done By	Earth Envirotech Team	**Sampling Method**	Lutron – LX-101 Inst. Manual

ANALYSIS RESULTS

Sr. No.	Location Name	In Lux (Day Time)	In Lux (Night Time)
1.	Inside Converting Area	687	406
2.	Inside Recycle Area	324	250
3.	Inside Lab Area	421	284

Analyzed By:

Authorized Signatory:

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/09/044

Report Date: 19/09/2023

TEST REPORT
(For the Month of September - 2023)

Client Details

Name: M/s. Terram Geosynthetics Pvt. Ltd.
Address: Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details

Sample ID	TGPL/WW1	**Sample Location**	STP Outlet
Sampling Date	12/09/2023	**Type of Sample**	Waste Water
Sample Received Date	12/09/2023	**Quantity of Sample**	2 Litre
Analysis Start Date	13/09/2023	**Sampling Method**	APHA 24th Ed. 1060 B : 2022
Analysis End Date	19/09/2023	**Sample Collection By**	Earth Envirotech Team

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1.	pH	---	7.86	IS 3025 (P-11) : 2022
2.	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	23	IS 3025 (P-44) : 2023
3.	Total Suspended Solids	mg/L	50.94	IS 3025 (P-17) : 2022
4.	Fecal coliform MPN/100	MPN/100	29	APHA 24th Ed. 9221 : 2022

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

Report Ref. No: EE/ENV/2023/09/045

Report Date: 19/09/2023

TEST REPORT
(For the Month of September - 2023)

Client Details

Name: M/s. Terram Geosynthetics Pvt. Ltd.
Address: Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

Sample Details

Sample ID	TGPL/WW2	**Sample Location**	ETP Outlet
Sampling Date	12/09/2023	**Type of Sample**	Waste Water
Sample Received Date	12/09/2023	**Quantity of Sample**	2 Litre
Analysis Start Date	13/09/2023	**Sampling Method**	APHA 24th Ed. 1060 B : 2022
Analysis End Date	19/09/2023	**Sample Collection By**	Earth Envirotech Team

ANALYSIS RESULTS

Sr. No.	Parameters	Unit	Results	Reference Method
1.	pH	—	7.26	IS 3025 (P-11) : 2022
2.	Temperature	°C	25.5	APHA 24th Ed. 2550 B : 2022
3.	Total Suspended Solids	mg/L	66.49	IS 3025 (P-17) : 2022
4.	Oil & Grease	mg/L	1.20	IS 3025 (P-39) : 2021
5.	Phenolic Compound	mg/L	0.043	IS 3025 (P-43) : 2022
6.	Biochemical Oxygen Demand (3 days at 27°C)	mg/L	19	IS 3025 (P-44) : 2023
7.	Chemical Oxygen Demand	mg/L	61	IS 3025 (P-58) : 2023
8.	Chlorides	mg/L	489.56	IS 3025 (P-32) : 2019
9.	Sulphates	mg/L	313.22	IS 3025 (P-24) : 2022
10.	Total Dissolved Solids	mg/L	1485	IS 3025 (P-16) : 2023
11.	Percentage Sodium	%	16.14	IS 3025 (P-45) : 2019

Analyzed By:

Authorized Signatory

- Analysis is subject to the condition in which the sample is received at laboratory.
- Report cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be return till 15 days from the date of sampling.

FORM NO.37

(Prescribed under rule 12-B)

Register containing particulars of monitoring of working environment required under section 7-A (a) (e).

1. **Name of the Unit:** M/s. Terram Geosynthetics Pvt. Ltd.
   Location: Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist.: Kutch.

2. **Raw materials:** Poly Propylene Granules, Poly Ethylene Granules, UV Stabilizer pp, UV Stabilizer pe, Antioxidant.

   Finished Products:

Products	Quantity (MT/Month)
Non-Woven Geotextile (Thermally Spun Bound)	7640
Geo-Composite, Geo-Cell, Geo Bags (Thermally Spun Bound)	
HDPE Geo-Cell	1100
HDPE Geo-Net	2600

3. **Particular of sampling**

Issue Date	19/09/2023
Reff. No	TGPL/F37/046

Date of Sampling: 12/09/2023

Sr. No.	Location / Operation Monitored	Identified Contaminant	Sampling Instrument Used	Air Borne Contamination		
				Number Of Sample	Range (mg/m^3)	Average (mg/m^3)
1.	Near Boiler Area	RSPM (Total Dust)	Respirable Dust Sampler	01	4.38	4.38

TWA Concentration (As Given in Second Schedule) mg/m^3	Reference Method	Number of Worker exposed at the Location being Monitored	Remarks	Signature Person taking Samples	Name of taking Person Samples
10	Gravimetric Method	03	--		Mr. Sagar Bhanderi

For, Earth Envirotech

Authorized Signatory,

Royal
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

Ref.No.: 4004/04/2022-23

Date: 01/05/2023

REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Company: Ahlstrom Munksjo Fibercomposites India Pvt. Ltd.

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

Test Method : As per IS Standards - 5182_2/4/6

Sr.No.	Particulars	Unit	Location No. 1	Location No. 2
01.	**Location of Sampling**	----	**Nr. New Security Gate**	**Nr. Old Security Gate**
02.	Date of sampling	----	21/04/2023	21/04/2023
03.	Time of sampling	Hr.	09:30	09:45
04.	Duration of sampling	Hrs.	24.00	24.00
05.	Dominant Wind Direction (From)	----	SW	SW
06.	Average Wind Speed	Km/Hr.	12.1	12.1
07.	Average flow rate during sampling	m^3/minute	1.2	1.1
08.	Average flow rate for Gas sampling	Meter	0.2	0.2
09.	**Permissible Limits of $PM_{2.5}$**	**$\mu g/m^3$**	**60**	**60**
10.	Measured Concentration of $PM_{2.5}$	$\mu g/m^3$	32	29
11.	**Permissible Limits of PM_{10}**	**$\mu g/m^3$**	**100**	**100**
12.	Measured Concentration of PM_{10}	$\mu g/m^3$	46	41
13.	**Permissible Limits of SO_2**	**$\mu g/m^3$**	**80**	**80**
14.	Measured Concentration of SO_2	$\mu g/m^3$	13.1	15.1
15.	**Permissible Limits of NO_2**	**$\mu g/m^3$**	**80**	**80**
16.	Measured Concentration of NO_2	$\mu g/m^3$	21.4	18.4

Instrument Used : Ecotech make AAS - 217 BL , Gasious Sampler AAS 109, PM 2.5 Sampler AAS 127

Calibration Done on. : 26/12/2022

Royal Environment Auditing & Consultancy Service

354 Analyst

Royal
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

Ref.No.: 4005/04/2022-23 Date: 01/05/2023

REPORT OF AMBIENT NOISE LEVEL MEASUREMENT

Name of Company : Ahlstrom Munksjo Fibercomposites India Pvt. Ltd.

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

Date of Sampling: 21/04/2023

Sr. No.	Location of Sampling	Day Time 6:00 AM - 10:00 PM	Night Time 10:00 PM - 6:00 AM
	Permissible Limits	**75 dB(A)**	**70 dB(A)**
01.	Nr. Sec.Main Gate	69.1	50.4
02.	Nr. FO Storage Area	70.4	55.1

CPCB Standards

Area Code	Category of Area / Zone	Limit in dB(A) Leq.	
		Day Time	Night Time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Instruments used : Sound level meter, Model : SL - 4030 (Lutron)

Calibration Done On : 04/03/2023

Royal Environment Auditing & Consultancy Service

Analyst

Royal
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

Ref.No.: 7004/07/2023-24

Date: 01/08/2023

REPORT OF AMBIENT AIR QUALITY MONITORING

Name of Company: Ahlstrom Munksjo Fibercomposites India Pvt. Ltd.

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

Test Method : As per IS Standards - 5182_2/4/6

Sr.No.	Particulars	Unit	Location No. 1	Location No. 2
01.	**Location of Sampling**	----	**Nr. New Security Gate**	**Nr. Old Security Gate**
02.	Date of sampling	----	11/07/2023	11/07/2023
03.	Time of sampling	Hr.	09:45	10:15
04.	Duration of sampling	Hrs.	24.00	24.00
05.	Dominant Wind Direction (From)	----	SW	SW
06.	Average Wind Speed	Km/Hr.	11.5	11.5
07.	Average flow rate during sampling	m^3/minute	1.1	1.2
08.	Average flow rate for Gas sampling	Meter	0.2	0.2
09.	**Permissible Limits of $PM_{2.5}$**	**µg/m^3**	**60**	**60**
10.	Measured Concentration of $PM_{2.5}$	µg/m^3	35	33
11.	**Permissible Limits of PM_{10}**	**µg/m^3**	**100**	**100**
12.	Measured Concentration of PM_{10}	µg/m^3	58	54
13.	**Permissible Limits of SO_2**	**µg/m^3**	**80**	**80**
14.	Measured Concentration of SO_2	µg/m^3	11.4	13.4
15.	**Permissible Limits of NO_2**	**µg/m^3**	**80**	**80**
16.	Measured Concentration of NO_2	µg/m^3	20.5	21.4

Instrument Used : Ecotech make AAS - 217 BL , Gasious Sampler AAS 109, PM 2.5 Sampler AAS 127

Calibration Done on. : 26/12/2022

RAJKOT

Royal Environment Auditing & Consultancy Service

Analyst

Royal
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

Ref.No.: 7005/07/2023-24

Date: 01/08/2023

REPORT OF AMBIENT NOISE LEVEL MEASUREMENT

Name of Company : Ahlstrom Munksjo Fibercomposites India Pvt. Ltd.

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

Date of Sampling: 11/07/2023

Sr. No.	Location of Sampling	Day Time 6:00 AM - 10:00 PM	Night Time 10:00 PM - 6:00 AM
	Permissible Limits	**75 dB(A)**	**70 dB(A)**
01.	Nr. Sec.Main Gate	68.1	53.4
02.	Nr. FO Storage Area	70.6	55.6

CPCB Standards

Area Code	Category of Area / Zone	Limit in dB(A) Leq.	
		Day Time	Night Time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Instruments used : Sound level meter, Model : SL - 4030 (Lutron)

Calibration Done On : 04/03/2023

Royal Environment Auditing & Consultancy Service

Analyst

TC-10779

Royal
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 AIR)

Test Report No. : TR/2023-24/10/50 — Date : 25/10/2023
Work Order No : 4504260887 — Job Card No: Ahls/23-24/02

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 : 20/10/2023 — Date of Testing : 20th to 23rd Oct. 2023
Type of Sampling : Gravimetric & Wet- Chemical Methods

Lab id : PM 2.5 :PM2.5/2023-24/10/16 — SO_2 :A/SO_2/2023-24/10/16
PM 10 :PM10/2023-24/10/16 — NO_2 :A/NO_2/2023-24/10/16

Sampling Flow Rate :
PM 10 : 1.10 m3/min — PM 2.5 : 17 LPM — Gasious Sampler: 0.2 LPM

Location of Sampling :
Nr. Security Main gate
Date of sampling : 19/10/2023
Time of sampling : 09.50
Duration of sampling : 24 Hrs

Environmental Conditions
Humidity : 38%
Weather : Clear
Barometric Pressure : 750 mmHg
Dominant Wind Direction (From) : NE

Sr.No.	Measured Concentration	Unit	Permissible Limits	Results	Test Method
01.	PM 2.5	µg/m^3	60	**30.0**	IS : 5182 (Part-24)-2019
02.	PM 10	µg/m^3	100	**56.0**	IS : 5182 (Part-23)-2006
03.	Sulphur Dioxide (SO_2)	µg/m^3	80	**13.8**	IS : 5182 (Part-2)-2001
04.	Nitrogen Dioxide (NO_2)	µg/m^3	80	**20.5**	IS : 5182 (Part-6)-2006

Instrument used : RDS, Gasious Sampler, PM 2.5 Sampler — Calibration done on : 26/12/2022

Authorized Signatory
Parth Godhani, QM/TM

Reviewed by:
Divya Kothari

* End of Report *

1. The results relate only to the item tested/Sampling.
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TC-10779

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Ph.: +91 9099919954 ▪ E-mail : royalenvironment@live.com ▪ admin@royalconsultancy.com

TEST REPORT
(AMBIENT AIR)

Test Report No. : TR/2023-24/10/51 — Date : 25/10/2023
Work Order No : 4504260887 — Job Card No: Ahls/23-24/02

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 : 20/10/2023 — Date of Testing : 20th to 23rd Oct. 2023
Type of Sampling : Gravimetric & Wet- Chemical Methods

Lab id : PM 2.5 :PM2.5/2023-24/10/17 — SO_2 :A/SO_2/2023-24/10/17
PM 10 :PM10/2023-24/10/17 — NO_2 :A/NO_2/2023-24/10/17

Sampling Flow Rate :
PM 10 : 1.20 m3/min — PM 2.5 : 17.0 LPM — Gasious Sampler: 0.2 LPM

Location of Sampling :
Nr. Old Security Gate
Date of sampling : 19/10/2023
Time of sampling : 10:20
Duration of sampling : 24 Hrs

Environmental Conditions
Humidity : 38%
Weather : Clear
Barometric Pressure : 750 mmHg
Dominant Wind Direction (From) : NE

Sr.No.	Measured Concentration	Unit	Permissible Limits	Results	Test Method
01.	PM 2.5	µg/m^3	60	**32**	IS : 5182 (Part-24)-2019
02.	PM 10	µg/m^3	100	**52.0**	IS : 5182 (Part-23)-2006
03.	Sulphur Dioxide (SO_2)	µg/m^3	80	**12.5**	IS : 5182 (Part-2)-2001
04.	Nitrogen Dioxide (NO_2)	µg/m^3	80	**20.8**	IS : 5182 (Part-6)-2006

Instrument used : RDS, Gasious Sampler, PM 2.5 Sampler — Calibration done on : 26/12/2022

Authorized Signatory
Parth Godhani, QM/TM

Reviewed by:
Divya Kothari

* End of Report *

1.The results relate only to the item tested/Sampling.
2. The report shall not be reproduced except in full without approval of the laboratory can provide assurance that parts of a report are not taken out of context.

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Ph.: +91 9099919954 ▪ E-mail : royalenvironment@live.com ▪ admin@royalconsultancy.com

Ref.No.: 10005/10/2023-24

Date : 25/10/2023

REPORT OF AMBIENT NOISE LEVEL MEASUREMENT

Name of Company : Ahlstrom Munksjo Fibercomposites India Pvt. Ltd.

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

Date of Sampling : 19/10/2023

Sr. No.	Location of Sampling	Day Time 6:00 AM - 10:00 PM	Night Time 10:00 PM - 6:00 AM
	Permissible Limits	**75 dB(A)**	**70 dB(A)**
01.	Nr. Sec.Main Gate	71.6	56.4
02.	Nr. FO Storage Area	74.5	61.4

CPCB Standards

Area Code	Category of Area / Zone	Limit in dB(A) Leq.	
		Day Time	Night Time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Instruments used : Sound level meter, Model : SL - 4030 (Lutron)

Calibration Done On : 04/03/2023

Royal Environment Auditing & Consultancy Service

Rajkot

Analyst

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000009188F			
Test Report No.	**URA/23/09/S-074**	**Report Issue Date**	27/09/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/S-23/09/074	**Field Data Sheet No.**	URA/FDS/S-23/09/074
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	21/09/2023	Date of Testing	22/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	Coal		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	137
6.	Exit Gas Velocity	m/s	7.40
7.	Exit Gas Flow	m^3/h	35340.6

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	38	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	36	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	29	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000009191F			
Test Report No.	**URA/23/09/S-077**	**Report Issue Date**	27/09/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/S-23/09/077	**Field Data Sheet No.**	URA/FDS/S-23/09/077
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	21/09/2023	Date of Testing	22/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	132
6.	Exit Gas Velocity	m/s	7.41
7.	Exit Gas Flow	m^3/h	35388.3

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	36	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	30	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	22	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000009189F			
Test Report No.	**URA/23/09/S-075**	**Report Issue Date**	27/09/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/S-23/09/075	**Field Data Sheet No.**	URA/FDS/S-23/09/075
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	21/09/2023	Date of Testing	22/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 4 Lac Kcal/Hr. (S – 2)**		
Air Pollution Control Device	–		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	800
3.	Stack Area	m^2	0.5024
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	141
6.	Exit Gas Velocity	m/s	7.83
7.	Exit Gas Flow	m^3/h	14161.6

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	35	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	33	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	26	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000009190F			
Test Report No.	**URA/23/09/S-076**	**Report Issue Date**	27/09/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/S-23/09/076	**Field Data Sheet No.**	URA/FDS/S-23/09/076
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	21/09/2023	Date of Testing	22/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 15 Lac Kcal/Hr. (S – 8)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	36
2.	Stack Dia	mm	856
3.	Stack Area	m^2	0.5751
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	134
6.	Exit Gas Velocity	m/s	7.35
7.	Exit Gas Flow	m^3/h	15217.1

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	37	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	34	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	25	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000009192F			
Test Report No.	**URA/23/09/S-078**	**Report Issue Date**	27/09/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/S-23/09/078	**Field Data Sheet No.**	URA/FDS/S-23/09/078
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	21/09/2023	Date of Testing	22/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**D. G. Set 500 KVA (S – 3)**		
Air Pollution Control Device	--		
Fuel Used	Diesel		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	10
2.	Stack Dia	mm	200
3.	Stack Area	m^2	0.0314
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	252
6.	Exit Gas Velocity	m/s	18.69
7.	Exit Gas Flow	m^3/h	2112.7

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	47	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	27	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	20	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000008199F			
Test Report No.	**URA/23/08/S-098**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/S-23/08/098	**Field Data Sheet No.**	URA/FDS/S-23/08/098
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	24/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	Coal		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	141
6.	Exit Gas Velocity	m/s	7.67
7.	Exit Gas Flow	m^3/h	36630.0

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	36	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	33	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	25	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (If required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000008200F			
Test Report No.	**URA/23/08/S-099**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/S-23/08/099	**Field Data Sheet No.**	URA/FDS/S-23/08/099
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	24/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 4 Lac Kcal/Hr. (S – 2)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	800
3.	Stack Area	m^2	0.5024
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	138
6.	Exit Gas Velocity	m/s	8.11
7.	Exit Gas Flow	m^3/h	14668.0

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	33	150	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	30	100	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	24	50	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-04/05

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000008201F			
Test Report No.	**URA/23/08/S-100**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/S-23/08/100	**Field Data Sheet No.**	URA/FDS/S-23/08/100
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	24/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 15 Lac Kcal/Hr. (S – 8)**		
Air Pollution Control Device	–		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	36
2.	Stack Dia	mm	856
3.	Stack Area	m^2	0.5751
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	142
6.	Exit Gas Velocity	m/s	7.83
7.	Exit Gas Flow	m^3/h	16210.9

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	41	150	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	35	100	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	27	50	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (If required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000008202F			
Test Report No.	**URA/23/08/S-101**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/S-23/08/101	**Field Data Sheet No.**	URA/FDS/S-23/08/101
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	24/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	136
6.	Exit Gas Velocity	m/s	7.62
7.	Exit Gas Flow	m^3/h	36391.2

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	35	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	31	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	23	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000008203F			
Test Report No.	**URA/23/08/S-102**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/S-23/08/102	**Field Data Sheet No.**	URA/FDS/S-23/08/102
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	24/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**D. G. Set 500 KVA (S – 3)**		
Air Pollution Control Device	--		
Fuel Used	Diesel		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	10
2.	Stack Dia	mm	200
3.	Stack Area	m^2	0.0314
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	246
6.	Exit Gas Velocity	m/s	18.09
7.	Exit Gas Flow	m^3/h	2044.8

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	49	150	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	28	100	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	21	50	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-04/05

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000007027F			
Test Report No.	**URA/23/07/S-090**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/S-23/07/090	**Field Data Sheet No.**	URA/FDS/S-23/07/090
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	29
5.	Flue Gas Temperature	°C	142
6.	Exit Gas Velocity	m/s	8.09
7.	Exit Gas Flow	m^3/h	38635.8

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	39	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	34	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	27	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000007024F			
Test Report No.	**URA/23/07/S-087**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/S-23/07/087	**Field Data Sheet No.**	URA/FDS/S-23/07/087
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	Coal		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	29
5.	Flue Gas Temperature	°C	136
6.	Exit Gas Velocity	m/s	7.07
7.	Exit Gas Flow	m^3/h	33764.6

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	32	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	30	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	24	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000007026F			
Test Report No.	**URA/23/07/S-089**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/S-23/07/089	**Field Data Sheet No.**	URA/FDS/S-23/07/089
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 15 Lac Kcal/Hr. (S – 8)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	36
2.	Stack Dia	mm	856
3.	Stack Area	m^2	0.5751
4.	Ambient Temperature	°C	29
5.	Flue Gas Temperature	°C	139
6.	Exit Gas Velocity	m/s	7.62
7.	Exit Gas Flow	m^3/h	15776.1

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	38	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	30	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	21	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000007025F			
Test Report No.	**URA/23/07/S-088**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/S-23/07/088	**Field Data Sheet No.**	URA/FDS/S-23/07/088
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 4 Lac Kcal/Hr. (S – 2)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	800
3.	Stack Area	m^2	0.5024
4.	Ambient Temperature	°C	29
5.	Flue Gas Temperature	°C	142
6.	Exit Gas Velocity	m/s	8.07
7.	Exit Gas Flow	m^3/h	14595.7

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	37	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	33	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	29	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-04/05

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000007028F			
Test Report No.	**URA/23/07/S-091**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/S-23/07/091	**Field Data Sheet No.**	URA/FDS/S-23/07/091
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**D. G. Set 500 KVA (S – 3)**		
Air Pollution Control Device	--		
Fuel Used	Diesel		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	10
2.	Stack Dia	mm	200
3.	Stack Area	m^2	0.0314
4.	Ambient Temperature	°C	29
5.	Flue Gas Temperature	°C	240
6.	Exit Gas Velocity	m/s	17.37
7.	Exit Gas Flow	m^3/h	1963.5

