## Bhagwat Swaroop Sharma

**From:** Bhagwat Swaroop Sharma
**Sent:** Wednesday, May 31, 2023 9:05 PM
**To:** eccompliance-guj@gov.in; iro.gandhingr-mefcc@gov.in
**Cc:** ec-rdw.cpcb@gov.in; ro-gpcb-kute@gujarat.gov.in; ms-gpcb@gujarat.gov.in; mefcc.ia3@gmail.com; monitoring-ec@nic.in; direnv@gujarat.gov.in; Snehal Jariwala
**Subject:** 2014- Half Yearly EC compliance Report of MSEZ (Period Oct.'22 to March 23)- Part -1
**Attachments:** EC Compliance Report_MSEZ-2014_Oct'22 to Mar'23_Part1.pdf

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**APSEZL/EnvCell/2023-24/012** **Date:** 25.05.2023

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 October 2022 to March 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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Registered Office: Adani Corporate House, Shantigram, Nr. Vaishno Devi Circle, S.G. Highway, Khodiyar, Ahmedabad – 382421, Gujarat, India

**Thanks & Regards,**

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

**Adani Ports & Special Economic Zone Ltd.**

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

## Bhagwat Swaroop Sharma

**From:** Bhagwat Swaroop Sharma
**Sent:** Wednesday, May 31, 2023 9:09 PM
**To:** 'eccompliance-guj@gov.in'; 'iro.gandhingr-mefcc@gov.in'
**Cc:** 'ec-rdw.cpcb@gov.in'; 'ro-gpcb-kute@gujarat.gov.in'; 'ms-gpcb@gujarat.gov.in'; 'mefcc.ia3@gmail.com'; 'monitoring-ec@nic.in'; 'direnv@gujarat.gov.in'; Snehal Jariwala
**Subject:** 2014- Half Yearly EC compliance Report of MSEZ (Period Oct.'22 to March' 23)- part-II
**Attachments:** EC Compliance Report_MSEZ-2014_Oct'22 to Mar'23_Part2.pdf

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**APSEZL/EnvCell/2023-24/012** **Date:** 2

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

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3. Amendment in EC & CRZ Clearance vide letter dated 15th July, 2022 bearing MoEF&CC let 138/2008-IA.III

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Kindly consider above submission and acknowledge.

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

**Bhagwat Swaroop Sharma**
**Head - Environment**
**Mundra & Tuna Port**

**Encl: As above**

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1) The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor New Delhi-110003.
2) The Zonal Officer, Regional Office, CPCB – Western Region, Parivesh Bhawan, Opp. VMC Ward Office No. 10, Vadodara – 390023.
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4) The Director, Forests & Environment Department, Block – 14, 8th floor, Sachivalaya, Gandhi Nagar – 382010.
5) The Regional Officer, Regional Office GPCB (Kutch-East), Gandhidham – 370201.

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**Thanks & Regards,**

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**Sr. Manager - Environment**
**Mundra & Tuna port**

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**Mundra & Tuna Port**

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1) The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003.
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# Environmental Clearance Compliance Report

## Multi Product SEZ, Mundra, Dist. Kutch, Gujarat

## Adani Ports and SEZ Limited

For the period of
October–2022 to March–2023

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| | | |
|---|---|---|
| adani Ports and Logistics | **Adani Ports and Special Economic Zone Limited, Mundra.** | **From : Oct'22**<br>**To : Mar'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 : Oct'22<br>To : Mar'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<br>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 | Under Construction |

# 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 31.03.2023 |
|---|---|---|
| **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.<br><br>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.<br><br>This reply covers condition no ii, iii, ix, x, xi, xii & xiii.<br><br>**<u>Conservation of creeks and rivers:</u>**<br>• 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).<br>• Rivers passing through the APSEZ area are: (1) Khari (2) Nagmati (3) Phot (4) Bhukhi (5) Dhaneshwari (6) Buchiya (7) Jidal.<br>• All the rivers passing through the SEZ area are dry throughout the year except for monsoon season.<br>• 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 period of Apr'17 to Sep'17.<br>• This aspect is also confirmed from the study of NCSCM in 2017-18, which highlights the bathymetry data of the entire coast around APSEZ.<br>• From the bathymetry data it can be concluded that there are sufficient depths at the creek mouths and all creek mouths are |