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	46	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	24	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	17	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000006206F			
Test Report No.	**URA/23/06/S-107**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/S-23/06/107	**Field Data Sheet No.**	URA/FDS/S-23/06/107
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	140
6.	Exit Gas Velocity	m/s	7.97
7.	Exit Gas Flow	m^3/h	38062.8

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	36	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	30	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	24	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000006203F			
Test Report No.	**URA/23/06/S-104**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/S-23/06/104	**Field Data Sheet No.**	URA/FDS/S-23/06/104
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	Coal		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	141
6.	Exit Gas Velocity	m/s	7.20
7.	Exit Gas Flow	m^3/h	34385.4

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	38	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	34	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	29	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000006204F			
Test Report No.	**URA/23/06/S-105**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/S-23/06/105	**Field Data Sheet No.**	URA/FDS/S-23/06/105
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 4 Lac Kcal/Hr. (S – 2)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	800
3.	Stack Area	m^2	0.5024
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	147
6.	Exit Gas Velocity	m/s	8.40
7.	Exit Gas Flow	m^3/h	15192.5

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	40	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	35	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	31	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000006205F			
Test Report No.	**URA/23/06/S-106**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/S-23/06/106	**Field Data Sheet No.**	URA/FDS/S-23/06/106
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 15 Lac Kcal/Hr. (S – 8)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	36
2.	Stack Dia	mm	856
3.	Stack Area	m^2	0.5751
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	138
6.	Exit Gas Velocity	m/s	7.44
7.	Exit Gas Flow	m^3/h	15403.4

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	34	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	33	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	26	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000006207F			
Test Report No.	**URA/23/06/S-108**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/S-23/06/108	**Field Data Sheet No.**	URA/FDS/S-23/06/108
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**D. G. Set 500 KVA (S – 3)**		
Air Pollution Control Device	--		
Fuel Used	Diesel		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	10
2.	Stack Dia	mm	200
3.	Stack Area	m^2	0.0314
4.	Ambient Temperature	°C	30
5.	Flue Gas Temperature	°C	251
6.	Exit Gas Velocity	m/s	17.90
7.	Exit Gas Flow	m^3/h	2023.4

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	41	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	27	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	20	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000004804F			
Test Report No.	**URA/23/05/S-090**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/S-23/05/090	**Field Data Sheet No.**	URA/FDS/S-23/05/090
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 15 Lac Kcal/Hr. (S – 8)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	36
2.	Stack Dia	mm	856
3.	Stack Area	m^2	0.5751
4.	Ambient Temperature	°C	36
5.	Flue Gas Temperature	°C	141
6.	Exit Gas Velocity	m/s	7.58
7.	Exit Gas Flow	m^3/h	15693.3

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	38	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	37	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	32	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000004802F			
Test Report No.	**URA/23/05/S-088**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/S-23/05/088	**Field Data Sheet No.**	URA/FDS/S-23/05/088
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	Coal		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	36
5.	Flue Gas Temperature	°C	150
6.	Exit Gas Velocity	m/s	7.62
7.	Exit Gas Flow	m^3/h	36391.2

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	43	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	38	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	32	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000004805F			
Test Report No.	**URA/23/05/S-091**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/S-23/05/091	**Field Data Sheet No.**	URA/FDS/S-23/05/091
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	36
5.	Flue Gas Temperature	°C	136
6.	Exit Gas Velocity	m/s	7.91
7.	Exit Gas Flow	m^3/h	37776.2

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	40	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	35	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	27	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000004803F			
Test Report No.	**URA/23/05/S-089**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/S-23/05/089	**Field Data Sheet No.**	URA/FDS/S-23/05/089
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 4 Lac Kcal/Hr. (S – 2)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	800
3.	Stack Area	m^2	0.5024
4.	Ambient Temperature	°C	36
5.	Flue Gas Temperature	°C	144
6.	Exit Gas Velocity	m/s	8.13
7.	Exit Gas Flow	m^3/h	14704.2

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	35	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	33	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	29	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000004806F			
Test Report No.	**URA/23/05/S-092**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/S-23/05/092	**Field Data Sheet No.**	URA/FDS/S-23/05/092
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	25/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**D. G. Set 500 KVA (S – 3)**		
Air Pollution Control Device	--		
Fuel Used	Diesel		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	10
2.	Stack Dia	mm	200
3.	Stack Area	m^2	0.0314
4.	Ambient Temperature	°C	36
5.	Flue Gas Temperature	°C	262
6.	Exit Gas Velocity	m/s	18.47
7.	Exit Gas Flow	m^3/h	2087.8

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	52	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	31	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	24	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000003609F			
Test Report No.	**URA/23/04/S-077**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/S-23/04/077	**Field Data Sheet No.**	URA/FDS/S-23/04/077
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	Coal		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	34
5.	Flue Gas Temperature	°C	148
6.	Exit Gas Velocity	m/s	7.37
7.	Exit Gas Flow	m^3/h	35197.3

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	40	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	37	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	30	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000003612F			
Test Report No.	**URA/23/04/S-080**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/S-23/04/080	**Field Data Sheet No.**	URA/FDS/S-23/04/0
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Boiler (S – 1)**		
Air Pollution Control Device	Bag Filter		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	1300
3.	Stack Area	m^2	1.3266
4.	Ambient Temperature	°C	34
5.	Flue Gas Temperature	°C	135
6.	Exit Gas Velocity	m/s	7.72
7.	Exit Gas Flow	m^3/h	36868.8

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	43	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	37	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	31	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000003610F			
Test Report No.	**URA/23/04/S-078**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/S-23/04/078	**Field Data Sheet No.**	URA/FDS/S-23/04/078
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 4 Lac Kcal/Hr. (S – 2)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	38
2.	Stack Dia	mm	800
3.	Stack Area	m^2	0.5024
4.	Ambient Temperature	°C	34
5.	Flue Gas Temperature	°C	140
6.	Exit Gas Velocity	m/s	7.82
7.	Exit Gas Flow	m^3/h	14143.5

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	31	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	30	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	26	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000003611F			
Test Report No.	**URA/23/04/S-079**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/S-23/04/079	**Field Data Sheet No.**	URA/FDS/S-23/04/079
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Thermic Fluid Heater- 15 Lac Kcal/Hr. (S – 8)**		
Air Pollution Control Device	--		
Fuel Used	LDO		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	36
2.	Stack Dia	mm	856
3.	Stack Area	m^2	0.5751
4.	Ambient Temperature	°C	34
5.	Flue Gas Temperature	°C	146
6.	Exit Gas Velocity	m/s	7.39
7.	Exit Gas Flow	m^3/h	15299.9

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	36	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	34	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	29	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(STACK MONITORING)

ULR - TC775323000003613F			
Test Report No.	**URA/23/04/S-081**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/S-23/04/081	**Field Data Sheet No.**	URA/FDS/S-23/04/081
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**D. G. Set 500 KVA (S – 3)**		
Air Pollution Control Device	--		
Fuel Used	Diesel		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	10
2.	Stack Dia	mm	200
3.	Stack Area	m^2	0.0314
4.	Ambient Temperature	°C	34
5.	Flue Gas Temperature	°C	257
6.	Exit Gas Velocity	m/s	18.21
7.	Exit Gas Flow	m^3/h	2058.4

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**	**Test Method**
1.	Particulate Matter as PM	mg/Nm^3	46	**150**	IS 11255 (Part 1)
2.	Sulphur Dioxide as SO_2	ppm	26	**100**	IS 11255 (Part 2)
3.	Oxide of Nitrogen as NO_x	ppm	20	**50**	IS 11255 (Part 7)

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000009193F			
Test Report No.	**URA/23/09/PV-014**	**Report Issue Date**	03/10/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/PV-23/09/014	**Field Data Sheet No.**	URA/FDS/PV-23/09/014
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/09/2023	Date of Testing	30/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of NH_3 Storage Tank (S – 5)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.07
5.	Exit Gas Flow	m^3/h	710.2
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	16	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000009197F			
Test Report No.	**URA/23/09/PV-018**	**Report Issue Date**	03/10/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/PV-23/09/018	**Field Data Sheet No.**	URA/FDS/PV-23/09/018
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/09/2023	Date of Testing	30/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of $TiCl_4$ Storage Tank (S – 4)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.07
5.	Exit Gas Flow	m^3/h	716.6
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrochloric Acid as HCL	mg/Nm^3	1.1	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000009194F			
Test Report No.	**URA/23/09/PV-015**	**Report Issue Date**	03/10/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/PV-23/09/015	**Field Data Sheet No.**	URA/FDS/PV-23/09/015
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/09/2023	Date of Testing	30/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-7)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.66
5.	Exit Gas Flow	m^3/h	701.3
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	22	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000009195F			
Test Report No.	**URA/23/09/PV-016**	**Report Issue Date**	03/10/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/PV-23/09/016	**Field Data Sheet No.**	URA/FDS/PV-23/09/016
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/09/2023	Date of Testing	30/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Vent attached with reaction vessels of process chemicals (Antifoulants) (S-9)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	100
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.20
5.	Exit Gas Flow	m^3/h	805.3
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrogen Sulfide as H_2S	mg/Nm^3	BDL (MDL:5.0)	**45**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000009196F			
Test Report No.	**URA/23/09/PV-017**	**Report Issue Date**	03/10/2023
Service Request form No.	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.	URA/ID/PV-23/09/017	**Field Data Sheet No.**	URA/FDS/PV-23/09/017
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/09/2023	Date of Testing	30/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-6)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.97
5.	Exit Gas Flow	m^3/h	778.0
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	13	**175**
2.	Hydrochloric Acid as HCL	mg/Nm^3	BDL (MDL:1.0)	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-81/01

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000008206F			
Test Report No.	**URA/23/08/PV-014**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/PV-23/08/014	**Field Data Sheet No.**	URA/FDS/PV-23/08/014
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	23/08/2023	Date of Testing	24/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Vent attached with reaction vessels of process chemicals (Antifoulants) (S-9)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	100
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.71
5.	Exit Gas Flow	m^3/h	805.3
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrogen Sulfide as H_2S	mg/Nm^3	BDL (MDL:5.0)	**45**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

UERL/AIR/F-81/01

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000008207F			
Test Report No.	**URA/23/08/PV-015**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/PV-23/08/015	**Field Data Sheet No.**	URA/FDS/PV-23/08/015
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	23/08/2023	Date of Testing	24/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-6)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.28
5.	Exit Gas Flow	m^3/h	778.0
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	14	**175**
2.	Hydrochloric Acid as HCL	mg/Nm^3	BDL (MDL:1.0)	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000008208F			
Test Report No.	**URA/23/08/PV-016**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/PV-23/08/016	**Field Data Sheet No.**	URA/FDS/PV-23/08/016
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	23/08/2023	Date of Testing	24/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of $TiCl_4$ Storage Tank (S – 4)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.31
5.	Exit Gas Flow	m^3/h	716.6
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrochloric Acid as HCL	mg/Nm^3	1.3	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000008204F			
Test Report No.	**URA/23/08/PV-012**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/PV-23/08/012	**Field Data Sheet No.**	URA/FDS/PV-23/08/012
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	23/08/2023	Date of Testing	24/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of NH_3 Storage Tank (S – 5)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.21
5.	Exit Gas Flow	m^3/h	710.2
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	23	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000008205F			
Test Report No.	**URA/23/08/PV-013**	**Report Issue Date**	29/08/2023
Service Request form No.	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.	URA/ID/PV-23/08/013	**Field Data Sheet No.**	URA/FDS/PV-23/08/013
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	23/08/2023	Date of Testing	24/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-7)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.07
5.	Exit Gas Flow	m^3/h	701.3
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	19	**175**

Remarks:
Opinion & Interpretation (If required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000007033F			
Test Report No.	**URA/23/07/PV-020**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/PV-23/07/020	**Field Data Sheet No.**	URA/FDS/PV-23/07/020
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	19/07/2023	Date of Testing	20/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of $TiCl_4$ Storage Tank (S – 4)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.60
5.	Exit Gas Flow	m^3/h	699.4
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrochloric Acid as HCL	mg/Nm^3	1.7	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000007029F			
Test Report No.	**URA/23/07/PV-016**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/PV-23/07/016	**Field Data Sheet No.**	URA/FDS/PV-23/07/016
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	19/07/2023	Date of Testing	20/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of NH_3 Storage Tank (S – 5)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.76
5.	Exit Gas Flow	m^3/h	745.1
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	16	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000007032F			
Test Report No.	**URA/23/07/PV-019**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/PV-23/07/019	**Field Data Sheet No.**	URA/FDS/PV-23/07/019
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	19/07/2023	Date of Testing	20/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-6)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.71
5.	Exit Gas Flow	m^3/h	805.3
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	17	**175**
2.	Hydrochloric Acid as HCL	mg/Nm^3	BDL (MDL:1.0)	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
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UERL/AIR/F-81/01

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000007030F			
Test Report No.	**URA/23/07/PV-017**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/PV-23/07/017	**Field Data Sheet No.**	URA/FDS/PV-23/07/017
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	19/07/2023	Date of Testing	20/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-7)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.36
5.	Exit Gas Flow	m^3/h	719.7
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	22	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-81/01

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000007031F			
Test Report No.	**URA/23/07/PV-018**	**Report Issue Date**	27/07/2023
Service Request form No.	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.	URA/ID/PV-23/07/018	**Field Data Sheet No.**	URA/FDS/PV-23/07/018
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	19/07/2023	Date of Testing	20/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Vent attached with reaction vessels of process chemicals (Antifoulants) (S-9)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319 DTE 14
Calibration Date	24/06/2023	**Next Calibration Due On**	23/06/2024

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	100
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.22
5.	Exit Gas Flow	m^3/h	774.2
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrogen Sulfide as H_2S	mg/Nm^3	BDL (MDL:5.0)	**45**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-81/01

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000006212F			
Test Report No.	**URA/23/06/PV-018**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/PV-23/06/018	**Field Data Sheet No.**	URA/FDS/PV-23/06/018
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of $TiCl_4$ Storage Tank (S – 4)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.04
5.	Exit Gas Flow	m^3/h	699.4
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrochloric Acid as HCL	mg/Nm^3	1.4	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000006208F			
Test Report No.	**URA/23/06/PV-014**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/PV-23/06/014	**Field Data Sheet No.**	URA/FDS/PV-23/06/014
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of NH_3 Storage Tank (S – 5)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.11
5.	Exit Gas Flow	m^3/h	767.2
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	13	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000006211F			
Test Report No.	**URA/23/06/PV-017**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/PV-23/06/017	**Field Data Sheet No.**	URA/FDS/PV-23/06/017
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-6)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.31
5.	Exit Gas Flow	m^3/h	779.9
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	18	**175**
2.	Hydrochloric Acid as HCL	mg/Nm^3	BDL (MDL:1.0)	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000006209F			
Test Report No.	**URA/23/06/PV-015**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/PV-23/06/015	**Field Data Sheet No.**	URA/FDS/PV-23/06/015
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-7)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.56
5.	Exit Gas Flow	m^3/h	732.4
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	20	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000006210F			
Test Report No.	**URA/23/06/PV-016**	**Report Issue Date**	04/07/2023
Service Request form No.	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.	URA/ID/PV-23/06/016	**Field Data Sheet No.**	URA/FDS/PV-23/06/016
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	29/06/2023	Date of Testing	30/06/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Vent attached with reaction vessels of process chemicals (Antifoulants) (S-9)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	100
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.79
5.	Exit Gas Flow	m^3/h	747.0
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrogen Sulfide as H_2S	mg/Nm^3	BDL (MDL:5.0)	**45**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-81/01

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000004811F			
Test Report No.	**URA/23/05/PV-011**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/PV-23/05/011	**Field Data Sheet No.**	URA/FDS/PV-23/05/011
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of $TiCl_4$ Storage Tank (S – 4)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	10.55
5.	Exit Gas Flow	m^3/h	668.4
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrochloric Acid as HCL	mg/Nm^3	1.0	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000004807F			
Test Report No.	**URA/23/05/PV-007**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/PV-23/05/007	**Field Data Sheet No.**	URA/FDS/PV-23/05/007
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of NH_3 Storage Tank (S – 5)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.80
5.	Exit Gas Flow	m^3/h	811.0
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	17	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000004810F			
Test Report No.	**URA/23/05/PV-010**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/PV-23/05/010	**Field Data Sheet No.**	URA/FDS/PV-23/05/010
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-6)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.54
5.	Exit Gas Flow	m^3/h	794.5
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	13	**175**
2.	Hydrochloric Acid as HCL	mg/Nm^3	BDL (MDL:1.0)	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000004808F			
Test Report No.	**URA/23/05/PV-008**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/PV-23/05/008	**Field Data Sheet No.**	URA/FDS/PV-23/05/008
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-7)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.69
5.	Exit Gas Flow	m^3/h	740.6
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	25	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-81/01

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000004809F			
Test Report No.	**URA/23/05/PV-009**	**Report Issue Date**	30/05/2023
Service Request form No.	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.	URA/ID/PV-23/05/009	**Field Data Sheet No.**	URA/FDS/PV-23/05/009
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	26/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Vent attached with reaction vessels of process chemicals (Antifoulants) (S-9)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	100
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.08
5.	Exit Gas Flow	m^3/h	702.0
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrogen Sulfide as H_2S	mg/Nm^3	BDL (MDL:5.0)	**45**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000003618F			
Test Report No.	**URA/23/04/PV-011**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/PV-23/04/011	**Field Data Sheet No.**	URA/FDS/PV-23/04/011
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of $TiCl_4$ Storage Tank (S – 4)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	10.84
5.	Exit Gas Flow	m^3/h	686.8
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrochloric Acid as HCL	mg/Nm^3	1.2	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000003614F			
Test Report No.	**URA/23/04/PV-007**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/PV-23/04/007	**Field Data Sheet No.**	URA/FDS/PV-23/04/007
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of NH_3 Storage Tank (S – 5)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.47
5.	Exit Gas Flow	m^3/h	790.0
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	13	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000003617F			
Test Report No.	**URA/23/04/PV-010**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/PV-23/04/010	**Field Data Sheet No.**	URA/FDS/PV-23/04/010
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Alkali Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-6)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	12.04
5.	Exit Gas Flow	m^3/h	762.8
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	16	**175**
2.	Hydrochloric Acid as HCL	mg/Nm^3	BDL (MDL:1.0)	**20**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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(Manager - Operations)

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000003615F			
Test Report No.	**URA/23/04/PV-008**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/PV-23/04/008	**Field Data Sheet No.**	URA/FDS/PV-23/04/008
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Water Scrubber of Vent attached with Reaction Vessels of TPT & TPT Based Titinates (S-7)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	15
2.	Stack Dia	mm	150
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.31
5.	Exit Gas Flow	m^3/h	716.6
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Ammonia as NH_3	mg/Nm^3	21	**175**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

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TEST REPORT
(PROCESS VENT STACK MONITORING)

ULR - TC775323000003616F			
Test Report No.	**URA/23/04/PV-009**	**Report Issue Date**	25/04/2023
Service Request form No.	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.	URA/ID/PV-23/04/009	**Field Data Sheet No.**	URA/FDS/PV-23/04/009
Name & Add. Of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist.: Kutch, Gujarat – 370421, INDIA		
Date of Sampling	20/04/2023	Date of Testing	21/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Stack Sampling Attached to	**Vent attached with reaction vessels of process chemicals (Antifoulants) (S-9)**		

➢ **Details of Instrument Used for Monitoring**

Instrument Id No.	**UERL/AIR/SMK/51**		
Instrument Name	Stack Monitoring Kit, VSS1	**Serial Number**	319, DTE – 14
Calibration Date	25/06/2022	**Next Calibration Due On**	24/06/2023

➢ **General Stack Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Stack Height	m	8
2.	Stack Dia	mm	100
3.	Stack Area	m^2	0.0176
4.	Exit Gas Velocity	m/s	11.67
5.	Exit Gas Flow	m^3/h	739.4
6.	Flow Rate for Gas	L/min	1
7.	Volume of Air Sample for Gas	L	30

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**	
Sr. No.	**Test Parameter**	**Unit of measurement**	**Result**	**Permissible Limit**
1.	Hydrogen Sulfide as H_2S	mg/Nm^3	BDL (MDL:5.0)	**45**

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-81/01

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000009185F			
Test Report No.:	**URA/23/09/A-054**	**Report Issue Date:**	27/09/2023
Service Request form No.:	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.:	URA/ID/A-23/09/054	**Field Data Sheet No.:**	URA/FDS/A-23/09/054
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	21/09/2023	Date of Testing	23/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring:	**A – 1 (Nr. ETP)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/24	Respirable Dust Sampler	2345-DTB-2012,1039-DTC-2012	02/08/2023	01/08/2024
UERL/AIR/FPS/30	Fine Particulate Sampler	132-DTL-2012	02/08/2023	01/08/2024

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.26
3.	Volume of Air Sampled for PM_{10}	m^3	1814
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	67	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	25	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	14.0	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	17.2	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:5.0)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:0.5)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000009187F			
Test Report No.:	**URA/23/09/A-056**	**Report Issue Date:**	27/09/2023
Service Request form No.:	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.:	URA/ID/A-23/09/056	**Field Data Sheet No.:**	URA/FDS/A-23/09/056
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	21/09/2023	Date of Testing	23/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 2 (Nr. Ware House)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/26	Respirable Dust Sampler	1745-DTA-2013,1139-DTA-2013	02/08/2023	01/08/2024
UERL/AIR/FPS/42	Fine Particulate Sampler	125-DTD-2013	03/08/2023	02/08/2024

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.26
3.	Volume of Air Sampled for PM_{10}	m^3	1814
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	$\mu g/m^3$	57	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	$\mu g/m^3$	20	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	$\mu g/m^3$	12.6	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	$\mu g/m^3$	16.1	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	$\mu g/m^3$	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	$\mu g/m^3$	BDL (MDL:5.0)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	$\mu g/m^3$	BDL (MDL:0.5)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	$\mu g/m^3$	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

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(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000009186F			
Test Report No.:	**URA/23/09/A-055**	**Report Issue Date:**	27/09/2023
Service Request form No.:	URA/SRF/09/032	**Service Request Date**	21/09/2023
Sample ID No.:	URA/ID/A-23/09/055	**Field Data Sheet No.:**	URA/FDS/A-23/09/055
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	21/09/2023	Date of Testing	23/09/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 3 (Nr. Main Gate / RMU)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/25	Respirable Dust Sampler	1744-DTA-2013,1127-DTJ-2012	02/08/2023	01/08/2024
UERL/AIR/FPS/41	Fine Particulate Sampler	137-DTD-2013	03/08/2023	02/08/2024

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.23
3.	Volume of Air Sampled for PM_{10}	m^3	1771
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	62	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	22	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	13.8	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	17.6	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:5.0)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:0.5)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

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Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

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UERL/AIR/F-05/06

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000008196F			
Test Report No.:	**URA/23/08/A-059**	**Report Issue Date:**	29/08/2023
Service Request form No.:	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.:	URA/ID/A-23/08/059	**Field Data Sheet No.:**	URA/FDS/A-23/08/059
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	23/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring:	**A – 1 (Nr. ETP)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/24	Respirable Dust Sampler	2345-DTB-2012,1039-DTC-2012	02/08/2023	01/08/2024
UERL/AIR/FPS/30	Fine Particulate Sampler	132-DTL-2012	02/08/2023	01/08/2024

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.24
3.	Volume of Air Sampled for PM_{10}	m^3	1786
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	$\mu g/m^3$	63	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	$\mu g/m^3$	23	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	$\mu g/m^3$	14.1	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	$\mu g/m^3$	18.5	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	$\mu g/m^3$	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	$\mu g/m^3$	BDL (MDL:5.0)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	$\mu g/m^3$	BDL (MDL:0.5)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	$\mu g/m^3$	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:

Opinion & Interpretation (if required):

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

Checked By:

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(Chemist)

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Jaivik S. Tandel
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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000008197F			
Test Report No.:	**URA/23/08/A-060**	**Report Issue Date:**	29/08/2023
Service Request form No.:	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.:	URA/ID/A-23/08/060	**Field Data Sheet No.:**	URA/FDS/A-23/08/060
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	23/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 3 (Nr. Main Gate / RMU)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/25	Respirable Dust Sampler	1744-DTA-2013,1127-DTJ-2012	02/08/2023	01/08/2024
UERL/AIR/FPS/41	Fine Particulate Sampler	137-DTD-2013	03/08/2023	02/08/2024

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.28
3.	Volume of Air Sampled for PM_{10}	m^3	1843
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	$\mu g/m^3$	57	100	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	$\mu g/m^3$	20	60	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	$\mu g/m^3$	12.9	80	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	$\mu g/m^3$	16.3	80	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	2.0	IS - 5182, Part - 10
6.	Ozone as O_3	$\mu g/m^3$	BDL (MDL:5.0)	100	IS - 5182, Part - 9
7.	Ammonia as NH_3	$\mu g/m^3$	BDL (MDL:5.0)	400	IS - 5182, Part - 25
8.	Lead as Pb	$\mu g/m^3$	BDL (MDL:0.5)	1.0	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	20	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	6.0	IS - 5182, Part - 22
11.	Benzene as C_6H_6	$\mu g/m^3$	BDL (MDL:1.0)	5.0	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	1.0	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (If required):

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

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Authorized By:

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000008198F			
Test Report No.:	**URA/23/08/A-061**	**Report Issue Date:**	29/08/2023
Service Request form No.:	URA/SRF/08/038	**Service Request Date**	23/08/2023
Sample ID No.:	URA/ID/A-23/08/061	**Field Data Sheet No.:**	URA/FDS/A-23/08/061
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	23/08/2023	Date of Testing	25/08/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 2 (Nr. Ware House)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/26	Respirable Dust Sampler	1745-DTA-2013,1139-DTA-2013	02/08/2023	01/08/2024
UERL/AIR/FPS/42	Fine Particulate Sampler	125-DTD-2013	03/08/2023	02/08/2024

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.25
3.	Volume of Air Sampled for PM_{10}	m^3	1800
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	$\mu g/m^3$	53	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	$\mu g/m^3$	19	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	$\mu g/m^3$	12.1	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	$\mu g/m^3$	15.7	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	$\mu g/m^3$	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	$\mu g/m^3$	BDL (MDL:5.0)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	$\mu g/m^3$	BDL (MDL:0.5)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	$\mu g/m^3$	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:

Opinion & Interpretation (if required):

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

Checked By:

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000007021F			
Test Report No.:	**URA/23/07/A-058**	**Report Issue Date:**	27/07/2023
Service Request form No.:	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.:	URA/ID/A-23/07/058	**Field Data Sheet No.:**	URA/FDS/A-23/07/058
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	19/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring:	**A – 1 (Nr. ETP)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/24	Respirable Dust Sampler	2345-DTB-2012,1039-DTC-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/30	Fine Particulate Sampler	132-DTL-2012	02/08/2022	01/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.21
3.	Volume of Air Sampled for PM_{10}	m^3	1742
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	59	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	22	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	13.6	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	17.0	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:

Opinion & Interpretation (if required):

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

Checked By:

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(Chemist)

Authorized By:

Jaivik S. Tandel
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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000007023F			
Test Report No.:	**URA/23/07/A-060**	**Report Issue Date:**	27/07/2023
Service Request form No.:	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.:	URA/ID/A-23/07/060	**Field Data Sheet No.:**	URA/FDS/A-23/07/060
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	19/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 2 (Nr. Ware House)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/26	Respirable Dust Sampler	1745-DTA-2013,1139-DTA-2013	02/08/2022	01/08/2023
UERL/AIR/FPS/42	Fine Particulate Sampler	125-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.28
3.	Volume of Air Sampled for PM_{10}	m^3	1843
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	51	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	18	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	11.4	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	14.3	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000007022F			
Test Report No.:	**URA/23/07/A-059**	**Report Issue Date:**	27/07/2023
Service Request form No.:	URA/SRF/07/035	**Service Request Date**	19/07/2023
Sample ID No.:	URA/ID/A-23/07/059	**Field Data Sheet No.:**	URA/FDS/A-23/07/059
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	19/07/2023	Date of Testing	21/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 3 (Nr. Main Gate / RMU)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/25	Respirable Dust Sampler	1744-DTA-2013,1127-DTJ-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/41	Fine Particulate Sampler	137-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.24
3.	Volume of Air Sampled for PM_{10}	m^3	1786
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	54	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	19	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	12.0	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	15.7	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

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(Chemist)

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000006200F			
Test Report No.:	**URA/23/06/A-073**	**Report Issue Date:**	04/07/2023
Service Request form No.:	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.:	URA/ID/A-23/06/073	**Field Data Sheet No.:**	URA/FDS/A-23/06/073
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	29/06/2023	Date of Testing	01/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring:	**A – 1 (Nr. ETP)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/24	Respirable Dust Sampler	2345-DTB-2012,1039-DTC-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/30	Fine Particulate Sampler	132-DTL-2012	02/08/2022	01/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.26
3.	Volume of Air Sampled for PM_{10}	m^3	1814
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	63	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	25	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	12.4	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	16.9	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

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(Chemist)

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000006202F			
Test Report No.:	**URA/23/06/A-075**	**Report Issue Date:**	04/07/2023
Service Request form No.:	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.:	URA/ID/A-23/06/075	**Field Data Sheet No.:**	URA/FDS/A-23/06/075
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	29/06/2023	Date of Testing	01/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 2 (Nr. Ware House)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/26	Respirable Dust Sampler	1745-DTA-2013,1139-DTA-2013	02/08/2022	01/08/2023
UERL/AIR/FPS/42	Fine Particulate Sampler	125-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.24
3.	Volume of Air Sampled for PM_{10}	m^3	1786
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	56	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	20	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	12.0	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	15.7	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

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Page No.: 1 of 1

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000006201F			
Test Report No.:	**URA/23/06/A-074**	**Report Issue Date:**	04/07/2023
Service Request form No.:	URA/SRF/06/042	**Service Request Date**	29/06/2023
Sample ID No.:	URA/ID/A-23/06/074	**Field Data Sheet No.:**	URA/FDS/A-23/06/074
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	29/06/2023	Date of Testing	01/07/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 3 (Nr. Main Gate / RMU)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/25	Respirable Dust Sampler	1744-DTA-2013,1127-DTJ-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/41	Fine Particulate Sampler	137-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.21
3.	Volume of Air Sampled for PM_{10}	m^3	1742
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	58	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	22	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	13.2	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	17.6	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	BDL (MDL:0.0)	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:

Opinion & Interpretation (if required):

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

Checked By:

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000004799F			
Test Report No.:	**URA/23/05/A-058**	**Report Issue Date:**	30/05/2023
Service Request form No.:	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.:	URA/ID/A-23/05/058	**Field Data Sheet No.:**	URA/FDS/A-23/05/058
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	25/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring:	**A – 1 (Nr. ETP)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/24	Respirable Dust Sampler	2345-DTB-2012,1039-DTC-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/30	Fine Particulate Sampler	132-DTL-2012	02/08/2022	01/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.22
3.	Volume of Air Sampled for PM_{10}	m^3	1756
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	96	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	38	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	18.6	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	24.1	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	0.22	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:

Opinion & Interpretation (if required):

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

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Authorized By:

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000004801F			
Test Report No.:	**URA/23/05/A-060**	**Report Issue Date:**	30/05/2023
Service Request form No.:	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.:	URA/ID/A-23/05/060	**Field Data Sheet No.:**	URA/FDS/A-23/05/060
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	25/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 2 (Nr. Ware House)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/26	Respirable Dust Sampler	1745-DTA-2013,1139-DTA-2013	02/08/2022	01/08/2023
UERL/AIR/FPS/42	Fine Particulate Sampler	125-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.28
3.	Volume of Air Sampled for PM_{10}	m^3	1843
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	80	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	31	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	16.4	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	21.8	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	0.19	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000004800F			
Test Report No.:	**URA/23/05/A-059**	**Report Issue Date:**	30/05/2023
Service Request form No.:	URA/SRF/05/035	**Service Request Date**	25/05/2023
Sample ID No.:	URA/ID/A-23/05/059	**Field Data Sheet No.:**	URA/FDS/A-23/05/059
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	25/05/2023	Date of Testing	27/05/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 3 (Nr. Main Gate / RMU)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/25	Respirable Dust Sampler	1744-DTA-2013,1127-DTJ-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/41	Fine Particulate Sampler	137-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.25
3.	Volume of Air Sampled for PM_{10}	m^3	1800
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	88	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	34	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	20.8	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	28.6	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	0.34	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:

Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000003606F			
Test Report No.:	**URA/23/04/A-060**	**Report Issue Date:**	25/04/2023
Service Request form No.:	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.:	URA/ID/A-23/04/060	**Field Data Sheet No.:**	URA/FDS/A-23/04/060
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	20/04/2023	Date of Testing	22/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring:	**A – 1 (Nr. ETP)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/24	Respirable Dust Sampler	2345-DTB-2012,1039-DTC-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/30	Fine Particulate Sampler	132-DTL-2012	02/08/2022	01/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.26
3.	Volume of Air Sampled for PM_{10}	m^3	1814
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			NAME OF GROUP – ATMOSPHERIC POLLUTION		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	$\mu g/m^3$	91	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	$\mu g/m^3$	35	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	$\mu g/m^3$	17.6	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	$\mu g/m^3$	25.9	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	0.26	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	$\mu g/m^3$	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	$\mu g/m^3$	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	$\mu g/m^3$	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	$\mu g/m^3$	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000003608F			
Test Report No.:	**URA/23/04/A-062**	**Report Issue Date:**	25/04/2023
Service Request form No.:	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.:	URA/ID/A-23/04/062	**Field Data Sheet No.:**	URA/FDS/A-23/04/062
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	20/04/2023	Date of Testing	22/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 2 (Nr. Ware House)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/26	Respirable Dust Sampler	1745-DTA-2013,1139-DTA-2013	02/08/2022	01/08/2023
UERL/AIR/FPS/42	Fine Particulate Sampler	125-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.26
3.	Volume of Air Sampled for PM_{10}	m^3	1814
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	$\mu g/m^3$	77	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	$\mu g/m^3$	29	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	$\mu g/m^3$	15.7	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	$\mu g/m^3$	23.1	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	0.16	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	$\mu g/m^3$	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	$\mu g/m^3$	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	$\mu g/m^3$	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	$\mu g/m^3$	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
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TEST REPORT
(AMBIENT AIR MONITORING)

ULR - TC775323000003607F			
Test Report No.:	**URA/23/04/A-061**	**Report Issue Date:**	25/04/2023
Service Request form No.:	URA/SRF/04/032	**Service Request Date**	20/04/2023
Sample ID No.:	URA/ID/A-23/04/061	**Field Data Sheet No.:**	URA/FDS/A-23/04/061
Name & Add. of Customer	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Dates of Sampling	20/04/2023	Date of Testing	22/04/2023
Sampling Procedure	UERL/AIR/SOP/07		
Location of Sampling / Monitoring	**A – 3 (Nr. Main Gate / RMU)**		

➢ **Details of Master Instrument Used for Monitoring**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/RDS/25	Respirable Dust Sampler	1744-DTA-2013,1127-DTJ-2012	02/08/2022	01/08/2023
UERL/AIR/FPS/41	Fine Particulate Sampler	137-DTD-2013	03/08/2022	02/08/2023

➢ **General Sampling / Monitoring Observation**

Sr. No.	Description	Unit of measurement	Observation
1.	Monitoring Duration	h	24
2.	Flow Rate of PM_{10}	m^3/min	1.21
3.	Volume of Air Sampled for PM_{10}	m^3	1742
4.	Volume of Air Sampled for $PM_{2.5}$	m^3	24.04
5.	Flow Rate for Gas	L/min	0.2
6.	Volume of Air Sample for Gas	L	288

➢ **Environmental Conditions during testing:** Temp.: 25 ± 5 °C, Relative Humidity: 40 to 50%

➢ **Test Parameter Results**

DISCIPLINE – CHEMICAL			**NAME OF GROUP – ATMOSPHERIC POLLUTION**		
Sr. No.	**Test Parameter**	**Unit**	**Result**	**Permissible Limit (As per NAAQS)**	**Test Method**
1.	Particulate Matter as PM_{10}	µg/m^3	84	**100**	IS - 5182, Part - 23
2.	Particulate Matter as $PM_{2.5}$	µg/m^3	32	**60**	IS - 5182, Part - 24
3.	Sulphur Dioxide as SO_2	µg/m^3	19.6	**80**	IS - 5182, Part - 2
4.	Nitrogen Dioxide as NO_2	µg/m^3	27.7	**80**	IS - 5182, Part - 6
5.	Carbon Monoxide as CO	mg/m^3	0.30	**2.0**	IS - 5182, Part - 10
6.	Ozone as O_3	µg/m^3	BDL (MDL:5.0)	**100**	IS - 5182, Part - 9
7.	Ammonia as NH_3	µg/m^3	BDL (MDL:0.5)	**400**	IS - 5182, Part - 25
8.	Lead as Pb	µg/m^3	BDL (MDL:5.0)	**1.0**	IS - 5182, Part - 22
9.	Nickel as Ni	ng/m^3	BDL (MDL:1.0)	**20**	IS - 5182, Part - 26
10.	Arsenic as As	ng/m^3	BDL (MDL:1.0)	**6.0**	IS - 5182, Part - 22
11.	Benzene as C_6H_6	µg/m^3	BDL (MDL:1.0)	**5.0**	IS - 5182, Part - 11
12.	Benzo (a) Pyrene (BaP)	ng/m^3	BDL (MDL:0.1)	**1.0**	IS - 5182, Part - 12

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000009198F			
Test Report No.:	**URA/23/09/AN-030**	**Date Of Report:**	**27/09/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	15/07/2023	14/07/2024

Date and Time of Monitoring : 21-09-2023 at 11:15 Hrs. (Day Time: 6:00 am to 10:00 pm)

Result

DISCIPLINE – CHEMICAL		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	54.8	63.3	59.05	**<75 dB(A)**
	Near Ware House	58.6	65.1	61.85	**<75 dB(A)**
	Near Raw Water Tank	64.8	71.6	68.2	**<75 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000009199F			
Test Report No.:	**URA/23/09/AN-030**	Date Of Report:	**27/09/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	15/07/2023	14/07/2024

Date and Time of Monitoring : 21-09-2023 at 22:10 Hrs. (Night Time: 10:00 pm to 6:00 am)

Result

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	35.0	57.0	46	**<70 dB(A)**
	Near Ware House	35.0	58.6	46.8	**<70 dB(A)**
	Near Raw Water Tank	35.0	65.4	50.2	**<70 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-18/03

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000008209F			
Test Report No.:	**URA/23/08/AN-033**	**Date Of Report:**	**29/08/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	15/07/2023	14/07/2024

Date and Time of Monitoring : 23-08-2023 at 11:10 Hrs. (Day Time: 6:00 am to 10:00 pm)

Result

DISCIPLINE – CHEMICAL		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	56.1	65.5	60.8	**<75 dB(A)**
	Near Ware House	60.7	68.1	64.4	**<75 dB(A)**
	Near Raw Water Tank	62.5	70.3	66.4	**<75 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	**Category of Area/Zone**	**Limit in dB (A) Leq**	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (If required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

UERL/AIR/F-18/03

Note: This report is subject to Terms and Conditions mentioned overleaf.

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Environment and Research Labs Pvt. Ltd.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000008210F			
Test Report No.:	**URA/23/08/AN-034**	Date Of Report:	**29/08/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	15/07/2023	14/07/2024

Date and Time of Monitoring : 23-08-2023 at 22:05 Hrs. (Night Time: 10:00 pm to 6:00 am)

Result

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	Location	Noise Level dB(A)			Permissible Limit CPCB
		Min.	Max.	Avg.	
1.	Near Main Gate	35.0	58.7	46.85	<70 dB(A)
	Near Ware House	35.0	61.3	48.15	<70 dB(A)
	Near Raw Water Tank	35.0	63.8	49.4	<70 dB(A)

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	Night Time (10:00 pm to 6:00 am)
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000007034F			
Test Report No.:	**URA/23/07/AN-034**	**Date Of Report:**	**27/07/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	23/07/2022	22/07/2023

Date and Time of Monitoring : 19-07-2023 at 10:15 Hrs. (Day Time: 6:00 am to 10:00 pm)

Result

DISCIPLINE – CHEMICAL		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	67.1	64.8	65.95	**<75 dB(A)**
	Near Ware House	58.5	65.3	61.9	**<75 dB(A)**
	Near Raw Water Tank	63.7	71.5	67.6	**<75 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000007035F			
Test Report No.:	**URA/23/07/AN-035**	Date Of Report:	**27/07/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	23/07/2022	22/07/2023

Date and Time of Monitoring : 19-07-2023 at 22:20 Hrs. (Night Time: 10:00 pm to 6:00 am)

Result

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	35.0	59.2	47.1	**<70 dB(A)**
	Near Ware House	35.0	58.7	46.85	**<70 dB(A)**
	Near Raw Water Tank	35.0	64.1	49.55	**<70 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000006213F			
Test Report No.:	**URA/23/06/AN-041**	**Date Of Report:**	**04/07/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	23/07/2022	22/07/2023

Date and Time of Monitoring : 29-06-2023 at 10:05 Hrs. (Day Time: 6:00 am to 10:00 pm)

Result

DISCIPLINE – CHEMICAL		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	55.7	62.3	59	**<75 dB(A)**
	Near Ware House	57.3	64.9	61.1	**<75 dB(A)**
	Near Raw Water Tank	62.5	72.9	67.7	**<75 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000006214F			
Test Report No.:	**URA/23/06/AN-042**	Date Of Report:	**04/07/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09A	Sound Level Meter	24 DTE 2008	23/07/2022	22/07/2023

Date and Time of Monitoring : 29-06-2023 at 22:10 Hrs. (Night Time: 10:00 pm to 6:00 am)

Result

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	35.0	56.1	45.55	**<70 dB(A)**
	Near Ware House	35.0	57.6	46.3	**<70 dB(A)**
	Near Raw Water Tank	35.0	66.3	50.65	**<70 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)
Page No.: 1 of 1

Authorized By:

Jaivik S. Tandel
(Manager - Operations)
UERL/AIR/F-18/03

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000004812F			
Test Report No.:	**URA/23/05/AN-039**	**Date Of Report:**	**30/05/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09C	Sound Level Meter	SDL 600	23/06/2022	22/06/2023

Date and Time of Monitoring : 25-05-2023 at 10:00 Hrs. (Day Time: 6:00 am to 10:00 pm)

Result

DISCIPLINE – CHEMICAL		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	56.3	65.5	60.9	**<75 dB(A)**
	Near Ware House	54.6	63.9	59.25	**<75 dB(A)**
	Near Raw Water Tank	63.7	73.2	68.45	**<75 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000004813F			
Test Report No.:	**URA/23/05/AN-040**	Date Of Report:	**30/05/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09C	Sound Level Meter	SDL 600	23/06/2022	22/06/2023

Date and Time of Monitoring : 25-05-2023 at 22:20 Hrs. (Night Time: 10:00 pm to 6:00 am)

Result

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	35.0	58.3	46.65	**<70 dB(A)**
	Near Ware House	35.0	55.7	45.35	**<70 dB(A)**
	Near Raw Water Tank	35.0	65.9	50.45	**<70 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000003619F			
Test Report No.:	**URA/23/04/AN-027**	**Date Of Report:**	**25/04/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09C	Sound Level Meter	SDL 600	23/06/2022	22/06/2023

Date and Time of Monitoring : 20-04-2023 at 10:50 Hrs. (Day Time: 6:00 am to 10:00 pm)

Result

DISCIPLINE – CHEMICAL		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	58.7	64.2	61.45	**<75 dB(A)**
	Near Ware House	56.3	61.8	59.05	**<75 dB(A)**
	Near Raw Water Tank	65.1	71.4	68.25	**<75 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

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TEST REPORT
(AMBIENT NOISE LEVEL MONITORING)

ULR - TC775323000003620F			
Test Report No.:	**URA/23/04/AN-028**	Date Of Report:	**25/04/2023**
Name & Add. Of Industries	**M/s. Dorf Ketal Chemicals India Pvt. Ltd.** Plot No. 2, Block – F, Sector 12N, Adani Port and Sez, Dist: Kutch, Gujarat – 370421, INDIA		
Sampling Method	**IS : 9989 : 1981**		

➢ **Details of Instrument Used for Monitoring.**

Instrument Id No.	Instrument Name	Serial Number	Cali. Date	Next Cali. Date
UERL/AIR/SLM/09C	Sound Level Meter	SDL 600	23/06/2022	22/06/2023

Date and Time of Monitoring : 20-04-2023 at 22:10 Hrs. (Night Time: 10:00 pm to 6:00 am)

Result

DISCIPLINE – CHEMICAL TESTING		NAME OF GROUP – ATMOSPHERIC POLLUTION			
Sr. No.	**Location**	**Noise Level dB(A)**			**Permissible Limit CPCB**
		Min.	**Max.**	**Avg.**	
1.	Near Main Gate	35.0	55.2	45.1	**<70 dB(A)**
	Near Ware House	35.0	53.7	44.35	**<70 dB(A)**
	Near Raw Water Tank	35.0	62.9	48.95	**<70 dB(A)**

Note: Ambient Air Quality Standards in respected of Noise as per CPCB.