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td></td><td>
open allowing flushing of water.<br>
• From the APSEZ operations, there is no discharge of any sewage or effluent to the water streams.<br><br>
<u>Conservation of Mangroves:</u><br>
• In and around APSEZ, approx. 1800 ha. mangrove area was identified by NIO in an EIA report prepared the year 1998.<br>
• 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).<br>
• It may be noted that the entire area of 1254 ha is not covered with mangroves.<br>
• 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.<br>
• 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.<br>
• NCSCM final report on comprehensive and integrated plan for preservation and conservation of mangroves and associated creeks in and around was submitted along with half yearly EC Compliance report for the period Apr'19 to Sep'19. The same was further submitted to GCZMA and MoEF&CC for their examination and recommendation vide (with a copy to MoEF&CC vide letter dated 04.06.2018 & reminder letter vide dated 4th Jan, 2019). Presentation on the findings of the report was made to GCZMA committee on 4th October 2019 and the recommendation for the same has been received vide email dtd 22nd Sept, 2020 with conditions, which was submitted as a part of half yearly EC compliance report for the period Oct'20 to Mar'21.<br><br>
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</td></tr>
</table>
</td></tr>
</table>

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 | | |
|---|---|---|---|---|
| | | | | APSEZ and shoreline changes in Bocha island.<br>• As a part of this study, overall growth of mangroves in the creeks in and around APSEZ was assessed comparing Google earth images of 2017 & 2019 and it is observed that there was increase in mangrove cover between March 2017 and September 2019 to the extent of 256 Ha, which is about 10.7%.<br>• 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.<br>• Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019.<br>• The cost of the said study was INR 23.56 Lacs incurred by APSEZ. |
| | | 2. | Tidal observation in creeks in and around APSEZ | • APSEZ carried out the tidal observations at locations similar to 2017 in Kotdi, Baradimata, Navinal, Bocha and Khari creeks under the guidance of NCSCM.<br>• The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves.<br>• 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.<br>• 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 is attached as **Annexure –1.** |
| | | 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.<br>• Adani Foundation provides good Quality |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | dry and green fodder to 24 Villages. Project is covering total 14116 Cattels / 3008 farmers and hence enhancing cattle productivity during last FY 2022-23.<br>• Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 200.89 Lacs during FY 2022-23 which was incurred by APSEZ.<br>• **Individual Fodder Cultivation:** Farmers were Aware, Convince and trained to cultivate super Napier Grass as on farm projects to reduce their Fodder Dependency and expense. With that effort 192 farmers have Adopted and Cultivated Super NAPIER Grass in 190-acre area and produce 3800 Fodder Tons Yield annually, lead to save Approx Rs 52 Lacs of farmers.<br>• **Grass Land development**: AF converted 205 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara and siracha village to transform into Fodder Sustain village with Community participation and responsibility for maintain and Monitoring.<br>• Among that 18 Acre of Guchar land is fenced and sowed with Multispecies Green Fodder with Having Good nutritive value More than 2250 Cattle will sustain with Improving quality and Quantity Of Milk.<br>• Other than this dedicated security guard with gate system deployed by APSEZ across the coastal area and no unauthorized persons allowed within coastal as well as mangrove areas.<br>• APSEZ has celebrated the International Day for the Conservation of the Mangrove Ecosystem on July 26th to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The photographs of celebration were submitted in last compliance period Apr'22 to Sep'22.<br>• Refer CSR report attached as **Annexure – 2**. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | 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.<br><br>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.<br><br>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. |
| iii. | Ensure that mouths of all the creeks are kept open to ensure flushing of the creeks. | Complied.<br><br>• 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).<br>• 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.<br>• This aspect is also confirmed from the recent study of NCSCM which highlights the bathymetry data of the entire coast around APSEZ.<br>• 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.<br>• 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" | Not applicable<br><br>This reply covers condition no iv, v, vi.<br><br>The stated conditions were stipulated in the EC and CRZ clearance with respect to the pending SCNs and based on Ms. Sunita Narain |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | satellite map and a copy of which shall be sent to you separately. | 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**.<br><br>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 were submitted along with compliance report submission for the period from Oct'16 to Mar'17. Further there are no directions from MoEF&CC. |
| 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 Proponent as applicable. | |
| 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- | Complied.<br><br>NEERI, Nagpur has been appointed to carry out the inspection study for the year 2022-23 at a cost of INR 5 Lacs.<br><br>Site visit was conducted on 19th & 20th January, 2023 for the compliance report verification of the period from Apr'22 to Sep'22 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 - 3.** |