Area Code	Category of Area/Zone	Limit in dB (A) Leq	
		Day Time (6:00 am to 10:00 pm)	**Night Time (10:00 pm to 6:00 am)**
(A)	Industrial area	75	70
(B)	Commercial area	65	55
(C)	Residential area	55	45
(D)	Silence Zone	50	40

Remarks:
Opinion & Interpretation (if required):

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

Checked By:

Nikunj D. Patel
(Chemist)

Authorized By:

Jaivik S. Tandel
(Manager - Operations)

Note: This report is subject to Terms and Conditions mentioned overleaf.

Annexure – 10

Cost of Environmental Protection Measures

Sr. No.	Activity	Cost incurred (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2021 – 22	2022 – 23	2023 – 24 (till Sep'23)	2023 – 24
1.	Environmental Study / Audit and Consultancy	6.82	7.32	16.19	27
2.	Legal & Statutory Expenses	10.52	12.32	00	13
3.	Environmental Monitoring Services	14.31	15.32	5.08	19.20
4.	Hazardous / Non-Hazardous Waste Management & Disposal	107.09	104.035	65.81	148.68
5.	Environment Days Celebration and Advertisement / Business development	4.04	2.53	2.30	11.50
6.	Treatment and Disposal of Bio-Medical Waste	2.14	2.29	1.14	2.28
7.	Mangrove Plantation, Monitoring & Conservation	53.6	35.0	0	15.0
8.	Other Horticulture Expenses	921	956	628	904
9.	O&M of Sewage Treatment Plant and Effluent Treatment Plant (including STP, ETP of Port & SEZ & Common Effluent Treatment Plant)	252.27	141.33	79.73	212.9
10.	Expenditure of Environment Dept. (Apart from above head)	149.8	90.136	25.228	182.917
	Total	**1371.79**	**1366.28**	**823.48**	**1536.48**

Annexure – 11

adani
Ports and Logistics

O/C

PCB ID: 31463

APSEZL/EnvCell/2023-24/048

Date: 11.09.2023

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, 2023 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 2023.

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

Authorized Signatory

Encl: As above.

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

14/09/2023
Gujarat Pollution Control Board
Head Office
Sector No.-10-A,
Gandhinagar-382010

Adani Ports and Special Economic Zone Ltd
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Annexure – 12

Expense Details for Fisherfolk Amenities work in different core areas

Sr. No.	Details	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Sep-2023-24	TOTAL	AMT IN LACS
	Expenditure Details (Amount in Rs.)										
1	Vidya Deep Yojana	2,069,300	193,000	2,087,000	1,771,000	110,225	580,103	969,660	-	7,780,288	77.80
2	Vidya Sahay Yojana	552,580	495,000	691,000	708,000	504,336	659,709	847,013	364,000	4,821,638	48.22
3	Adani Vidya Mandir – Shaping Lives	4,200,000	4,030,000	3,472,000	6,434,020	1,593,805	3,737,700	5,950,854	2,700,000	32,118,379	321.18
4	Senio Citizen Health Card	--	8,430,000	1,750,000	2,975,000	1,750,000	-	-	-	14,905,000	149.05
5	Financial Support to Poor Patients	4,439,507	1,275,000	813,000	1,296,063	763,800	1,255,000	1,691,410	632,000	12,165,780	121.66
6	Machhimar Kaushalya Vardhan Yojana	188,708	200,000	397,000	73,000	--	226,000	134,070	-	1,218,778	12.19
7	Machhimar Sadhan Sahay Yojana	--	--	315,000	522,000	--	-	-	-	837,000	8.37
8	Machhimar Awas Yojana	4,592,106	1,165,000	--	2,311,000	2,424,016	2,480,000	712,000	1,227,000	14,911,122	149.11
9	Machhimar Shuddha Jal Yojana	2,236,050	2,700,000	2,038,000	1,773,000	2,348,300	1,936,575	2,096,050	252,000	15,379,975	153.80
10	Sughad Yojana	1,367,300	170,000	--	192,000	30,000	-	-	-	1,759,300	17.59
11	Machhimar Akshay kiran Yojana	860,850	100,000	68,000	--	--	-	-	-	1,028,850	10.29
12	Machhimar Ajivika Uparjan Yojana-Mangroves plantation	1,558,800	500,000	1,382,000	1,400,000	1,900,272	2,069,432	1,914,432	-	10,724,936	107.25
13	Bandar Svachhata Yojana	106,400	50,000	--	--	367,000	145,000	25,000	-	693,400	6.93
14	Cricket league and Cycle Marathon	432,000	657,119	638,000	610,800	--	-	-	-	2,337,919	23.38
15	Sports Material For Children & Youth at Vasahats	197,797	--	--	--	--	-	-	-	197,797	1.98
16	New Pilot Initiative for Polyculture	398,240	160,000	--	--	--	-	-	-	558,240	5.58
17	New Pilot Initiative for Cage farming Asian Seabass & Lobster	864,000	660,000	--	--	--	-	-	-	1,524,000	15.24
18	Sea Weed Culture Project	--	--	--	200,000	--	-	-	-	200,000	2.00
19	Mangrove Biodiversity Project	--	--	1,890,000	684,000	499,210	997,642	1,135,000	-	5,205,852	52.06
20	Approach Road restoration at 9 vasahat	--	--	--	--	599,000	942,780	1,011,000	-	2,552,780	25.53
21	Community training Center & Maintenance work						6,022,000	2,051,000	-	8,073,000	80.73
	TOTAL	**24,063,638**	**20,785,119**	**15,541,000**	**20,949,883**	**12,889,964**	**21,051,941**	**18,537,489**	**5,175,000**	**138,994,034**	**1,389.94**

Annexure – 13

Consultancy Project Report

On

Grassland Development in Mundra Region, Gujarat

Submitted to

Adani Ports & SEZ limited (APSEZ)

Submitted by

ICAR-Indian Grassland and Fodder Research Institute,
Gwalior Road, Jhansi UP 284003

Background

Consultancy work about providing technical guidance and evaluation of ongoing grassland developmental activities in Gauchar land in Jarpara village, Mundra region of Gujarat was conceptualized after Mr. Anshul Sandhuja; Manager-Environment, Adani Ports & SEZ Ltd. contacted Director ICAR-IGFRI through e-mail dated 01.12.2021 and 12.09.2022.

Host Organization

Adani Port & Special Economic Zone Ltd (APSEZ) is India's largest private port and special economic zone which was incorporated as Gujarat Adani Port Limited in the year 1998. APSEZ has presence across 13 locations along the Indian coast which plays a major role in contributing to India's economy. APSEZ has presence across seven maritime states of Gujarat. Goa. Kerala, Andhra Pradesh. Tamil Nadu. Maharashtra and Odisha with the most widespread national footprint with deepened hinterland connectivity.

APSEZ has majorly developed waterfront development projects in the form of port and related infrastructure developments at Mundra. APSEZ is the number one multi-location private port developer and operator. It owns and operates the Mundra Port since 1998, a crown jewel of the Adani Group, which is located in Mundra, Kutch district of Gujarat, and is today the country's largest multi-cargo private commercial port

APSEZ has conceptualized Port based Special Economic Zone, developed a master plan over an area of approximately 18000 ha land near Mundra, Kutch region which was required to be progressively converted in a phased manner for future expansion of SEZ /Industrial Parks/ Port backup activities. At present. Ministry of Environment. Forest and Climate Change (MoEFCCC) has accorded Environmental and CRZ clearance of -8481.27 ha of SEZ to APSEZ at Mundra.

Adani Foundation is the Corporate Social Responsibility arm of the Adani Group. For over two decades now, Adani Foundation has been working to uplift communities by playing the role of a facilitator. It is committed to community Education, Health, Sustainable Livelihood, and Community Infrastructure, Saksham, Swachhagraha, Udaan, SuPoshan, Employee Volunteering Programme etc.

IGFRI (Indian Grassland and Fodder Research Institute)

IGFRI, a national Institute under the administrative control of Indian Council of Agricultural Research, Department of Agriculture Research and Education, Ministry of Agriculture & Farmers Welfare, Government of India, is mandated to conduct basic, strategic, applied and adaptive research; development and training in forage production and its utilization. The Institute has highly experienced and internationally trained human resources engaged in need-led, participatory, inter-disciplinary approaches. With more than 60 years of experience in forage research and development, IGFRI today stands as the premier R&D institution in South Asia for sustainable agriculture through quality forage production for improved animal productivity.

The Indian Grassland and Fodder Research Institute, established in 1962, has been instrumental in fostering research, training and extension programmes on all aspects of forage production and utilization through inter-disciplinary approach.

It has provided technologies, human resource development skills, consultancy and technical services on forage production and utilization to government and non-government organizations, agri-business and farmers. This has been possible due to the benign patronage and guidance of Dr. Himanshu Pathak, Secretary DARE and Director General, ICAR, New Delhi. It has three Regional stations to cater to forage related location specific R&D needs of

humid tropics (at Dharwad), semi-arid and arid (at Avikanagar) and temperate (at Srinagar/ Palampur).

Terms of Reference

Scope of work as requested by APSEZ (Host organization)

1. Site visit to the Gauchar land (if required)
2. Testing of representative soil samples of Gauchar land
3. Review of approach & methodology adopted by APSEZ
4. Submission of the technical report on the approach & methodologies submitted by APSEZ along with the recommendations

APSEZ shall provide all the administrative support to ICAR-IGFRI, Jhansi in fulfilling the above scope of work and APSEZ shall acknowledge the consultancy services provided by ICAR-IGFRI at various platforms such as hoardings/display boards at the Gauchar land, reports published by APSEZ, Environmental clearance compliance report to MoEFCCC etc.

Review of Approach & Methodology adopted by APSEZ

The following methodology adopted by Adani Foundation for the development of grassland at Gauchar land

- Area cleaning work by removing Gando baval (*Prosopis juliflora*) from the identified area through JCB or Hitachi.
- Trees like Desi baval, Kerda, Khijro, Neem and other trees will not be removed from the gauchar land.
- People who live in or around the village can use the Gando baval as fuel or sell it or dispose of it with the consent of village panchayats.
- Construct a cattle-proof trench of 1.5 m wide and 1 m deep around the cleared area.
- Make plots of 8 to 20 acres in cleared areas according to the slope of water flow (natural drainage) so that rainwater is stored in each plot and moisture content is maintained for

a long time for increased grass growth. In addition, protection from loose animals grazing is also required.

- Sowing of good quality local grass seeds like Dhraman, Zinjwo or other local grass seeds in the plot.
- Sowing of seeds of Khijro, Krakach, Desi Acacia, Neem, etc. on the ridges around the plot so that it grows naturally during monsoon rains.
- Planting of local grasses on the ridge inside the plot.
- Planting wad umbra, pepper, pipal, and neem trees at closed spacings in small plots within the original plot to provide shade to the animals during grazing.
- In the interval of three months for continuous two years, organize a program of Shramdan with the help of villagers to remove the small mad acacia that grows.
- Periodically water the trees planted in the plot.

Action Taken

Visit duration: 8-10 May, 2023

Places visited: Jarapara Village, Mundra, Gujarat

Purpose: To assess the physical status of site, assess the palatable grass and legume diversity and develop location specific plan for development of grasslands.

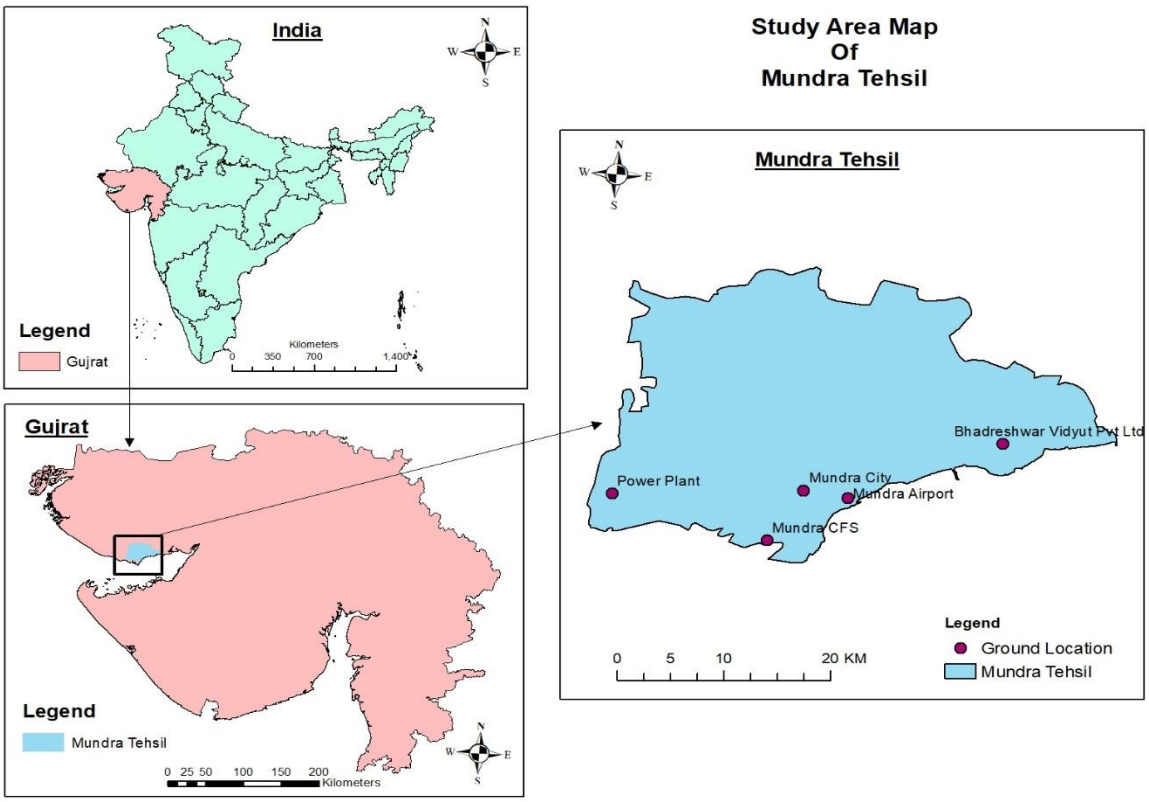
ICAR-IGFRI Visiting Team:

1. Dr. Amaresh Chandra, Director, ICAR-IGFRI, Jhansi
2. Dr. A. K. Roy, PS & Ex-Project Coordinator (AICRP on Forage Crops & Utilization)
3. Dr. R. V. Kumar, PS & Ex-Head (Grassland & Silvipasture Management Division)
4. Dr. Amit K Singh, Scientist, Grassland & Silvipasture Management Division

APSEZ officials Shri Anshul Sandhuja, Manager (Environment), APSEZ and Shri Bhagwat Swarup Sharma, Site Head, APSEZ accompanied the visiting team to the site.

Present status

Major part of the site is infested with *Prosopis juliflora*, an invasive non-palatable shrubby species. The field has undulating topography which causes hindrance in mechanized operations. Last year after minor field work using farm implements, the field was sown with collected seeds of *Cenchrus setigerus* and *Cenchrus ciliaris*. The grasses have not germinated well. Most of the grasses present were non-palatable ones.



Soil sample analysis and interpretation

	Soil pH	EC (ms m^{-1})	SOC (%)	Available N (Kg/ha)	Available P (Kg/ha)	Available K (Kg/ha)
1	8.92	99.7	0.23	106.476	8.24	275.52
2	9.91	94.4	0.32	103.674	5.49	318.08
3	9.78	26.1	0.33	92.466	8.42	393.12
4	9.2	142.9	0.17	92.466	5.86	263.20
5	8.94	91.9	0.23	64.446	5.31	286.72
6	9.22	67.2	0.28	42.03	5.31	202.72
7	9.45	252	0.41	64.446	7.87	159.04
8	9.18	91.8	0.28	89.664	6.04	189.28
9	9.06	136.7	0.18	61.644	5.68	210.56
10	9.08	134.5	0.25	70.05	5.86	331.52
Mean	**9.27**	**113.72**	**0.27**	**78.74**	**6.41**	**262.98**

Soil samples were analyzed at 19^0C laboratory temperature. Based on the analysis of 10 soil samples, it was observed that the soil was mostly alkaline in reaction with pH more than 8.9 and mean pH 9.27. The salinity was detected to be very high. The soil was low in organic carbon status, having as low as 0.17%. However, the mean soil organic carbon content was very low (0.27%), with as low as 0.17% in many places. . Plant-available nitrogen and phosphorus in the analyzed soil samples were also very low (78 and 6.41 kg ha^{-1}). However, in some soils, plant available potassium content was detected to be higher, possibly due to seawater intrusion. To improve the soil status, strategic grassland development could be a viable option.

Recommendation

1. **Area cleaning work**

For the removal of *Prosopis juliflora* **(**Gando baval), cleaning of bushes should be done at least two consecutive years so that small regenerating bushes should also get removed.

2. **Site protection:** Fencing either using barbed wire, trenches or bio**-f**ence species (bamboo, bushes and thorny shrubs, etc.) should be carried out to ensure proper

establishment of the site. Initial protection from grasslands and pastures ensure better establishment and higher biomass production.

- Cattle-proof trench should be of 2 m width and 1.5-meter depth.
- Bio fence options like bamboo species may also be tried for the long term as it takes 5-6 years for complete protection of the site.

3. **Choice of species:** selected **s**pecies should be suitable for climatic and edaphic conditions. Moreover, they should be fast-growing, easy to establish, nutritious, and easy to manage. List of suitable grasses and legumes species for the establishment of grassland and pasture at the site under this region have been provided below:

Suitable Grass Species		
	Botanical Name	**Common Name**
1.	*Cenchrus ciliaris*	Anjan (H) Buffel Grass (E)
2.	*Cenchrus setigerus*	Dhaman (H) Bird Wood Grass (E)
3.	*Dichanthiium annulatum*	Chhijhavo (G) Marvel Grass (E)
4.	*Lasiurus sindicus*	Sewan Grass (H)
5.	*Brachiaria mutica*	Para Grass (E) Buffalo Grass (E)
6.	*Megathyrus maximus*	Guinea Grass (E)
7.	*Chloris guyana*	Rhodes Grass (E)
8.	*Bothriochloa pertusa*	Fulkara (H) Forest blue Grass (E)
Suitable legume Species		
9.	*Desmanthus virgatus*	Dashrath Ghas (H) Hedge lucerne
10.	*Atylosia scarabaeoides*	Bankulthi (H)
11.	*Lablab purpureus*	Dolichos (E) Lablab Bean (E) Sem (H)
12.	*Macroptillium atropurpureum*	Siratro (E)

❖ **Please see Annexure I for detailed field operations**

4. **Sowing*:*** In the case of legumes, direct sowing is carried out and in case of grasses either rooted slips/nursery raised plants are planted in the field or direct sowing is carried out. If grass legume mixture is to be grown then it is preferred in the ratio 2:1. Grasses should be sown at 50 × 50 cm spacing and when grown as a mixture with legumes spacing should be 100 × 100 cm and in the interspace of two rows of grass; one line of legume is to be sown. Sowing depth is very essential for proper seed germination. Depth of sowing for grasses should be between 0.5**-** 1.0 cm; for legumes sowing depth should be 2**-**4 cm. For grasses with light seeds, seed rate is 4**-**6 kg/ha and for grasses with heavy seeds seed rate is kept as 8**-**10 kg/ha. Sowing of grasses and legumes is carried out during the month of July.

4.1 Techniques for Grass Nursery Raising

The seed is the primary material for establishing the grasslands (pastures in forage species particularly grasses, and the seed production varies from species to species. When the seed becomes a ting faster seedlings/rooted slips are the only alternate source for establishing the pasture these seeding are raised in nursery.

Establishment of Nursery

- Nursery beds should carefully be prepared and cleaned from all rank growth including weeds by pulling out and burning. Generally, the nursery is raised during May (5-6 week old seedlings are required) and for this 6m x 6m beds are common.
- The bed should be thoroughly ploughed and 30 kg Farm Yard Manure, 0.25 kg urea, 0.5 kg Single Super Phosphate and 50g BHC may be mixed thoroughly as a basal dose in each bed.

- The bed is watered for 4 to 6 days, so weeds would come up which are to be removed. About 2g Bavistin is mixed with sun-dried seeds.
- For proper sowing sand is mixed with seeds and then the seeds are sown 5-6 mm deep in line. The distance from the line to the line should be 10 cm.
- After sowing it may be covered with a thin layer of soil immediately and the bed may be mulched with straw/wet gunny bags or any locally available material for a period of 4-6 days continuously to allow the seed germination.
- Watering may be done twice a day in the morning and evening with a rose can.
- The germination starts from 3rd day and get completed within a week. After full germination mulch/gunny bags are removed. In places where the day temperature is very high, it may be necessary to provide shade to seed beds in order to protect delicate seedlings The shade may be removed after 30 days of sowing but the beds are watered every alternate day with necessary weeding.
- Germination of dehusked seeds is recorded as 94-98 percent as compared to husked seeds, which is 35-42 percent. The stored seeds show better germination as compared to freshly collected ones. About 40-50 g of grass seeds are used for each bed. Such 12 beds are required to provide seedlings for one hectare land.
- For better growth of seedlings the crop should be top dressed with Calcium Ammonium Nitrate (10 kg N/ha) Grass seedlings will be ready for transplanting after 4 to 6 weeks when they attain 15 to 25 cm height.

4.2 Planting Technique

Seedlings/rooted slips are transplanted in a well-prepared field immediately after the onset of monsoon. Land preparation is done through desi plough, two to three ploughings are sufficient

Farm Yard manure @ 10-12 cartloads per hectare and BHC (10%) are mixed at the time of land ploughing.

The nursery beds should be watered copiously before pulling out the seedlings. The seedlings should be pulled out with ease and without damage to their root systems. Timely planting is necessary for good growth and yield. Two seedlings are transplanted per hull at a distance of 50 x 30cm between rows and plants respectively. The soil, around the seedlings should be pressed gently to remove the air.

5. **Combining grasses and legumes:** mixed sowing of grasse*s* and legumes ensures enhanced production per hectare basis and the quality of the feed increases by 4**-**5 times which is prerequisite for gaining higher livestock production. These legumes in degraded grasslands, pastures, waste and barren lands also increase the duration of availability of green forage biomass from 3**-**4 to 7**-**8 months owing to longer growing period of legumes.

6. Fertilizer application: Initially for grasses and legumes, fertilizers like nitrogen, phosphorus and potassium are applied for ensuring high biomass production. Pelleting of 2**-**3 grass seeds together with cow dung, tank silt or clay and sand (1:1:3:1) to form a ball of 4**-**5 mm diameter should be done to facilitate sowing and germination of light seeds of the grasses.

7. Weeding*:* Initial weeding to remove undesired species should be carried out especially just after the germination of grasses and legumes to ensure their proper establishment.

8. Harvesting and management: Application of recommended doses of N P K Fertilizer for grasses and legumes species is essential. Potassium and phosphorus should be applied as basal dose and nitrogen in two/three split doses. In case of legumes nitrogen can also be applied as a basal dose. Harvesting/Cutting of grasses and legumes should be carried out based on their maturity stage and growth. Harvesting of forage biomass should be carried out before dormancy so that there is sufficient reserve available for ensuring successful re**-**growth in next

season. The frequency of cutting should be species-specific and should be decided based upon species growth, regeneration capacity.

If grazing is to be allowed, then rotation grazing should be followed and over stocking should be avoided. During the first year, legume crops should be allowed to set and shed seeds so that a high population of legumes can be ensured in the coming year. After 4-5 years, reseeding of forage legumes should be done as its population declines with age. In case of grasses, reseeding is to be carried out after 7-8 years due to decline in their production.

9. Incorporation of fodder trees on grasslands and pastures

During winter and summer seasons, grasses enter the dormancy phase and there is no green fodder available for livestock. In such a situation, fodder trees owing to their protein, mineral, macro and micronutrient-rich leaves can ensure supply of green fodder. Local fodder tree species can be planted 5-7 meters apart on grasslands during the monsoon season. The fodder from the trees is available after 5-6 years depending on species and location.

Suitable Fodder Tree Species

Botanical Name	Common Name
Acacia nilotica	*Desi Babul*
Ailanthus excelsa	*Ardu*
Azadirachta indica	*Neem*
Leucaena leucocephala	Subabul
Harwickia binata	Anjan
Prosopis cineraria	Khejri
Zizyphus numularia	Indian jujube

- Team visited the BN hybrid field where it was suggested to incorporate the Leucern (Rijka) crop in inter spaces to ensure effective utilization of space and soil fertility in long term.


- Another suggestion for propagation BN hybrid instead of stem cuttings, rooted slips may be utilized by the farmers.

Conclusion

APSEZ already executing the work sincerely there. The site can be developed as grassland using the recommendation made through this report. In the recommendation part suggestions like the timing of the field operation, preparation of grass nursery, use of rooted slips, using good quality of seeds have been incorporated for successful implementation of the project.

Acknowledgement

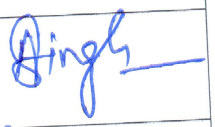
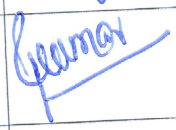
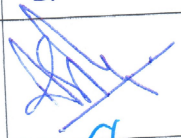
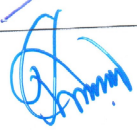
The team acknowldege Dr Avijit Ghosh, Incharge GSM Ecology Lab, ICAR-IGFRI, Jhansi for soil sample analysis.

ANNEXURE I

	Seed Rate (kg ha^{-1}) and Spacing (cm)	Fertilizer (kg ha^{-1})	Management
Grasses			
Anjan Ghaas	4- 5 kg ha^{-1}& 30-50 cm	N-P-K 40-20-0	In the first year of establishment, only one cut is to be taken in mid-October. From first year onward grass gives 3-4 cuts And legume 2-3 cut.
Dhaman	7-8 kg ha^{-1}& 30-50 cm	N-P-K 30-30-0	
Chhijhavo	4-6 kg ha^{-1} & 30-50 cm	N-P-K 20-20-0 100 Kg Calcium Ammonium Nitrate	
Sewan Grass	5-7 kg ha^{-1} & 30-50 cm	20 kg P at the time sowing 20 kg N ha^{-1} at 30-40 DAS	
Para Grass	4-5 kg ha^{-1} & 30-50 cm	5 tonnes FYM as Basal Dose 90 kg ha-1 through Ammonium sulphate	
Guinea Grass	3-5 kg ha^{-1} & 50-100 cm	30 kg P as basal dose 50-60 kg N per ha in two doses after each cut	
Rhodes Grass	4-5 kg ha^{-1} & 30-50 cm	30 kg P as basal dose 20 kg N per ha as top dressing	
Fulkara	4-5 kg ha^{-1} & 30-50 cm	N-P-K 120-60-0	
Legume			
Dashrath Ghas	**2-3** kg ha^{-1} & 30-50 cm	N-P-K 15-30-0	
Bankulthi	10 kg as monocrop For Grass legume mixture : 6 kg per ha^{-1}	N-P-K 10 – 30 -0	
Lablab Bean	20-30 kg ha^{-1} & 100 cm	N-P-K 15 – 45 -20	
Siratro	12 kg as monocrop For Grass legume mixture : 6 kg per ha^{-1}	N-P-K 10 – 30 -0	

- **It is essential to mix 6-10 ton per ha Farmyard Manure before sowing.**

ICAR-IGFRI Consultancy Team

	Designation	Role in the Project	Signature
Amit K Singh	Scientist Grassland and Silvipasture Management (GSM) Division	PI	
RV Kumar	Principal Scientist & Ex-Head Grassland and Silvipasture Management (GSM) Division	Co-PI	
Sunil Kumar	Principal Scientist Grassland and Silvipasture Management (GSM) Division	Co-PI	
AK Roy	Principal Scientist & Ex-Project Coordinator; All India Coordinated Research Project Forage Crops	Co-PI	
Amaresh Chandra	Director ICAR-Indian Grassland and Fodder Research Institute. Jhansi	Co-PI	

Annexure – 14

GRASSLAND DEVELOPMENT PROJECT VILLAGE: ZARPARA, MUNDRA (KUTCH)

ICAR-INDIAN GRASSLAND AND FODDER RESEARCH INSTITUTE, RECOMMENDATION COMPLIANCE

Site Visit Date: 8-10 May, 2023

Places visited: Zarapara Village, Mundra, Gujarat

Purpose: To assess the physical status of site, assess the palatable grass and legume diversity and develop location specific plan for development of grasslands.

Initiated By: Adani Foundation, Mundra

<table>
<tr><th>Sr. No.</th><th>IFGRI Recommendation</th><th>Compliance as on 30.09.2023</th></tr>
<tr><td>1.</td><td>Area cleaning work:
For the removal of Prosopis juliflora (Gando baval), cleaning of bushes should be done at least two consecutive years so that small regenerating bushes should also get removed.</td><td>Partially Complied.

Phase wise removal of Prosopis juliflora (Gando Baval) and bushes has been done from 10 acre area for grass land development. Project progress report is attached as Annexure – a.</td></tr>
<tr><td>2.</td><td>Site protection:
Fencing either using barbed wire, trenches or bio-fence species (bamboo, bushes and thorny shrubs, etc.) should be carried out to ensure proper 7 establishment of the site. Initial protection from grasslands and pastures ensure better establishment and higher biomass production.
Cattle-proof trench should be of 2 m width and 1.5-meter depth.
Bio fence options like bamboo species may also be tried for the long term as it takes 5-6 years for complete protection of the site.</td><td>Partially Complied.

Project site has been fenced by barbed wire in 10 acre area as well as Cattle proof trench (1.5 m width & 1.0 m depth) has been provided around 40 acre grass land development project area (Project progress report is attached as Annexure – a).

And Bio fence work with bamboo or other relevant species will be done phase wise.</td></tr>
<tr><td>3.</td><td>Choice of species:
Selected species should be suitable for climatic and edaphic conditions. Moreover, they should be fast-growing, easy to establish, nutritious, and easy to manage. List of suitable grasses and legumes species for the establishment of grassland and pasture at the site under this region have been provided below:

<table><tr><th colspan="3">Suitable Grass Species</th></tr><tr><th>Sr. No.</th><th>Botanical Name</th><th>Common Name</th></tr></table></td><td>Partially Complied.

Land leveling & plowing work has been done 10 Acre land and Zinzwa & Dharaman grass species is being growing with using Organic Manure/Bio-fertilizer with coordination with Adani foundation & Sarpanch of PRI- Zarapara with PRI-Member.</td></tr>
</table>

	1.	*Cenchrus ciliaris*	Anjan (H) Buffel Grass (E)	• Per acre 3 to 4 tons organic manure in fodder development plot. • Liquid fertilizer – Jivamrut & Gaukrupa Amrutam • Per acre 200 to 300 liters
	2.	*Cenchrus setigerus*	Dhaman (H) Bird Wood Grass (E)	
	3.	*Dichanthiium annulatum*	Chhijhavo (G) Marvel Grass (E)	
	4.	*Lasiurus sindicus*	Sewan Grass (H)	
	5.	*Brachiaria mutica*	Para Grass (E) Buffalo Grass (E)	
	6.	*Megathyrus maximus*	Guinea Grass (E)	
	7.	*Chloris guyana*	Rhodes Grass (E)	
	8.	*Bothriochloa pertusa*	Fulkara (H) Forest blue Grass (E)	
	Suitable legume Species			
	9.	*Desmanthus virgatus*	Dashrath Ghas (H) Hedge lucerne	
	10.	*Atylosia scarabaeoides*	Bankulthi (H)	
	11.	*Lablab purpureus*	Dolichos (E) Lablab Bean (E) Sem (H)	
	12.	*Macroptillium atropurpureum*	Siratro (E)	
4.	**Sowing:** In the case of legumes, direct sowing is carried out and in case of grasses either rooted slips/nursery raised plants are planted in the field or direct sowing is carried out. If grass legume mixture is to be grown then it is preferred in the ratio 2:1. Grasses should be sown at 50 × 50 cm spacing and when grown as a mixture with legumes spacing should be 100 × 100 cm and in the interspace of two rows of grass; one line of legume is to be sown. Sowing depth is very essential for proper seed germination. Depth of sowing for grasses should be between 0.5- 1.0 cm; for legumes sowing depth should be 2-4 cm. For grasses with light seeds, seed rate is 4-6 kg/ha and for grasses with heavy seeds seed rate is kept as 8-10 kg/ha. Sowing of grasses and legumes is carried out during the month of July. **Techniques for Grass Nursery Raising:** The seed is the primary material for establishing the grasslands (pastures in forage species particularly grasses, and the seed production varies from species to species. When the seed becomes a ting faster		For fodder support to village cattle's the Sorghgam (Jwar) is being showing in 5 acre area out of 10 acre area (1st phase developing area). Project progress report is attached as **Annexure – a.** Nursery & other development work is under discussion with Adani foundation & Sarpanch of PRI- Zarapara with PRI-Member and will be done after budget approval.

	seedlings/rooted slips are the only alternate source for establishing the pasture these seeding are raised in nursery. **Establishment of Nursery:** • Nursery beds should carefully be prepared and cleaned from all rank growth including weeds by pulling out and burning. Generally, the nursery is raised during May (5-6 week old seedlings are required) and for this 6m x 6m beds are common. • The bed should be thoroughly ploughed and 30 kg Farm Yard Manure, 0.25 kg urea, 0.5 kg Single Super Phosphate and 50g BHC may be mixed thoroughly as a basal dose in each bed. • The bed is watered for 4 to 6 days, so weeds would come up which are to be removed. About 2g Bavistin is mixed with sun-dried seeds. • For proper sowing sand is mixed with seeds and then the seeds are sown 5-6 mm deep in line. The distance from the line to the line should be 10 cm. • After sowing it may be covered with a thin layer of soil immediately and the bed may be mulched with straw/wet gunny bags or any locally available material for a period of 4-6 days continuously to allow the seed germination. • Watering may be done twice a day in the morning and evening with a rose can. • The germination starts from 3rd day and get completed within a week. After full germination mulch/gunny bags are removed. In places where the day temperature is very high, it may be necessary to provide shade to seed beds in order to protect delicate seedlings The shade may be removed after 30 days of sowing but the beds are watered every alternate day with necessary weeding. • Germination of dehusked seeds is recorded as 94-98 percent as compared to husked seeds, which is 35-42 percent. The stored seeds show better germination as compared to freshly collected ones. About 40-50 g of grass seeds are used for each bed. Such 12 beds are required to provide seedlings for one hectare land. • For better growth of seedlings the crop should be top dressed with Calcium Ammonium Nitrate (10 kg N/ha) Grass seedlings will be ready for transplanting after 4 to 6 weeks when they attain	

	15 to 25 cm height. **Planting Technique:** Seedlings/rooted slips are transplanted in a well-prepared field immediately after the onset of monsoon. Land preparation is done through desi plough, two to three ploughings are sufficient Farm Yard manure @ 10-12 cartloads per hectare and BHC (10%) are mixed at the time of land ploughing.	
5.	**Combining grasses and legumes:** mixed sowing of grasses and legumes ensures enhanced production per hectare basis and the quality of the feed increases by 4-5 times which is prerequisite for gaining higher livestock production. These legumes in degraded grasslands, pastures, waste and barren lands also increase the duration of availability of green forage biomass from 3-4 to 7-8 months owing to longer growing period of legumes.	Point noted & will be complied. This activity is under discussion with Adani foundation & Sarpanch of PRI- Zarapara with PRI-Member and will be done after budget approval.
6.	**Fertilizer application:** Initially for grasses and legumes, fertilizers like nitrogen, phosphorus and potassium are applied for ensuring high biomass production. Pelleting of 2-3 grass seeds together with cow dung, tank silt or clay and sand (1:1:3:1) to form a ball of 4-5 mm diameter should be done to facilitate sowing and germination of light seeds of the grasses.	In first phase 10 acre area is being developing for grass land. The Sorghgam (Jwar) is being growing in 5 acre area out of 10 acre area (1st phase developing area) for fodder support and bio fertilizer (Cow Dung) is being using for growing the fodder.
7.	**Weeding:** Initial weeding to remove undesired species should be carried out especially just after the germination of grasses and legumes to ensure their proper establishment.	Point noted and is being complied. Weeding activity is being done in 1st phase developing area (10 acre).
8.	**Harvesting and management:** Application of recommended doses of N P K Fertilizer for grasses and legumes species is essential. Potassium and phosphorus should be applied as basal dose and nitrogen in two/three split doses. In case of legumes nitrogen can also be applied as a basal dose. Harvesting/Cutting of grasses and legumes should be carried out based on their maturity stage and growth. Harvesting of forage biomass should be carried out before dormancy so that there is sufficient reserve available for ensuring successful re-growth in next 11 season. The frequency of cutting should be species-specific and should be decided based upon species growth, regeneration capacity. If grazing is to be allowed, then rotation grazing should be followed and over stocking should be avoided. During the first year, legume crops should be allowed to set and shed seeds so that a high population of legumes can be ensured in the coming year. After 4-5 years, reseeding of	Point noted & will be complied. Presently 10 acre area is being developing for grass land. The Sorghgam (Jwar) is being growing in 5 acre area out of 10 acre area (1st phase developing area) for fodder support and with using Organic Manure/Bio-fertilizer is being using for growing the fodder. • Per acre 3 to 4 tons organic manure in fodder development plot. • Liquid fertilizer – Jivamrut & Gaukrupa Amrutam • Per acre 200 to 300 liters

<table>
<tr><td></td><td>forage legumes should be done as its population declines with age. In case of grasses, reseeding is to be carried out after 7-8 years due to decline in their production.</td><td></td></tr>
<tr><td>9.</td><td>Incorporation of fodder trees on grasslands and pastures: During winter and summer seasons, grasses enter the dormancy phase and there is no green fodder available for livestock. In such a situation, fodder trees owing to their protein, mineral, macro and micronutrient-rich leaves can ensure supply of green fodder. Local fodder tree species can be planted 5-7 meters apart on grasslands during the monsoon season. The fodder from the trees is available after 5-6 years depending on species and location.

Suitable Fodder Tree Species

<table><tr><th>Botanical Name</th><th>Common Name</th></tr><tr><td>Acacia nilotica</td><td>Desi Babul</td></tr><tr><td>Ailanthus excelsa</td><td>Ardu</td></tr><tr><td>Azadirachta indica</td><td>Neem</td></tr><tr><td>Leucaena leucocephala</td><td>Subabul</td></tr><tr><td>Harwickia binata</td><td>Anjan</td></tr><tr><td>Prosopis cineraria</td><td>Khejri</td></tr><tr><td>Zizyphus numularia</td><td>Indian jujube</td></tr></table></td><td>Point noted & will be complied.

This activity is under discussion with Adani foundation & Sarpanch of PRI- Zarapara with PRI-Member and will be done after budget approval.</td></tr>
</table>

PHOTOGRAPHS OF SITE PROTECTION

Cattle-proof trench

Barbed Wire Fencing

PHOTOGRAPHS OF GROWN FODDER SORGHGAM (JWAR)

GRASSLAND DEVELOPMENT PROJECT VILLAGE: ZARPARA, MUNDRA (KUTCH)

PHOTOGRAPHS OF ORGANIC MANURE

ANNEXURE - a

Fodder Plot Development

Village :- Zarapara

Taluka :- Mundra

Dist. :- Kutch

Fodder plot Development

Village : Zarapara Taluka : Mundra Dist :- Kutch

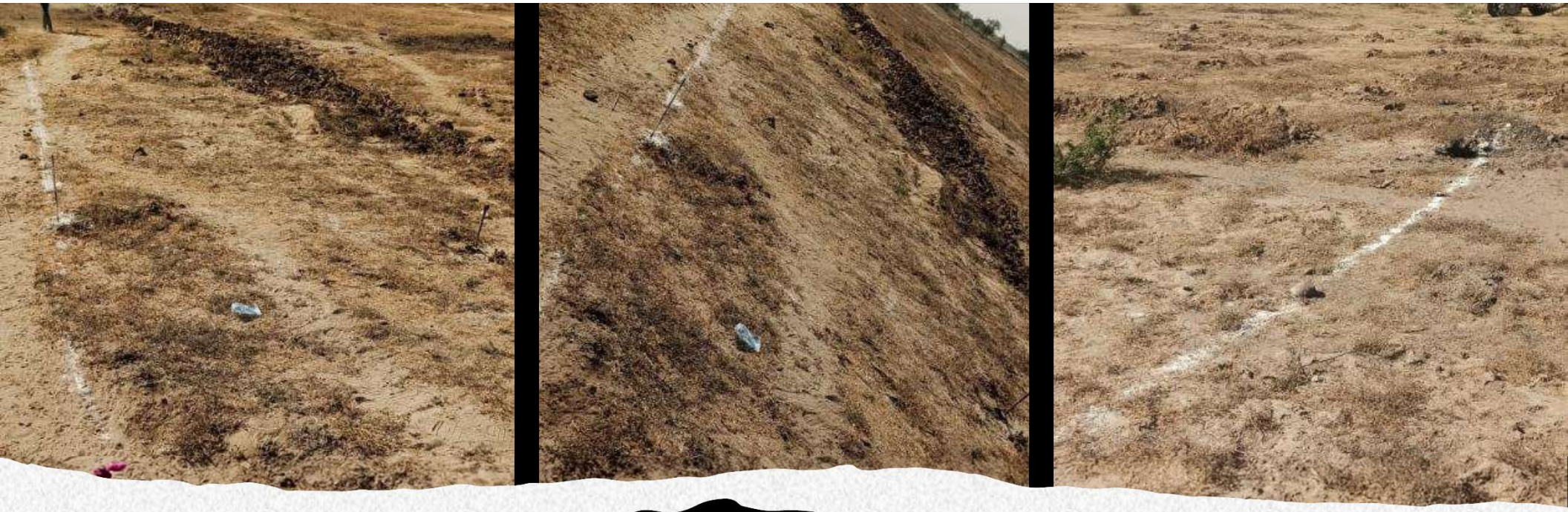
Total Land : 10 Acre

Fodder Plot Development

- Planning of fodder plot development.
- Meeting with PRI
- PRI latter
- Proposal
- Plan & Estimate
- Permission & Budget plan
- Work process

Fodder plot Shubharambh

Presence Sarpanch of PRI-Zarapara Mr. Khimjibhai & PRI Members & Villagers



Step of Fodder plot Developing

- Fodder Plot Marking

Plowing 10 Acre land

Land leveling

- Land Leveling for better crop.