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td>term correction that can be introduced depending on the recommendation of the independent Third Party.</td><td></td></tr>
<tr><td>viii.</td><td>"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.</td><td>Complied.<br><br>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.<br><br>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.<br><br>
<table>
<tr><th>S. No.</th><th>Permission</th><th>Project</th><th>Ref. No. / Order No.</th><th>Valid till</th></tr>
<tr><td>1</td><td>CTE-Amendment for Validity Extension</td><td>Multi-Product SEZ</td><td>CTE - 122249</td><td>15.07.2025</td></tr>
<tr><td>2</td><td>CC&A – Renewal Cum Amendment</td><td>Multi-Product SEZ</td><td>AWH – 122250</td><td>21.08.2027</td></tr>
</table>
<br>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 last compliance period Apr'22 to Sep'22.</td></tr>
<tr><td>ix.</td><td>PP shall get detailed bathymetry done for all the creeks and rivers within</td><td>Complied<br><br>Based on the MoEF&CC directions, APSEZ has entrusted NCSCM to carry out the detailed study. Scope of the study include the following:</td></tr>
</table>

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | 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. | • Detail bathymetry and topography survey of creeks<br>• Demarcation of mangrove areas and buffer zone<br>• Demarcation of HTL and CRZ areas with co-ordinates<br>• Preparation of a comprehensive and integrated conservation plan for protection of creeks and mangroves<br><br>In order to complete the study, NCSCM has carried out number of site surveys which are mentioned below:<br><br>• Bathymetry survey of creeks<br>• Topography survey of intertidal areas<br>• Mangrove survey (health and area demarcation)<br>• Sampling of soil and water for analysis of physico-chemical and biological parameters<br>• Tide and currents data collection (including residence time of tidal water) study<br><br>Based on the study, the following points can be summarized:<br><br>• There is no obstruction to any water stream (creeks / branches of creeks / rivers)<br>• At present, 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)<br>• 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.<br><br>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.<br>There shall be no allotment of plot/s | Being complied<br><br>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.<br><br>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 |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | in CRZ area to industries. No industrial activity within CRZ area except the port and harbor & the foreshore facilities shall be allowed as committed. | action plan as per the study are mentioned summarized below:<br><br>• Monitoring of mangrove cover in Jan/Mar, 2020 using latest satellite images and validation with field observations<br>• Monitoring of tidal range in the mangrove areas and comparison with the data collected during 2017.<br>• Removal of silt / sand spits from the central part of navinal creek<br>• Dredging of shallow area off Bocha Island to reduce current velocity.<br><br>Please refer specific condition no. ii for further details w.r.t. Mangrove Conservation Action Plan.<br><br>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.<br>Full compliance of conditions of the above issued EC & CRZ amended order provided as **Annexure – C.** |
| 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. | |
| 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<br>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.<br><br>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 | Point noted and will be complied<br><br>A separate budget has been allocated and incurred by APSEZ for implementation of mangrove conservation action plan.<br><br>• Monitoring of mangrove distribution in creeks in and around |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | the expenditure shall be submitted to GCZMA and to MoEF, RO at Bhopal along with six monthly monitoring report. | APSEZ and shoreline changes in Bocha island – 23.56 Lacs<br>• 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 is attached as **Annexure -1.**<br>• Tide Level Monitoring within creeks around APSEZ – 1.0 Lac<br>• Fodder supply to the villagers in FY 22-23 – 200.89 Lacs<br><br>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.<br><br>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.<br><br>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.<br><br>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.<br><br>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<br><br>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. |
| xvi. | The individual | Complied. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | industrial units shall obtain prior EC under EIA Notification, 2006 as applicable. | 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.<br><br>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.<br><br>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.<br><br>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.<br><br>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.<br><br>The species such as Ficus Infectoria, Ficus religiosa, Terminalia arjuna, Cocos nucifera, Washingtonia 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.<br><br>Width of the green belt varies from 2 m to 8 m and density varies |