Rotavator soil preparation

- 10 acre land

Digging for protection wall


Protection wall 10 acre land.

Organic Manure

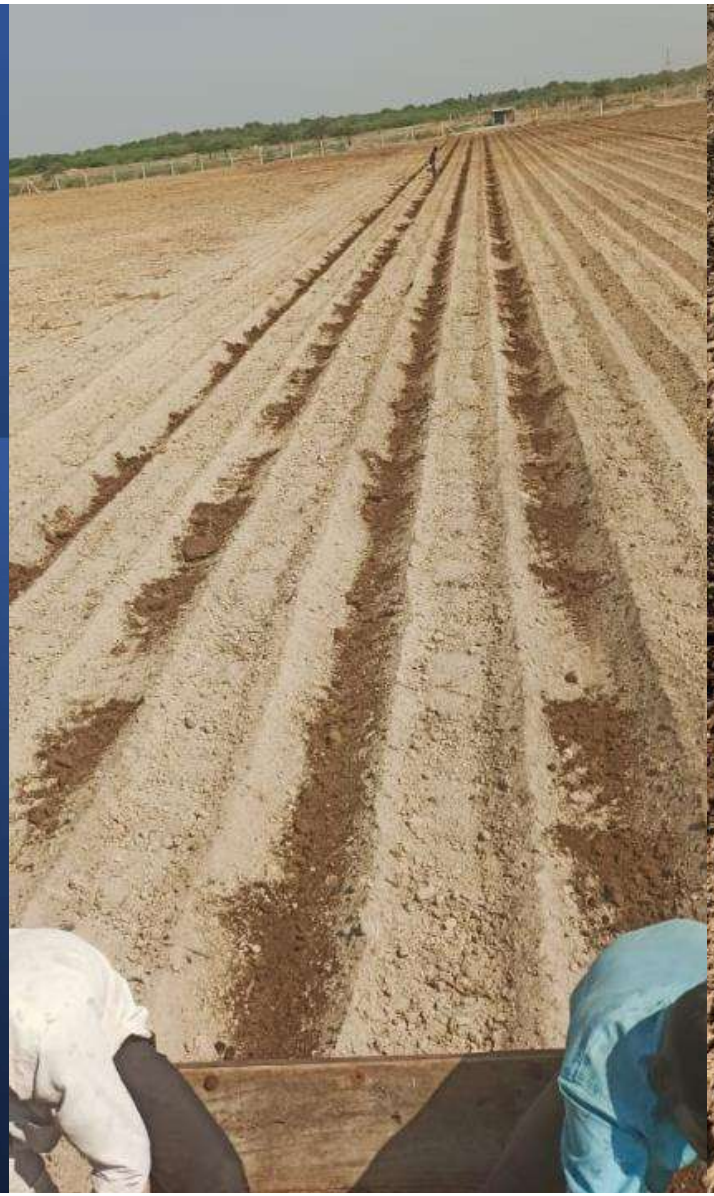
Green Manure by Tractor

NB-21 Grass

Organic Manure in proper line

- Per acre 3 to 4 tons organic manure in fodder development plot.
- Liquid fertilizer – Jivamrut & Gaukrupa Amrutam
- Per acre 200 to 300 liters

Organic Manure in proper sowing line.



NB-21 variety of fodder (Super Napier)

Cutting for Sowing

- NB-21 Grass cutting
- Require per acre : 750 kg.
- 18 to 20 Man (40 Kg.) per acre.

Sowing NB-21 Grass



First Irrigation to NB- 21 Grass

FP-Visit with village people

NB-21 Grass sowing process

Discussion with PRI members & Gau sameeti for planning.

NB-21 Grass

Ma Sonal SmrutiVan- In Fodder Plot -551 Plants.

Annexure – 15

adani
Ports and Logistics

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 & Magnitude1	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	It is predicted that the built up land in the rural areas would increase by an order 50% from the baseline 2015. New settlements near the SEZ area might create slums. Unorganized urban development leading to poor sanitation and proliferation	Level - 1	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.	The existing townships will be expanded to accommodate about 4 lakh people when the APSEZ is fully developed.	APSEZ	As and when Required	APSEZ has developed two townships (Shantivan and Samudra) accommodating 2032 households and associated infrastructure facilities. Accommodation is made available for all interested employees working within Adani group & SEZ industries. Out of which 92.57% Occupancies are accommodated within the townships and rest are available for employees working within APSEZ. At present 71 nos. of industries (processing & non-processing) are present within the SEZ (54 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. Most of the employees working in SEZ industries are residing in Mundra township having all basic requirements and associated facilities. The existing social infrastructure facilities are adequate for present development at APSEZ. The existing townships with associated facilities will be

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	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, ASPEZ 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

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			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-16.** During compliance period FY 2023-24 till Sep'23, total recorded rain fall was **844 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 de-silting activities in the natural steams 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.

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			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	APSEZ has carried out mangrove afforestation in 3890 ha. area across the coast of Gujarat till date. Total expenditure for the same till date is INR 1070.8 lakh. No further mangrove afforestation is pending w.r.t. commitment made with concerned regulatory authority for APSEZ, Mundra project. As per study conducted by NCSCM, Chennai 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

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td></td><td>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 eco-system.</td><td></td><td>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</td><td></td><td></td><td></td><td>INR 3.15 Cr.

Last study was carried out in the year 2019 and based on that there is an increase of mangrove cover between March 2017 (Total 2340) and September 2019 with an extent of 256 Ha (Total 2596 Ha Area) which is about 10.94% rise in growth rate, also It reveals that the mangrove and the tidal system in the creeks remained undisturbed over this period.

Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019.

Analysis of data between categories indicated that there was an increase in dense mangroves along with the conversion of scattered into sparse, that shows the growth of mangroves in a progressive direction.

As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.
<table>
<tr><th>Sr. No.</th><th>Recommendations</th><th>Compliance</th></tr>
</table>
</td></tr>
</table>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude1	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.	Mangrove mapping and monitoring in and around APSEZ	• 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

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude1	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
							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 (attached as **Annexure-1**), 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

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									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. **Summary of Mangrove mapping and monitoring (from 2011 to 2021):**

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th colspan="3">Compliance</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>
<table>
<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>
<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</td><td>2670</td><td>74</td><td>2.85%</td></tr>
<tr><td>2019 to 2021 till March</td><td>2723</td><td>53</td><td>1.99%</td></tr>
<tr><td>Total</td><td>2723</td><td>629</td><td>28 %</td></tr>
</table>
</td><td>2.</td><td>Tidal observation in creeks in and around APSEZ</td><td>• APSEZ carried out the tidal observations at locations similar to 2017 in Kotdi, Baradimata, Navinal, Bocha</td></tr>
</table>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude1	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		
									and Khari creeks under the guidance of NCSCM. • The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves. • The cost of the said activity was INR 1.0 Lacs.
							3.	Removal of Algal and Prosopis growth from mangrove areas	• Algal and Prosopis growth monitoring was done in and around mangrove area and algal encrustation was found in some of the mangrove areas, which has been removed manually. • The cost of the said activity was INR 2.35 Lacs during the FY 2022-23. The details of Removal of Algal and Prosopis growth from mangrove areas was submitted during the last compliance period Oct'22 to Mar'23.
							4.	Awareness of mangroves importance in	• Adani Foundation – CSR Arm of Adani group has done awareness camps/activities created in

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								surrounding communities	the community regarding importance of mangroves. Adani Foundation provides good Quality dry and green fodder to 24 Villages. Project is covering total 32372 Cattels / 2707 farmers and hence enhancing cattle productivity during FY 2023-24 till Sep'23. • Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 90.20 Lacs during FY 2023-24 till Sep'23, 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

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude1	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
							persons allowed within coastal as well as mangrove areas. • APSEZ has celebrated the International Day for the Conservation of the Mangrove Ecosystem on July 26th 2023 and World Nature Conservation Day on 28th July 2023 to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The report of day celebration is attached as **Annexure - 2.** • Refer CSR report attached as **Annexure – 3**. To comply with the GCZMA recommendations regarding mangrove monitoring at every 2 years, APSEZ earlier awarded work order to NCSCM, Chennai vide order no. 4802018994, dated 29/07/2022 with cost 23.77 Lacs for mangrove mapping in and around APSEZ, but due to some financial disputes and no proper response from NCSCM side regarding resolution, the work order has been revoked.

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude1	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
							After that as suggested by Joint Review Committee in its report that mangrove related studies may be undertaken by different agencies on a rotation basis for a better review of the mangroves, APSEZ issued work order to the Gujarat Institute of Desert Ecology (GUIDE), Bhuj vide order no. 4802027981, dated 10/04/2023 for mangrove mapping in and around APSEZ, Mundra. The cost of said work is 23.60 Lacs (Including Taxes), which will be paid by APSEZ. GUIDE has completed the study of Monitoring and Distribution of the Mangroves along the Creeks in and Around APSEZ, Mundra, Kutch, Gujarat for the duration of year March 2019 to March 2021. Copy of the report of Monitoring and Distribution of the Mangroves is attached as **Annexure-1.** According to NCSCM Mangrove monitoring study report March 2021, distribution of mangroves in Kotdi, Baradi Mata, Navinal, Bocha and Khari creeks and also in Bocha island was studied using Google earth images (2017 March and 2019 Sep). The data obtained for 2017 i.e., 2398 ha was compared with data reported for 2016 (Dec) - 2017 (Jan & Feb) i.e., 2340 ha in the Conservation plan submitted earlier. The Google earth showed a marginal difference of + 58 ha (compared to earlier 2016-17 data) which shows 2.4% higher and the difference can be considered as insignificant. Further for both the start year (2017 March) and the end year (Sep.2019) Google earth image was used as a source

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							and therefore, the results will be quite acceptable for assessment. With regard to overall health of mangroves in the creeks in and around APSEZ, it was found that there was an increase of mangrove cover between March 2017 and Sep 2019 to an extent of 256 ha which is about 10.7% increase in mangroves. Hence overall mangrove cover was considered as 2594 Ha in year 2019. Now, according to GUIDE Mangrove monitoring study report November 2023 (attached as **Annexure-1**), 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%). Other than this Adani Foundation – CSR Arm of Adani Group at Mundra-Kutch has initiated multi-species plantation of mangroves in Luni village in association with GUIDE, Gujarat. During 2018-2019 (Phase-I) multi-

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							species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE, 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. Since PhD scholars and students frequently visit this area for study. we plan to establish it as a Center of Excellence, serving as a hub to create awareness among students and facilitating research activities for scientist.
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	Shore line change aspect has been studied in detail as part of following two studies; • 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. As per the outcome of these studies, no erosion is observed on the coast of the project area. As part of the Regional Impact Assessment study, the possible changes in shoreline

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	shoreline. Shoreline of any area also can be influenced by storm surges and other natural processes.		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.				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. Based on the study outcome, it is recommended to map the coastal morphology (shoreline change) at least once in three years. APSEZ has already awarded work to the agency namely M/s. Gujarat Institute of Desert Ecology, Bhuj for carrying out Shoreline Change Assessment Study for Mundra region vide P.O. No. 4802013270 dated 30.03.2022. The cost of said study is INR 17.39 Lacs. The said study is under progress. 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 is INR 17.39 Lacs. In the present 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. 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

<table>
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<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>initiation of the activities (September 2015) for short-term variation for the year 2015-2022 using EPR method has been carried out.

The details of the rate of shoreline changes (Short interval time) recorded from 2015 to 2022 are summarized in below table.

<table>
<tr><td>Period</td><td>Name of the block</td><td>Average Shoreline Change(M/Year)</td><td>Shoreline</td></tr>
<tr><td></td><td></td><td></td><td>Maximum Accretion</td></tr>
<tr><td rowspan="2">2015-2022</td><td>West Port</td><td>-11.43</td><td>39.86</td></tr>
<tr><td>Eastern side</td><td>-26.60</td><td>191.32</td></tr>
</table>

The Shoreline Change Assessment Study report of GUIDE was submitted during the last compliance period Oct'22 to Mar'23.

Shoreline change study was carried out by M/s. Chola MS, Chennai (NABET accredited consultant) also as a part of Waterfront Development Project – Expansion EIA study. The summary of the said study are as below.

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</td></tr>
</table>

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							2018. AMBUR Methodology was used to study the historical analysis. 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. 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. 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	Level-1	As per the master plan of APSEZ, eight artillery roads will be connected to either state highway or	Additional road as per master plan will be built in future based on the overall progress of the project. Currently about	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 ~23.87%, Additional road facilities will be built as per master plan

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	Economic Zone, the peak vehicular traffic from the port and SEZ operations (including supporting facilities and colony) could be in the order of 18,300 and 10,400 vehicles per day respectively. There could be a possible increase in traffic congestions		national highway for evacuating the goods from APSEZ. None of these roads are passing through settlements, thereby avoiding traffic Congestions in the respective villages. The carrying capacity of the eight artillery roads connecting APSEZ is estimated to be about 16,000 PCU/hr as	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 network.			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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	on village-highway intersections and road accidents.		against the envisaged peak traffic volume of 4,500 PCU/hr. Out of eight artillery roads considered in APSEZ master plan, seven roads were already developed and functional.				
			APSEZ has been imparting Driver Training Programs to all their contractors to enhance awareness	APSEZ can undertake technical feasibility of implementing Intelligent Transport System (ITS) for the freight carriers	APSEZ & GSRDC*	Long Term	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: ✓ Basic induction Training for drivers ✓ ITV Driver Training ✓ ITV Driver Induction for Supervisor ✓ Defensive Driving for LMV & HMV ✓ Defensive Driving & BBS

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			on road safety.	associated with their development activities.			✓ 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 Approx. 3020 Participants (On roll and contractual manpower) were benefitted from above trainings in compliance period Apr'23 to Sep'23. The same will be continued in future also. APSEZ has also implemented the Remote traffic management system (RTMS) to manage the traffic movements and capturing the violations to further improve the system. Following steps were taken by APSEZ to reduce the accidents. ✓ 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.

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							✓ 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 doziness 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. ✓ 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

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							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.
3	**Water resources Management and sewage treatment & disposal Plan**						
3.1	For a fully developed APSEZ facility, water demand will be in the order of 4,30,000 m3/day (430 MLD). APSEZ will be sourcing majority of the water from the captive desalination plants, which will be	No-Impact	APSEZ is meeting the current water demand through Narmada water supply scheme and 47 MLD captive desalination plant at site. Necessary water allocation from concerned authorities was obtained and	As per the master plan and permissions granted under EC, APSEZ will be developing progressively 4,50,000 m3/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.	APSEZ	As and When Required	Presently there are two fresh water sources available with APSEZ. **Desalination Plant** – 47 MLD **Narmada water through GWIL** – 9 MLD (sanctioned capacity). Current water demand for APSEZ along with SEZ industries including Adani Power Plant is an avg. of 23.07 MLD. So presently, these sources are adequate to fulfill the current freshwater requirement of entire APSEZ including member units. The desalination plant of additional capacities will be installed on modular basis considering future requirement of APSEZ.

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	developed in progressive manner.		the same will be renewed from time to time as per the directions of state government.				
3.2	Existing water demand in 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	Level-2	Adani Foundation has been contributing to various watershed development projects in the Mundra region to enhance ground water resources in the area. Adani Foundation has contributed about Rs.	Adani Foundation is planning to implement the various water resource conservation programs in next ten years under various schemes.	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 water is not utilized for any activities within APSEZ. 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 Rain Water Harvesting, Desilting of Check dams, Bore Well Recharge and Pond deepening were taken up in past years, review and monitoring of all water harvesting structures had been taken up. To make connections between human actions and the level of biological diversity found within a habitat and/or ecosystem, this year Adani Foundation launch project "Sanrakshan" in coordination with GUIDE and Sahjeevan.

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<tr><td></td><td>the area is fully grown into larger municipality due to induced economic growth. Water demand of the local 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</td><td></td><td>300 Lakhs so far for the development of 18 check dams.</td><td></td><td></td><td></td><td>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.

<u>WORK COMPLETED:</u>

Below tabulated Water Conservation Projects completed during Compliance period:
<table>
<tr><th>Sr. No.</th><th>Project</th><th>Unit</th><th>Outcome</th><th>Impact</th></tr>
<tr><td>1</td><td>Check dam Restrengthening-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>
<tr><td>2</td><td>Recharge Borewell</td><td>21</td><td>Reduce Salinity ingress, and preventing water run</td><td>150+ farmer's 260+ Acre Area of Agri land for Irrigated</td></tr>
<tr><td>3</td><td>Pipe Culvert at Check</td><td>1</td><td>prevent water runoff into seaside.</td><td>35 farmer's 120+Acre Area of Agri</td></tr>
</table></td></tr>
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	reported to be a safe ground block as on date. Due to influx of people and rapid urbanization due to the economic development, there could be some stress on the ground water resources in future.						damat Bhujpur | | | land can be Irrigated **Earlier Completed Activities/Projects:** • Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers • New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum. • Roof Top Rain Water Harvesting 145 Nos. (40 Nos current year) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family. • Recharge Bore well 208 Nos which is best ever option to direct recharge the soil. • Drip Irrigation approx. 1506 Farmers benefitted in coordination with Gujrat Green Revolution Company till date • Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which bore well depth decreased by 50-100 Ft in Zarpara, Bhujpur and Navinal Vadi Vistar.

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							• Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year. • Pond Pipe line work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area. 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. Adani foundation has spent approx. INR 7949.35 lakhs from April – 2018 to September– 2023 for CSR activities which also includes water conservation projects as mentioned above.
3.3	It is estimated that about 60,000 m3/day (60 MLD) of sewage will be generated from the APSEZ facility when the	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	APSEZ is permitted to develop decentralized sewage treatment plants of total 62 MLD capacities. Existing sewage treatment facilities will be augmented progressively	APSEZ	As and When Required	Current installed capacity of wastewater treatment plants is 6.255 MLD (ETP, STPs & CETP) for treatment of effluent & sewage generated at various locations of APSEZ excluding wastewater treatment plants installed within induvial member units. Out of 54, only 4 operational industries within the SEZ are sending their partially treated industrial as well as domestic effluent to the CETP confirming to CETP inlet norms for further treatment and final disposal. Other SEZ industries have their own STPs / ETPs for treatment of wastewater generated from their industrial operation and discharging the treated water on land for horticulture purpose within their premises

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	project is fully developed.		development and sewage is not discharged into either seasonal natural streams or marine environment.	based on the development at APSEZ in future. Similar to existing practices, treated sewage will be utilized for greenbelt development.			as per specific permission granted by SPCB. APSEZ also granted permission to treat 2.5 MLD of sewage generated from Mundra village through CETP and STP. Presently avg. 2.29 MLD of wastewater (in to ETP, STPs & CETP) is treated and being utilized on land for horticulture purpose within APSEZ premises during Apr'23 to Sep'23. Existing wastewater treatment plants are adequate to treat and handle the total effluent / sewage load considering current 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	Level-2	APSEZ and other thermal power plants have obtained valid consent to operate and have been operating	All existing and new industrial establishments will obtain requisite consents from GPCB and adhere to the stipulated emission norms regulations and guidelines issued	APSEZ And Other Industries	Continual Process	APSEZ has been granted requisite permissions from the concerned authorities with stipulated norms for air emission (flue gas as well as ambient air). 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.

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<tr><td></td><td>mass discharge from the study area would increase.</td><td></td><td>the facilities as per the emission norms stipulated in respective consent orders. APSEZ and other two power plants are monitoring the ambient air quality on regular intervals as per GPCB/CPCB guidelines and the data is analyzed and presented to GPCB on monthly basis. Both the thermal</td><td>by authorities from time to time.</td><td></td><td></td><td>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.

The AAQM summary for last six months (Apr'23 to Sep'23) are as below.

Locations: 16 Nos. (APSEZ – 13 + APL – 3 including 4 villages)
Frequency: Twice in a week
<table>
<tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>Average</th><th>Perm. Limit$</th></tr>
<tr><td>PM_{10}</td><td>µg/m³</td><td>31.53</td><td>89.85</td><td>71.64</td><td>100</td></tr>
<tr><td>$PM_{2.5}$</td><td>µg/m³</td><td>11.14</td><td>49.84</td><td>29.64</td><td>60</td></tr>
<tr><td>SO_2</td><td>µg/m³</td><td>5.15</td><td>42.18</td><td>20.12</td><td>80</td></tr>
<tr><td>NO_2</td><td>µg/m³</td><td>7.23</td><td>48.83</td><td>24.61</td><td>80</td></tr>
</table>
$ as per NAAQ standards, 2009
Values recorded confirms to the stipulated standards.

Approx. INR 5.08 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2023-24 till Sep'23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.

Other industries located within the SEZ have obtained</td></tr>
</table>

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			power plants located within the study area have installed continuous emission and air quality monitoring instruments as per CPCB directive.				requisite permissions from the competent authorities for their respective plant and they also carried out environmental monitoring within their premises to comply with the permission granted. The same has been ensured by APSEZ as well as SPCB during their regular visits. APSEZ carries out regular visits/inspections of member industries within SEZ and last visit was conducted during August to September, 2023 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. The monitoring reports of industries within SEZ are also being submitted to the regulatory authorities as a part of half yearly Compliance report of EC for Multi-Product SEZ.
				A common air quality management committee may be framed under the guidance of the State Pollution Control Board and district	APSEZ and Other Industries, Stakeholders, District Administration and GPCB*	Long Term And Continual	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: • Identification of sources of air & noise emission and its dispersion in surrounding villages

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				administration to manage regional level emission inventory data that can help to manage regional level air quality management goals.			• Remedial measures to eliminate, control, reduce or capture air & noise emission. • Identify available resource to abate the air and noise emission. • Required additional resources for control of air and noise emission. • Drinking water and its testing of all the available fresh water sources in surrounding villages • Identify any surrounding villages affected by organization's improper waste disposal mechanism. Last committee meeting was conducted on dated 10/10/2023 and below was the point of discussion for way forward. • 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.

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							• 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 materials at authorized recycler/vendor. 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	Health Impact	APSEZ has been implementing the following management plan to control emissions as per the applicable regulations and similar	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	APSEZ and Other Industries	Continual Process	Following safeguard measures are taken by APSEZ for abatement of dust emissions. • 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,

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td></td><td>PM2.5 concentration in the background air. This could pose some health impacts such as asthma and COPD etc. among the local communities.</td><td></td><td>practices will be adopted in future: Entire bulk material handling facilities are mechanized. Regular water sprinkling on road and other open areas, regular cleaning of roads, dry fog dust suppression systems (DSS) in hoppers, transfer towers and conveyor belts, use of water mist canon,</td><td>Pollution Control Board from time to time.</td><td></td><td></td><td>transfer towers and conveyor belts
• Use of water mist canon
• Closed type conveyor belts
• Regular sprinkling on coal heaps
• Covering other types of dry bulk cargo heaps
• Installation of wind breaking wall
• Development of greenbelt along the periphery of the storage yards/back up area
• Mechanized handling system for coal and other dry bulk cargo
• Wagon loading and truck loading through closed silo

Adequate air pollution control measures like ESPs, FGDs, Bag Filters, etc. and adequate stack heights provisions are implemented within the thermal power plant.

The stack monitoring summary for last six months (Apr'23 to Sep'23) are as below.

Total Nos. of Stacks: 23 Nos.
Frequency: Monthly / Half Yearly
<table>
<tr><th>Parameter</th><th>Unit</th><th>GPCB Limit</th><th>Min</th><th>Max</th><th>Avrg.</th></tr>
<tr><td>PM</td><td>mg/Nm^3</td><td>150</td><td>15.26</td><td>28.53</td><td>21.27</td></tr>
<tr><td>SO_2</td><td>Ppm</td><td>100</td><td>5.79</td><td>17.65</td><td>8.96</td></tr>
</table>
</td></tr>
</table>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude1	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
			covered conveyor belts, regular sprinkling on coal heaps,				NO_x | ppm | 50 | 16.26 | 36.41 | 22.82 Values recorded confirms to the stipulated standards. Approx. INR 5.08 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2023-24 till Sep'23, which also includes ambient air quality monitoring for overall APSEZ, Mundra. 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	An internal Coal Dust Management Working Group shall be formed by APSEZ to effectively co-ordinate the approach to coal dust management and	APSEZ and Other Industries, Concerned Stake holders, District Administration*	Long Term	As mentioned above, presently, 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. 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. Adequate air pollution control measures like ESPs, FGDs, Bag Filters, etc. and adequate stack heights

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			periphery of the storage yards/back up area and mechanized handling system for coal and other dry bulk cargo and Wagon loading and truck loading 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	monitoring			provisions within the thermal power plant for proper dispersion of pollutants. 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. Last committee meeting was conducted on dated 10/10/2023 and below were the points of discussion for way forward. • 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.

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			respective ECs granted. Due to installation of tall stacks as per CPCB guidelines and EC conditions, the relative air pollution impacts due to release of emissions from two power plants is insignificant.				• Discussed about to increase more green belt area inside plant premises of SEZ units. • Discussed about disposal of minor qty. of generated hazardous waste materials at authorized recycler/vendor.
4.3	Ships are one of the significant sources of SO2 and NOX emissions in the study area. Marine diesel	Level-2	A Standard Operating Procedure (SOP) has be developed to be included	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	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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	engines on the ships often utilize fuel oils that might contain higher 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		as a part of APSEZ environment management plan to verify that all ships anchored at the port are adopting the MARPOL4 regulations.	on sulphur in the marine vessel fuels will be 0.50% m/m by the 1st January 2025. APSEZ should explore the possibility of providing shore power to the ships at the port to reduce idling stage ship emissions.			

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	lower stack heights of the marine diesel engine, ship emissions often gets 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.						
	Road vehicle		Not	Due to implementation of Bharat VI fuels (MoEF&CC)6 in near future the vehicular and	APSEZ		Presently, cargo evacuation through rail / conveyer / pipeline is ~23.87 % of overall cargo evacuation. Vehicles having valid PUC certificate are only being allowed to enter within APSEZ area.

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4.4	emissions will be other major contributors to the air pollution in the region when the facility is fully developed.	Level-2	Applicable	diesel engine emissions will be reduced by about 50% from the current national levels. APSEZ should develop a robust contractor environmental policy to ensure that Bharat Stage VI emission norms are adopted by all their contractors and sub-contractors.	and All Industries	Short Term	APSEZ, has procured 217 nos. of Electrical Vehicle for internal cargo movement and 183 nos. E-ITV's are in operation. As well as procured 10 nos. LMV E-Vehicles for manpower movement and all are in operation. Electrification of Rail Corridor from Dhrub Railway Station to Adipur Railway Station has completed and movement started by electric locomotive. It will to reduce the gaseous emission and increase efficiency of transportation by rail.
5	**Noise emissions**						
	Noise emissions are envisaged from port operations,		Due to adoption of various mechanized operations at the waterfront development	APSEZ, all the tenant industries and facilities within APSEZ are required to undertake noise monitoring at their facilities to	APSEZ	Continual Process	Below Safeguard measures are already taken for abatement of noise emissions. • 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.

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td>5.1</td><td>industrial operations and power plants in the study area. Any increase in noise levels beyond three decibels from the background levels would be perceived as noise nuisance (USEPA)7.</td><td>Level-1</td><td>, the noise emissions from the port cargo handling will be minimal. An adequate 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</td><td>demonstrate the compliance with the Noise level standards. Continuous noise recording units can be installed by APSEZ at facility boundary to address the community grievances, 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.</td><td></td><td></td><td>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.

The noise monitoring summary for last six months (Apr'23 to Sep'23) are as below.

Locations: 13 Nos.
Frequency: Once in a month (24 hourly)
<table>
<tr><th>Noise</th><th>Unit</th><th>Leq Min</th><th>Leq Maxn</th><th>Leq Avr.</th><th>Leq Perm. Limit$</th></tr>
<tr><td>Day Time</td><td>dB(A)</td><td>54.9</td><td>69.9</td><td>64.6</td><td>75</td></tr>
<tr><td>Night Time</td><td>dB(A)</td><td>53.1</td><td>64.8</td><td>59.6</td><td>70</td></tr>
</table>
$ as per GPCB standards

Approx. INR 5.08 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2023-24 till Sep'23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.

All the results are well within the standards. From this it can be inferred that there no impacts on the</td></tr>
</table>

S. No.	Identified environmental and social impacts for the fully developed scenario (year 2030)	Type of Impact & Magnitude1	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
			were found to be well within the designated noise standards for Industrial facilities.				surrounding community. All other industries located in the APSEZ are adhere to monitor and control the ambient noise level as per permission granted by SPCB and same is being confirmed by APSEZ as well as SPCB on regular basis. 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	APSEZ	Continual Process	As mentioned above, presently, 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 10/10/2023 and below were the point of discussion for way forward. • 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.

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				zones.			• 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 materials at authorized recycler/vendor. No grievance received for noise related issues, and it is observed that ambient noise level are well within the permissible standards.
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	Level -1	As per the master plan of APSEZ, 67 MLD of wastewater is expected to be generated from the fully developed project scenario, for	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	APSEZ	As and When Required	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. Currently, CETP receives 978.92 KLD (Avg.) 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. Out of 54 only 4 industries within SEZ are sending their

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	streams, estuaries and marine water bodies.		which necessary permissions to set up 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	discharge of treated industrial wastewater to 16 MLD as per the permits. Remaining treated wastewater shall be utilized for horticulture purpose.			partially treated industrial as well as domestic effluent to the CETP confirming CETP inlet norms for further treatment and final disposal. Other industries within SEZ have their own STPs / ETPs for treatment of wastewater generated from their industrial operation and discharging the treated water on land for horticulture purpose within their premises as per permission granted by SPCB. The capacities of CETP will be enhanced on modular basis as per future requirement. Presently avg. 2.29 MLD (from CETP, ETP & STPs) of treated water is being utilized on land for horticulture purpose within APSEZ premises during period Apr'23 to Sep'23 and no discharge is made to any other source.

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			meets the stipulated discharge norms for 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	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.

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td></td><td></td><td></td><td>bodies as on date..</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td>Runoff during monsoon from coal storage yards is collected in sedimentation ponds (dump pond) to remove any residual dust particulates for further disposal into sea</td><td>Storm water runoff from the 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</td><td>APSEZ</td><td>Continual</td><td>There are provision of drains around coal stack yard to carry to runoff water to dump ponds. This water is either used for dust suppression or after sedimentation (to remove residual dust), is allowed disposal to sea.

Presently Marine monitoring is being carried out once 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.

The marine water quality monitoring summary for last six months (Apr'23 to Sep'23) is as per below.

Locations: 14 Nos. (APSEZ – 9 + APL – 5)
Frequency: Once in a Month / Half Yearly
<table>
<tr><th>TEST PARAMETERS</th><th>UNIT</th><th colspan="3">Cumulative Surface</th><th colspan="3">Cumulative Bottom</th></tr>
<tr><th></th><th></th><th>Min</th><th>Max</th><th>Average</th><th>Min</th><th>Max</th><th>Average</th></tr>
<tr><td>pH</td><td>--</td><td>7.8</td><td>8.27</td><td>8.04</td><td>7.7</td><td>8.15</td><td>7.95</td></tr>
<tr><td>BOD</td><td>mg/L</td><td>2.2</td><td>3.8</td><td>2.98</td><td>3.</td><td>4.2</td><td>3.68</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td></td><td></td><td></td><td></td><td>storm water-drains.</td><td></td><td></td><td>
<table>
<tr><td>TSS</td><td>mg/L</td><td>62.</td><td>154.</td><td>98.93</td><td>72.</td><td>128.</td><td>93.82</td></tr>
<tr><td>DO</td><td>mg/L</td><td>4.2</td><td>6.37</td><td>5.8</td><td>3.8</td><td>6.22</td><td>5.53</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>34.89</td><td>36.94</td><td>36.16</td><td>35.62</td><td>37.84</td><td>36.69</td></tr>
<tr><td>TDS</td><td>mg/L</td><td>35860</td><td>37844</td><td>36675</td><td>36540</td><td>38124</td><td>37299</td></tr>
<tr><td>Temperature</td><td>oC</td><td>29.8</td><td>30.3</td><td>30.055</td><td>28.8</td><td>30.2</td><td>29.</td></tr>
</table>
BDL – Below Detection Limit
MDL – Minimum Detection Limit

Approx. INR 5.08 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2023-24 till Sep'23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.</td></tr>
<tr><td></td><td></td><td></td><td>Detailed marine hydrodynamic modelling studies revealed that the current and proposed dredged soil disposal practices,</td><td>Good dredging practices shall be adopted by APSEZ:
(i).Improving the dredging accuracy
(ii).Improving onboard automation and monitoring, (iii). Reduce spill and</td><td>APSEZ</td><td>Long Term</td><td>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.

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.

Marine monitoring is being carried out once in a month</td></tr>
</table>

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			sea water intake and outfall facilities and 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	loss, (iv). evaluating the need for installing silt 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			by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. The analysis reports of the same are being submitted to the concerned authorities on regular basis. Summary of marine water for the last six months is as mentioned above. The same practice will be continued in future also as per direction by MoEF&CC as well as GPCB. Monitoring will be focused near ecological sensitive area in case of need to carryout capital dragging near such areas.

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			basis.	the directions of MoEF&CC and GPCB.			
7	**Groundwater quality and salinity ingress**						
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	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 m3/day (450 MLD) will be developed in progressive manner to meet the APSEZ requirements.	APSEZ	As and When Required	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. APSEZ does not draw any ground water. The desalination plant of additional capacities will be installed on modular basis considering future development and requirement.

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	Mundra region. This might increase the 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	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	APSEZ will co-operate and comply with the directions from concerned regulatory authorities. APSEZ does not draw any ground water for the fresh water requirement. However, Adani Foundation – CSR arm of Adani Group has carried out rainwater harvesting activities in the nearby villages for benefit of the locals. Water conservation Projects i.e. Roof Top Rain Water Harvesting, Desilting of Check dams, Bore Well Recharge and Pond deepening were taken up in past years, review and monitoring of all water harvesting structures had been taken up. To make connections between human actions and the level of biological diversity found within a habitat and/or ecosystem, this year Adani Foundation launch

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td></td><td></td><td></td><td>disturbed.
Due to the above reasons, the 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</td><td></td><td></td><td></td><td>project “Sanrakshan” in coordination with GUIDE and Sahjeevan.
Since, 10 years considerable Water Conservation Work carried out in Mundra Taluka. Due to satisfactory rain in current year 1.11 mtr ground water table increased as per increased in coastal belt of Mundra as per Government Figures.

<u>WORK COMPLETED:</u>

Below tabulated Water Conservation Projects completed during Compliance period:
<table>
<tr><th>Sr. No.</th><th>Project</th><th>Unit</th><th>Outcome</th><th>Impact</th></tr>
<tr><td>1</td><td>Check dam Restrengthening-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>
<tr><td>2</td><td>Recharge Borewell</td><td>21</td><td>Reduce Salinity ingress, and preventing water run</td><td>150+ farmer's 260+ Acre Area of Agri land for Irrigated</td></tr>
<tr><td>3</td><td>Pipe Culvert at</td><td>1</td><td>prevent water runoff into seaside.</td><td>35 farmer's 120+Acre Area of Agri</td></tr>
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			Mundra and Anjar blocks. This aspect confirms that the overall salinity ingress from the shore into the land due to existing APSEZ facilities and power plant outfalls are less significant.				<table><tr><td></td><td>Checkdamat Bhujpur</td><td></td><td></td><td>land can be Irrigated</td></tr></table> **Earlier Completed Activities/Projects:** • Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers. • New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum. • Roof Top Rain Water Harvesting 145 Nos. (40 Nos current year) which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family. • Recharge Bore well 208 Nos which is best ever option to direct recharge the soil. • Drip Irrigation approx. 1506 Farmers benefitted in coordination with Gujrat Green Revolution Company till date. • Bund construction on way of Nagmati River could save more than 575 MCFT water quantity which recharged in ground due to which bore well depth decreased by 50-100 Ft in Zarpara, Bhujpur and Navinal Vadi Vistar.

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							• Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area. 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. Narmada Water Resources, Water Supply & Kalpsar Dept., (WRD)1 has been implementing various salinity ingress prevention projects. Under Sardar Sarovar canal project, Govt. of Gujarat has proposed to implement about 8200 Km stretch of water canal and the project is at various stages of implementation. Under this project about 112,000 ha of land in about 180 villages will be benefitted with irrigation needs. This will significantly reduce the pressure on the ground water resources in the region.
				While the individual			APSEZ (9 Locations – half yearly) & Adani Power Ltd. (5 Locations – quarterly) is carrying out ground water

<table>
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<tr><td></td><td></td><td></td><td></td><td>industries in the study area will continue to undertake ground water quality monitoring as per the environmental clearances issued for the respective projects, a regional level ground water conservation action committee can be formed under the guidance of state ground water board and district Administration.</td><td>All Concerned Stakeholders, District Administration and CGWB*</td><td>Continual Process</td><td>sampling and reports of the same are being submitted to the regulatory authorities on regular basis.

The summary of APSEZ ground water quality monitoring for last six months (Apr'23 to Sep'23) are as below.
Nos. of Location: 09

<table>
<tr><th>Parameters</th><th>Unit</th><th>Min</th><th>Max</th><th>Average</th></tr>
<tr><td>pH @ 25 ° C</td><td>--</td><td>7.11</td><td>8.49</td><td>7.91</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>0.37</td><td>21.11</td><td>5.20</td></tr>
<tr><td>Oil & Grease</td><td>mg/L</td><td>BDL(MDL:2.0)</td><td>BDL(MDL:2.0)</td><td>BDL(MDL: 2.0)</td></tr>
<tr><td>Hydrocarbon</td><td>mg/L</td><td>Not Detected</td><td>Not Detected</td><td>Not Detected</td></tr>
<tr><td>Lead as Pb</td><td>mg/L</td><td>BDL(MDL:0.01)</td><td>BDL(MDL:0.01)</td><td>BDL(MDL: 0.01)</td></tr>
<tr><td>Arsenic as As</td><td>mg/L</td><td>BDL(MDL:0.01)</td><td>BDL(MDL:0.01)</td><td>BDL(MDL: 0.01)</td></tr>
<tr><td>Nickel as Ni</td><td>mg/L</td><td>0.03</td><td>0.78</td><td>0.20</td></tr>
<tr><td>Total Chromium as Cr</td><td>mg/L</td><td>0.17</td><td>0.17</td><td>0.17</td></tr>
<tr><td>Cadmium as Cd</td><td>mg/L</td><td>0.01</td><td>0.45</td><td>0.11</td></tr>
<tr><td>Mercury as Hg</td><td>mg/L</td><td>BDL(MDL:0.001)</td><td>BDL(MDL:0.001)</td><td>BDL(MDL: 0.001)</td></tr>
<tr><td>Zinc as Zn</td><td>mg/L</td><td>0.06</td><td>0.26</td><td>0.12</td></tr>
<tr><td>Copper as Cu</td><td>mg/L</td><td>0.10</td><td>0.10</td><td>0.10</td></tr>
<tr><td>Iron as Fe</td><td>mg/L</td><td>0.15</td><td>1.26</td><td>0.48</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>
<table>
<tr><td>Insecticides/ Pesticides</td><td>µg/L</td><td>Absent</td><td>Absent</td><td>Absent</td></tr>
<tr><td>Depth of Water Level from Ground Level</td><td>meter</td><td>1.90</td><td>2.20</td><td>2.09</td></tr>
</table>
BDL – Below Detection Limit
MDL – Minimum Detection Limit

Approx. INR 5.08 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2023-24 till Sep'23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.

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.

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.</td></tr>
<tr><td>8</td><td colspan="6">Waste Management</td><td></td></tr>
<tr><td></td><td>Solid waste</td><td></td><td>APSEZ has</td><td>APSEZ will</td><td></td><td></td><td>Presently APSEZ has implemented Zero waste</td></tr>
</table>

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8.1	will be generated from industrial activities of APSEZ and other permitted facilities in the study area including Mundra town. These wastes would contain recyclable material, construction debris, organic waste, inert material and e-waste etc. In the absence of any	Level-2	been adopting Zero waste Initiatives and the entire waste generated from existing operations is segregated and disposed to recycling vendors, thereby APSEZ has achieved zero landfill status as on date.	continue to adopt Zero Waste Initiative and wastes will be segregated at source and disposed to various recycling vendors, co-processing in cement plants. This initiative helps not only to reduce the waste to landfill significantly, but also to recycle the materials there by avoiding ecological impacts.	APSEZ	Continual Process	Initiatives as per 5R (Reduce, Reuse, Recycle, Recover & Reprocess) principles of waste management. At present, APSEZ has developed material recovery facility for 6.0 TPD capacities. A well-established system for segregation of dry & wet waste is in place. All wet waste (Organic waste) is being segregated & utilized for compost manufacturing and/or biogas generation for cooking purpose. The compost is further used by in house horticulture team for greenbelt development. Whereas dry recyclable waste is being sorted in various categories. Presently manual sorting is being done for sorting of different types of solid waste. Segregated recyclable materials such as Paper, Plastic, Cardboard, PET Bottles, Glass etc. are then sent to respective recycling units, whereas remaining non-recyclable waste is bailed and sent to cement plants for Co-processing as RDF (Refused Derived Fuel). The same practice will be continued in future also. APSEZ has also been recognized for Zero Waste to Landfill certification from reputed organization. APSEZ, Mundra is certified for Zero Waste to Landfill management system (ZWTL MS 2020) by TUVRheinland India Pvt. Ltd. (valid up to 31.05.2024). Details of the same were submitted as part of compliance report submission for the duration of Apr'21 to Sep'21.

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	organized source segregation programs and material recycling strategies and infrastructure facilities, these wastes will enter into environment and would pose long term health impacts.						APSEZ is being done proper solid waste management in his operational area with 5R principle as per Waste Management Plan.
8.2	Considering an average solid waste generation of 0.25 Kg/person/day, the estimated	Level-2	APSEZ has made a provision for central waste management facilities within the existing site based on the	The existing waste segregation and material recycling facilities will be augmented to dispose safely the wastes generated from	APSEZ	Continual Process	Industries located within the SEZ area are also complying with the waste management rules stipulated by statutory authorities and same is also being confirmed by APSEZ as well SPCB on regular basis.