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td></td><td>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 457.99 Ha area as greenbelt with plantation 9.06 Lacs trees within the entire APSEZ area.<br><br>Please refer Annexure – 4 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 2022-23 is INR 979 lacs. Out of which, Approx. INR 956 lakh are spent during the financial year 2022-23.<br><br>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.<br><br>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.</td></tr>
<tr><td>xx.</td><td>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 mitigation plan shall be submitted to MoEF along with half yearly compliance report to MoEF-RO.</td><td>Complied.<br><br>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) @ Gandhinagar as part of the six monthly compliance reports. Details of the past six compliance reports are mentioned below.<br><br>
<table>
<tr><th>Sr. No.</th><th>Compliance period</th><th>Date of submission</th></tr>
<tr><td>1</td><td>Oct'19 to Mar'20</td><td>20.05.2020</td></tr>
<tr><td>2</td><td>Apr'20 to Sep'20</td><td>26.11.2020</td></tr>
<tr><td>3</td><td>Oct'20 to Mar'21</td><td>25.05.2021</td></tr>
<tr><td>4</td><td>Apr'21 to Sep'21</td><td>30.11.2021</td></tr>
<tr><td>5</td><td>Oct'21 to Mar'22</td><td>30.05.2022</td></tr>
<tr><td>6</td><td>Apr'22 to Sep'22</td><td>30.11.2022</td></tr>
</table>
</td></tr>
</table>

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | Summary of the compliance to the measures suggested in EMP are given in **Annexure – 5**. |
| xxi. | There shall be no disturbance to the sand dunes.<br>The pipelines shall be laid using advanced method viz. Horizontal Directional Drilling (HDD) so as to avoid disturbance to the sand dunes/creeks/ mangroves. | Complied.<br><br>There is no sand dune in the SEZ area.<br><br>Point noted.<br><br>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. |
| **Part – B: General Conditions** | | |
| | **Construction Phase** | |
| | 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.<br><br>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. |
| i | A first aid room will be provided in the | Complied. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | project both during construction and operation of the project. | 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. |
| ii | All the topsoil excavated during construction phase should be stored for use in horticulture/landscape development within the project site. | Complied.<br><br>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.<br><br>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 heavy metals and other toxic contaminants. | Complied.<br>Environment Monitoring 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. Summary of the ground water as well as soil assessment for duration from Oct'22 to Mar'23 is mentioned below.<br><br>**Bore Hole Water Sampling:**<br><br>**Sampling locations & frequency: 4 nos. (Half Yearly)** |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|

| Sr. No. | Parameter | Unit | MIN | MAX | AVERAGE |
|---|---|---|---|---|---|
| 1 | pH @ 25 ° C | -- | 7.06 | 8.01 | 7.52 |
| 2 | Salinity | ppt | 2.20 | 21.38 | 9.34 |
| 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 | 0.04 | 0.04 | 0.04 |
| 6 | Arsenic as As | mg/L | BDL(MDL:0.01) | BDL(MDL:0.01) | BDL(MDL:0.01) |
| 7 | Nickel as Ni | mg/L | 0.04 | 0.37 | 0.17 |
| 8 | Total Chromium as Cr | mg/L | 0.01 | 0.06 | 0.04 |
| 9 | Cadmium as Cd | mg/L | 0.05 | 0.19 | 0.11 |
| 10 | Mercury as Hg | mg/L | BDL(MDL:0.001) | BDL(MDL:0.001) | BDL(MDL:0.001) |
| 11 | Zinc as Zn | mg/L | 0.14 | 0.27 | 0.20 |
| 12 | Copper as Cu | mg/L | BDL(MDL:0.05) | BDL(MDL:0.05) | BDL(MDL:0.05) |
| 13 | Iron as Fe | mg/L | 0.23 | 0.46 | 0.34 |
| 14 | Insecticides/Pesticides | Absent / Present | Absent | Absent | Absent |
| 15 | Depth of Water Level from Ground Level | meter | 2.20 | 2.30 | 2.23 |

*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 | -- | 7.52 | 8.1 |
| 2 | Lead as Pb | mg/L | 0.038 | ND* |
| 3 | Nickel as Ni | mg/L | 0.042 | 0.146 |
| 4 | Total Chromium as Cr | mg/L | BDL(MDL:0.05) | 0.039 |
| 5 | Iron as Fe | mg/L | BDL(MDL:0.1) | 0.258 |
| 6 | Insecticides/Pesticides | Absent / Present | Absent | ND* |
| 7 | Depth of Water Level from GL | meter | 2.2 | 1.7 |

*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 | -- | 8.43 | 9.16 | 8.73 |
| 2 | Nitrogen as N | % | 0.12 | 0.28 | 0.22 |
| 3 | Phosphorus as P | mg/kg | 398.60 | 1393.60 | 797.65 |
| 4 | Potassium as K | mg/kg | 48.59 | 1223.90 | 410.80 |
| 5 | Baron as B | mg/kg | 1.94 | 3.12 | 2.30 |
| 6 | Calcium as Ca | mg/kg | 321.10 | 3154.70 | 1191.95 |
| 7 | Magnesium as Mg | mg/kg | 48.90 | 4904.30 | 1385.03 |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 8 | Iron as Fe | % | 0.50 | 0.97 | 0.77 |
| 9 | Moisture | % | 0.29 | 3.03 | 1.30 |
| 10 | Organic Matter | % | 0.52 | 1.67 | 1.29 |
| 11 | CEC | meq/100 gm | 9.46 | 14.58 | 10.98 |
| 12 | TVC | CFU/gm | $1.9 \times 10^6$ | $2.8 \times 10^6$ | $2.425 \times 10^6$ |
| 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 | 7.00 | 17.81 | 10.40 |
| 18 | Chromium (VI) as Cr | mg/kg | 3.84 | 8.74 | 5.31 |
| 19 | Cobalt as Co | mg/kg | 8.89 | 10.42 | 9.85 |
| 20 | Copper as Cu | mg/kg | 7.51 | 29.80 | 16.00 |
| 21 | Nickel as Ni | mg/kg | 11.00 | 13.74 | 12.76 |
| 22 | Manganese as Mn | mg/kg | 116.58 | 330.30 | 218.47 |
| 23 | Vanadium as V | mg/kg | 8.02 | 8.96 | 8.43 |

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

Comparison of the present data with baseline data for the nearest locations for Soil.