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	solid waste from facilities within APSEZ will be in the order of 100 TPD (36,500 TPA).		future needs. As part of the Zero Waste Initiatives, no landfill facilities will be installed at APSEZ.	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			
8.3	About 35 TPD (13,000 TPA) of solid waste would be generated from the proposed industrial areas located outside the APSEZ area.	Level-2	As per the MSW Rules 2016 all the industrial facilities and SEZs are required to adopt waste segregation facilities at the respective properties	Solid Waste Management Program shall be adopted and implemented as per Municipal Solid Waste Management Rules 2016 and Construction Waste Management Rules 2016	All Industries	Continual Process	

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			and non-recyclable waste shall be disposed to landfill sites.				
9	**Ecological aspects (terrestrial and marine)**						
9.1	About 1576 ha of shrub forest land contiguous to APSEZ area is applied for land diversion for various developmental activities. This might have certain	Level -1	It is noted that the designated forest land is free from any native vegetation and comprises of Prosopis juliflora. It is also noted that no endangered species are present at	APSEZ has approached concerned authorities for diversion of designated forest land. Suitable compensatory afforestation plan shall be adopted based on the recommendations and directions of the concerned authorities. Due to adoption of compensatory	APSEZ/State Forest Department*	Long Term	Stage – 1 Forest clearance granted for diversion of 1576.81 Ha forest land. APSEZ has applied for getting EC & CRZ clearance for SEZ / Industrial Park in 1576.81 Ha forest land. ToR accorded by MoEF&CC on 30.11.2021 and draft EIA is being carried out through NABET accredited consultant.

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	level of changes in the biodiversity in the study area.		the shrub forests that are applied for land diversion. It is also noted that no forest produce is reported from this designated forest land parcel due to lack of economic importance of plant species reported in the shrub forest. It is also noted that no tribal lands are located in the	afforestation program through a scientific manner, the overall ecological footprint in the district will be increased. Due to plantation of native tree species as part of greenbelt development, the overall biodiversity of the region will increase considerably when the project is fully developed.			

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			designated forest land parcel. Hence there will not be any change in biodiversity due to the proposed diversion.				
9.2	Mangrove conservation areas are located adjacent to the APSEZ area. Accidental discharges of industrial effluents into the marine environment would	Level -1	No development activities will be undertaken within mangrove conservation areas. APSEZ has taken up large scale mangrove afforestation activities in an area of more than	Mangrove footprint and health status shall be monitored annually	APSEZ	Continual Process	As per study conducted by NCSCM in 2017, mangrove cover in and around APSEZ, Mundra has increased from 2094 Ha to 2340 ha (as compared between 2011 to 2017). The analysis has shown an overall growth of 246 ha. The cost for said study was INR 3.15 Cr. Last study was carried out in the year 2019 and based on that there is an increase of mangrove cover between **March 2017 (Total 2340) and September 2019** with an extent of **256 Ha (Total 2596 Ha Area)** which is about **10.94%** rise in growth rate, also It reveals that the mangrove and the tidal system in the creeks remained undisturbed over this period. Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is **502 Ha** between 2011 and 2019.

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<tr><td></td><td>pose certain ecological risk.</td><td></td><td>2800 ha at various locations across the coast of Gujarat state in consultation with various organizations
The Adani Foundation introduced 'Mangrove Nursery Development and Plantation' scheme in the area as an alternative income generating activity for the people of the</td><td></td><td></td><td></td><td>Analysis of data between categories indicated that there was an increase in dense mangroves along with the conversion of scattered into sparse, that shows the growth of mangroves in a progressive direction.

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

<table><tr><th>Sr. No.</th><th>Recommendations</th><th>Compliance</th></tr></table></td></tr>
</table>

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			region.				1.	Mangrove mapping and monitoring in and around APSEZ	• 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

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									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 (attached as **Annexure-1**), 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

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									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. **Summary of Mangrove mapping and monitoring (from 2011 to 2021):**

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<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>
<table>
<tr><th>Mangrove mapping Year</th><th>Mangrove cover total Area (Ha.)</th><th colspan="2">Mangrove cover area Increased</th></tr>
<tr><th></th><th></th><th>Hac.</th><th>%</th></tr>
<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</td><td>2670</td><td>74</td><td>2.85%</td></tr>
<tr><td>2019 to 2021 till March</td><td>2723</td><td>53</td><td>1.99%</td></tr>
<tr><td>Total</td><td>2723</td><td>629</td><td>28 %</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2.</td><td>Tidal observation in creeks in and around APSEZ</td><td>• APSEZ carried out the tidal observations at locations similar to 2017 in Kotdi, Baradimata, Navinal, Bocha</td></tr>
</table>

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									and Khari creeks under the guidance of NCSCM. • The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves. • The cost of the said activity was INR 1.0 Lacs.
							3.	Removal of Algal and Prosopis growth from mangrove areas	• Algal and Prosopis growth monitoring was done in and around mangrove area and algal encrustation was found in some of the mangrove areas, which has been removed manually. • The cost of the said activity was INR 2.35 Lacs during the FY 2022-23. The details of Removal of Algal and Prosopis growth from mangrove areas was submitted during the last compliance period Oct'22 to Mar'23.
							4.	Awareness of mangroves importance in	• Adani Foundation – CSR Arm of Adani group has done awareness camps/activities created in

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								surrounding communities	the community regarding importance of mangroves. Adani Foundation provides good Quality dry and green fodder to 24 Villages. Project is covering total 32372 Cattels / 2707 farmers and hence enhancing cattle productivity during FY 2023-24 till Sep'23. • Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 90.20 Lacs during FY 2023-24 till Sep'23, 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

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							persons allowed within coastal as well as mangrove areas. • APSEZ has celebrated the International Day for the Conservation of the Mangrove Ecosystem on July 26th 2023 and World Nature Conservation Day on 28th July 2023 to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The report of day celebration is attached as **Annexure - 2.** • Refer CSR report attached as **Annexure – 3**. To comply with the GCZMA recommendations regarding mangrove monitoring at every 2 years, APSEZ earlier awarded work order to NCSCM, Chennai vide order no. 4802018994, dated 29/07/2022 with cost 23.77 Lacs for mangrove mapping in and around APSEZ, but due to some financial disputes and no proper response from NCSCM side regarding resolution, the work order has been revoked.

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							After that as suggested by Joint Review Committee in its report that mangrove related studies may be undertaken by different agencies on a rotation basis for a better review of the mangroves, APSEZ issued work order to the Gujarat Institute of Desert Ecology (GUIDE), Bhuj vide order no. 4802027981, dated 10/04/2023 for mangrove mapping in and around APSEZ, Mundra. The cost of said work is 23.60 Lacs (Including Taxes), which was paid by APSEZ. GUIDE has completed the study of Monitoring and Distribution of the Mangroves along the Creeks in and Around APSEZ, Mundra, Kutch, Gujarat for the duration of year March 2019 to March 2021. Copy of the report of Monitoring and Distribution of the Mangroves is attached as **Annexure-1.** According to NCSCM Mangrove monitoring study report March 2021, distribution of mangroves in Kotdi, Baradi Mata, Navinal, Bocha and Khari creeks and also in Bocha island was studied using Google earth images (2017 March and 2019 Sep). The data obtained for 2017 i.e., 2398 ha was compared with data reported for 2016 (Dec) - 2017 (Jan & Feb) i.e., 2340 ha in the Conservation plan submitted earlier. The Google earth showed a marginal difference of + 58 ha (compared to earlier 2016-17 data) which shows 2.4% higher and the difference can be considered as insignificant. Further for both the start year (2017 March) and the end year (Sep.2019) Google earth image was used as a source

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							and therefore, the results will be quite acceptable for assessment. With regard to overall health of mangroves in the creeks in and around APSEZ, it was found that there was an increase of mangrove cover between March 2017 and Sep 2019 to an extent of 256 ha which is about 10.7% increase in mangroves. Hence overall mangrove cover was considered as 2594 Ha in year 2019. Now, according to GUIDE Mangrove monitoring study report November 2023 (attached as **Annexure-1**), 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%). Other than this Adani Foundation – CSR Arm of Adani Group at Mundra-Kutch has initiated multi-species plantation of mangroves in Luni village in association

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							with GUIDE, Gujarat. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE, 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. Since PhD scholars and students frequently visit this area for study. we plan to establish it as a Center of Excellence, serving as a hub to create awareness among students and facilitating research activities for scientist. Mangrove plantation done at Luni Sea coast with school students on "International Day for the Conservation of the Mangrove Ecosystem" on 26th July-2023 and Bhareswar sea coast area with fisher folk community on "World Nature Conservation Day" on 28th July-2023.. Web talk show was organized on the occasion of "International Mangrove days On Multi species Mangrove biodiversity with Joint effort of

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							GUIDE and Adani Foundation, Mundra. 8th June is celebrated as world ocean day. Adani foundation had celebrated the world ocean day by coastal cleaning activity at Mandvi Beach.
9.3	Outfall from the thermal power plants desalination and CETP would pose certain level of impact on the marine environment.	Level-1	A detailed marine hydro-dynamic and dispersion 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	All approved marine outfalls shall be monitored for salinity, temperature and other designated parameters as per consent to establish issued by GPCB. Existing marine environmental monitoring program shall be continued.	APSEZ and Concerned Industry	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. 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. 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. The comparison of marine water results between CIA and current monitoring data are as below.

<table>
<tr><th>S. No.</th><th>Identified environmental and social impacts for the fully developed scenario (year 2030)</th><th>Type of Impact & Magnitude1</th><th>Environment management plans adopted or being adopted by APSEZ as per permits, clearances, applicable regulations and guidelines etc.</th><th>Additional Risk Mitigation Measures/ESMP</th><th>Responsible agency</th><th>Timeframe for implementation</th><th>Compliance</th></tr>
<tr><td></td><td></td><td></td><td>located far away. APSEZ and respective power plants in the study area have been monitoring the marine water quality status on monthly basis for the stipulated environmental and ecological parameters.</td><td></td><td></td><td></td><td><table><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><tr><td>Temp.</td><td>^{0}C</td><td>30.3</td><td>30</td><td>28.8</td><td>30.30</td></tr><tr><td>Salinity</td><td>ppt</td><td>37.8</td><td>36.6</td><td>34.9</td><td>35.2</td></tr></table>
As per above results, it can be seen that there is no major deviation in the concentration of parameters and thus indicates that impacts are insignificant.</td></tr>
<tr><td>9.4</td><td>Terrestrial Ecology: Study area doesn't have any notified national parks or</td><td>Level-1</td><td>APSEZ has developed greenbelt in an area of 550ha as against the committed area of 430ha. A</td><td>The compensatory afforestation area to be monitored annually to check the survival rate of</td><td>APSEZ</td><td>Continual Process</td><td>APSEZ has developed its own "Dept. of Horticulture" which is taking measures/ steps for terrestrial plantation/greenbelt development. APSEZ, Individual SEZ Industries and Adani Power Plant has developed approx. 700 Ha. area as greenbelt within the APSEZ area including SEZ industries & Adani Power Plant.

Dedicated horticulture department is maintaining and monitoring the terrestrial green belt development on</td></tr>
</table>

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	ecological sanctuaries. Since the area falls under dry deciduous shrubs. Due to scanty rains in the area, the overall natural green-cover/vegetation in the area is very small.		dedicatenursery is set up to promote plantation. APSEZ have undertaken a plantation with about 9.6 Lakh fully grown trees.	the plantation.			regular basis to check the survival rate of plantation. Total expenditures of the horticulture dept. of APSEZ during the FY 2023-24 till Sep'23 within APSEZ is INR 628 lakhs.
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).	Level-1	Dedicated townships are developed within APSEZ area with necessary community infrastructures such as hospital,	The existing townships will be expanded to accommodate about 4lakh people when the project activity is fully developed.	APSEZ	As and When Required	APSEZ has developed two townships (Shantivan and Samudra) accommodating 2032 households and associated infrastructure facilities. Accommodation is made available for all interested employees working within Adani group & SEZ industries. Out of which 92.57% Occupancies are accommodated within the townships and rest are available for employees working within APSEZ.

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	Further expansion of the urban area could be possible due to induced economic growth in the region. Increase in population will have a additional need for public infrastructure in the region.		school, recreational facilities, sewage treatment and waste collection facilities. Adani Foundation has been undertaking 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				At present 54 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. The existing social infrastructure facilities are adequate to accommodate the people considering present APSEZ development. The existing townships with associated facilities will be expanded as per requirement. Other infrastructure facilities have been developed for people are as follows. • Multi-Specialty Hospital • School • Commercial complex • Religious place 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. • Community Health • Sustainability Livelihood – Fisher Folk • Education

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			region since 2010. Similar community development programs (based on need based assessment) will be continued in future as well with allocation of appropriate budget.				• Rural Infrastructures Adani foundation has spent approx. INR 7949.35 lakhs from April – 2018 to September – 2023 for CSR activities which also includes cost of rural infrastructure projects. Major works carried out since April 2018 as a part of CSR activities are as below. **<u>Current FY 2023-24 infrastructure development activities:</u>** • 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. **<u>Last FY 2022-23 infrastructure development activities:</u>** • 40 RRWHS structure have been completed • 208 Bore-well recharging activity is completed.

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							• Percolation well Recharging work at Bhadiya & Mota Kandgra village. • Sluice gate Construction to Control Flood during Flooding at Khoydivadi Vistar Bhujpur. • Pond Beatification and Bund Strengthening at Bhujpur village. • Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year. • commissioning of Community Training Centre at Shekhadiya. • Two Pond Deepening at Zarpara under Amrut Sarovar Yojna. • Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan. • Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area. • JCB & Hitachi Machine Support for Pre-Moonson activities. Repairing and Maintenance work of Approach at Luni, Bavdi and Navinal Fishermen Bandar. • 3 Re-strengthening of Approach Road. • Renovate Blood storage Lab CHC Mundra Renovation Blood storage Lab CHC Mundra. • Constructed 2 nos. of CC Road of 700 mtr. • Constructed Community Training center Shekadiya.

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							• 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 & Dhrub village. • 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. Similar community development programs (based on need based assessment) will be continued in future as well with allocation of appropriate budget.
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	Level-2	Adani foundation is taking up several girl child education programs as part of CSR activities to	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	APSEZ, Other development projects and District Administration*	Long Term	Major works carried out since April 2018 as a part of CSR activities to create awareness about girl child protection are as below. • 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."W. • **Student Benefitted Under Uthhan Project:**

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	attributed to increase in influx of working men in the region due to rapid economic development. Similar trend might continue in future due to induced economic growth in the region.		create awareness about girl child protection.	Social Responsibility programs in association with district authorities.			➢ 10499 nos. Students 69 Government primary school.. ➢ 999 nos. students of 8 High school. ➢ 250 nos. students of 2 Adani Evening Education Centre. ➢ 150 nos. students benefited through 5 Adani Competitive Coaching Centre. ➢ 150 nos. students benefited through 5 Adani English Coaching Centre. ➢ 3000 nos. students benefitted through 2 IT On Wheels. • 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."

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							• 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 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. • 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. ✓ 204 beneficiaries covered in Breastfeeding Week ✓ 320 beneficiaries covered in National Deworming Day

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							✓ 20 villages covered in celebration of NATIONAL NUTRITION MONTH ✓ 42 FAMILY COUNSELLING ✓ 2059 Women participated in celebration of Women's Day week. • To reduce malnutrition and anemia amongst Children 95 % & adolescent girls and pregnant & lactating women by 70 % in three years • Reduction IMR and MMR • Support Awareness & Cover 100 % Vaccination taken by Child & women. • SuPoshan Thanksgiving program was organized. In this webinar DDO, CDPO Mundra and other dignitiaries 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.

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							About INR 7949.35 lakhs has been spent on various CSR activities in the Mundra region since April 2018 to till September 2023 including cost of community health and education for woman and girl child.
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	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	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	Adani hospitals (Multi-specialty), Mundra is having 110 bed facility and same is setup by Adani group near Samudra township. Primary health center and community health center are in place within the Mundra taluka. Other than this Adani foundation is doing various activities as part of community health. The details of last year are as below. • Mobile Heath Care Units and Rural Clinics • 07 Rural Clinics • 06 villages of Mundra & 01 village Mandvi block has benefited by rural clinic service. • Total Patients Benefitted FY 23-24 upto Sep 23: - 10629 (direct & indirect). • 2 financially challenged patients has been supported with Dialysis treatment at 58 Times which added day in their Life. **Health camp:** • Specialty camps, Eye checkup camps, Blood donation camp, Anti-tobacco awareness camp, TB screening, and

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	developed scenario), total hospitals facilities with about 540 beds would be required.		ranging from wellness and preventative care.				other are conducted in core villages as well as in labour colonies. • Specialty health (Gynec, ophthalmic, specialty health camp): - 1489 Patients Benefited. • General health camp: - 1448Patients benefited. • Blood Donation Camp: 1558 people have donated blood. • Women's Health: Provided health services to more than 2230 women benefitted through gynec health checkup. • Dialysis Support: During this year, 2 patients were supported for regular dialysis with 58 Times which added day in their Life. • Medical Supports: 1007 beneficiary in 35 village. • Eradicate cataract-related vision for senior citizen: benefited 473 peoples of 9 villages. • **Ayushman card facilitation:** Ayushman card issued to 5584 for 25 village. • 1071 –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 16000 cattle benefitted. •

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							• 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. APSEZ will explore other possibilities to augment the primary and secondary healthcare facilities in future depending on the future development at APSEZ.
10.5	Due to rapid economic development in the region, several employment opportunities can be generated to the local people. When the area is fully developed by		APSEZ has been giving preferences to people from Gujarat for providing employment opportunities based on eligibility and skills. In Mundra, special programmes have been	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.	APSEZ	Short Term	**<u>Current FY 2023-24 fishermen livelihood activities development activities:</u>** • **Vehicle Transportation Facilities:** extend vehicle transportation services to school-going children from Luni and Randh Fishermen Settlements to the AVMB School, Bhadreshwar Similarly, we ensure for Juna Bandar Fisherfolk Students to the nearest Government School (Total 218 nos. students benefitted). • **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). • **Cement Roof Sheet Support:** fisherfolk Home were significantly damaged by the **Bipor Cyclone**. In response to that we provided 2696 cement sheets to

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	the end of 2030, the working population of the Mundra taluk would increase from current level of 55,000 to as high as 4,00,000, which will be 45% of the total envisaged population in Mundra Taluk by the end of 2030.		conducted by Adani Foundation to enhance the employability of youth from fisherfolk communities. Based on the need assessment results, several livelihood options have been introduced by the Adani Skill Development Centre, Mundra. In these centres, youth can join and get vocational training for a number of technical and non-technical skills.				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. • 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:**

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			An industrial Training Institute is set up at APSEZ, Mundra, to enhance the skill levels of the local youth to maximum possible extent.				All basic education supportive facilities have been created to promote education in fisher folk community. We are deeply committed to empowering the future of fisherfolk communities through education. To this end, we provide scholarship support to 30 deserving students, covering their actual school fees. In our unwavering commitment to promoting gender equality and advancing girl child education, we extend 100% fee support to female candidates and 80% to male candidates." • During FY2023-24 till Sep'23 Approx. INR 51.75 lakh were spent for Fisherfolk Amenities work in different core areas • Till FY 2023-24 till Sep'23, Adani Foundation has done total expenditure of INR 1389.94 lakh for Fisherfolk Amenities work in different core areas. APSEZ is carrying out various initiatives specific to the Fisherfolk community which includes: • 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

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							• Sughad Yojana • Machhimar Akshay kiran Yojana • Machhimar Suraksha Yojana • Machhimar Ajivika Uparjan Yojana • Bandar Svachhata Yojana 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", Till, FY 2023-24 (Sep'23) approx. 13.90 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 – 12**.

Annexure - 16

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TEST REPORT

Report No.	**URC /23/07/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	**22/07/2023**
		Customer's Ref.	**As Per W.O.**
Sample Details	**Pond Water**	Location	--
Sample Qty.	**5 Lit.**	Appearance	**Colorless**
Sampling Date	**14/07/2023**	Sample Received Date	**15/07/2023**
Test Started Date	**15/07/2023**	Test Completion Date	**21/07/2023**
Sampled By	**UERL Lab**	Sampling Method	**UERL/CHM/SOP/116**
UERL Lab ID. No.	**23/07/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	5
2.	Odour	IS 3025(Part 5):1983	--	Agreeable
3.	Total Suspended Solids	APHA 23rd Ed.,2017,2540 –D	mg/L	66
4.	pH @ 25 ° C	APHA 23rd Ed.,2017,4500-H^+B	--	7.64
5.	Temperature	IS 3025(Part 9):1984	^{0}C	29.5
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	3.2
8.	Ammonical Nitrogen	IS 3025(Part 34):1988,	mg/L	BDL(MDL:2.0)
9.	BOD (3 days at 27 ^{0}C)	IS 3025(Part 44):1993	mg/L	44
10.	COD	IS 3025(Part 58):2006	mg/L	156.9
11.	Arsenic (as As)	APHA 23rd Ed.,2017,3114-C	mg/L	BDL(MDL:0.01)
12.	Mercury (as Hg)	APHA 23rd Ed.,2017, 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 23rd Ed.,2017,3500CrB	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	BDL(MDL:0.05)

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

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TEST REPORT

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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	**22/07/2023**
		Customer's Ref.	**As Per W.O.**
Sample Details	**Pond Water**	Location	--
Sample Qty.	**5 Lit.**	Appearance	**Colorless**
Sampling Date	**14/07/2023**	Sample Received Date	**15/07/2023**
Test Started Date	**15/07/2023**	Test Completion Date	**21/07/2023**
Sampled By	**UERL Lab**	Sampling Method	**UERL/CHM/SOP/116**
UERL Lab ID. No.	**23/07/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 23rd Ed.,2017,3111-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	1.28
23.	Dissolved Phosphate (as P)	APHA 23rd Ed.,2017,4500-P, D	mg/L	0.15
24.	Sulphide as S	APHA 23rd Ed.,2017,4500 S^{-2} F	mg/L	BDL(MDL:0.05)
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 23rd Ed.,2017, 3500 Mn B	mg/L	BDL(MDL:0.1)
28.	Iron (as Fe)	IS 3025(Part 53):2003	mg/L	0.187
29.	Vanadium (as V)	APHA 23rd Ed.2017-3500 – V	mg/L	N.D.
30.	Nitrate (as NO3-N)	APHA 23rd Ed.,2017,4500 NO3-B	mg/L	0.7

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)

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