| Sr. No. | Parameter | Unit | Dhrub station | Zarpara village |
|---|---|---|---|---|
| 1 | pH | -- | 8.77 | 6.45 |
| 2 | Nitrogen as N | % | 0.26 | 1.38 gm/kg |
| 3 | Phosphorus as P | mg/kg | 398.6 | 1230 |
| 4 | Potassium as K | mg/kg | 151.1 | 62120 |
| 5 | Calcium as Ca | mg/kg | 322.4 | 1500 |
| 6 | Magnesium as Mg | mg/kg | 48.9 | 1580 |
| 7 | Iron as Fe | % | 0.74537 | 1.34 |
| 8 | Organic Matter | % | 1.38 | 0.98 |
| 9 | CEC | meq/100 gm | 9.74 | 7.4 |

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 – 6** for detailed analysis reports. Budget for environmental management measures (including horticulture) for the FY 2022-23 is to the tune of INR 1448.06 lakh. Out of which,

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | Approx. INR 1366.28 lakh are spent during the year 2022-23. |
| v | 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. | Complied.<br><br>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.<br><br>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.<br><br>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.<br><br>Individual units within SEZ are handling their hazardous wastes as per Hazardous waste rules – 2016 after obtaining necessary permissions from GPCB. |
| vi | 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.<br><br>All the hazardous wastes are being handled as per Hazardous Waste Rules – 2016.<br><br>Please refer Point No. vi (General Condition: Construction Phase) for further details. |
| vii | The diesel generator sets to be used during construction phase | Complied.<br><br>DG sets are being used only as power back up source in case of power failure. Presently, cumulative capacity of all DG sets |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards. | installed at APSEZ within SEZ area is 3735 KVA. During the compliance period of Oct'22 to Mar'23, there was no instance of power failure hence it was not required to operate the DG sets.<br><br>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. |
| 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.<br>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 is attached as **Annexure - 7**. |
| 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.<br><br>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.<br><br>Valid PUC Certification is also being checked for all the vehicles while entering in to APSEZ premises.<br><br>Majority of the vehicles bringing construction materials are operated during non-peak hours. |
| x | Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air | Complied.<br><br>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 Oct'22 to Mar'23 is mentioned below.<br><br>**Air sampling locations & frequency: 9 nos. (twice a week) & Noise** |

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td>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.</td><td>
sampling locations & frequency: 6 nos. (once in a month)
<table>
<tr><th>Parameter</th><th>Unit</th><th>Min</th><th>Max</th><th>Average</th><th>Perm. Limit$</th></tr>
<tr><td></td><td>AAQM</td><td></td><td></td><td></td><td></td></tr>
<tr><td>$PM_{10}$</td><td>$\mu g/m^3$</td><td>41.79</td><td>89.61</td><td>68.69</td><td>100</td></tr>
<tr><td>$PM_{2.5}$</td><td>$\mu g/m^3$</td><td>14.19</td><td>45.66</td><td>28.86</td><td>60</td></tr>
<tr><td>$SO_2$</td><td>$\mu g/m^3$</td><td>6.89</td><td>33.62</td><td>17.61</td><td>80</td></tr>
<tr><td>$NO_2$</td><td>$\mu g/m^3$</td><td>11.3</td><td>43.27</td><td>23.86</td><td>80</td></tr>
<tr><th>Noise</th><th>Unit</th><th>Leq Min</th><th>Leq Max</th><th>Leq Average</th><th>Leq Perm. Limit*</th></tr>
<tr><td>Day Time</td><td>dB(A)</td><td>58.1</td><td>69.7</td><td>64</td><td>75</td></tr>
<tr><td>Night Time</td><td>dB(A)</td><td>52.6</td><td>64.2</td><td>58.58</td><td>70</td></tr>
</table>
$ as per NAAQ standards, 2009<br>
* as per CC&A granted by GPCB<br>
Values recorded confirms to the stipulated standards.<br><br>
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.<br><br>
Please refer Annexure – 6 for detailed analysis reports. Budget for environmental management measures (including horticulture) for the FY 2022-23 is to the tune of INR 1448.06 lakh. Out of which, Approx. INR 1366.28 lakh are spent during the year 2022-23.<br><br>
Following safeguard measures are taken for abatement of dust and noise emissions.
<ul>
<li>Regular sprinkling on road and other open area</li>
<li>Regular cleaning of roads through mechanized equipments</li>
<li>Development of greenbelt along the periphery of the storage yards/back up area</li>
<li>D.G. Sets having Acoustic enclosures</li>
<li>Transportation of loose dry cargo through covered vehicles / wagons / conveyer system</li>
<li>Regular maintenance of plant machineries and equipments</li>
</ul>
</td></tr>
</table>

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | Individual member units are also carrying out 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 – 6**. |
| xi | 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.<br><br>Fly ash generated from Adani Power Limited, Mundra is being disposed by selling to Cement and Brick Manufacturing units. During the compliance period Oct'22 to Mar'23 approx. 0.112 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.<br><br>Fly ash based PPC cement is used for construction activity. |
| xii | Ready mixed concrete must be used in building construction. | Complied.<br><br>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.<br><br>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.<br><br>Only RMC is used for construction activity. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| xv | Permission to draw ground water shall be obtained from the competent Authority prior to construction /operation of the project. | Complied.<br><br>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 4.52 MLD during the compliance period Oct'22 to Mar'23. |
| xvi | 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<br><br>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.<br><br>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. |
| xvii | 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.<br><br>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.<br><br>• Water flow reducers (total 8740 nos.) are provided in taps of various operation and administrative buildings to reduce the water consumption and are in use.<br>• Total 128 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- | Complied<br><br>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. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | conditioning. If necessary, use high quality double glass with special reflective coating in windows. | |
| xx | Roof should meet prescriptive requirements as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfill requirements. | Complied<br><br>Majority of the building envelops (including roofs) are constructed with ECBC compliant building materials having appropriate thermal insulation. |
| xx | 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<br><br>Majority of the building envelops (including walls) are constructed with ECBC compliant building materials having appropriate thermal insulation. |
| xxi | The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, | Complied<br><br>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. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | adequacy of firefighting equipments, etc. as per National Building Code including protection measures from lightning etc. | |
| xxii | 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.<br><br>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.<br><br>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.<br><br>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 | Point noted.<br><br>Wherever applicable, construction activities have started only after obtaining environmental clearance. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | 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.<br><br>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.<br><br>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.<br><br>Separate budget for the Environment protection measures is earmarked every year. All environment and horticulture activities are considered at corporate level and budget allocation is done accordingly. No separate bank account is maintained for the same however, all the expenses are recorded in advanced accounting system of the organization.<br><br>Budget for environmental management measures (including horticulture) for the FY 2022-23 is to the tune of INR 1448.06 lakh. Out of which, Approx. INR 1366.28 lakh are spent during the year 2022-23. Detailed breakup of the expenditures for the past 3 years is attached as **Annexure – 8**.<br><br>Please refer Point No. xxiii (General Condition: Construction Phase) for further details. |
| iii. | Treated effluent | Complied. |

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td>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.</td><td>
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.
<table>
<tr><th>Location</th><th>Capacity</th><th>Technology</th></tr>
<tr><td>CETP</td><td>2.5 MLD</td><td>Aerobic Digestion</td></tr>
<tr><td>Shantivan Colony STP</td><td>350 KLD</td><td>Aerobic Digestion</td></tr>
<tr><td>Shantivan Colony STP</td><td>250 KLD</td><td>Aerobic Digestion</td></tr>
<tr><td>Adani House STP</td><td>150 KLD</td><td>PVA Gel Technology</td></tr>
<tr><td>Samudra Township STP</td><td>2.5 MLD</td><td>MBR</td></tr>
<tr><td>Liquid Terminal ETP</td><td>265 KLD</td><td>Aerobic Digestion</td></tr>
<tr><td>West Port STP</td><td>55 KLD</td><td>FAB</td></tr>
<tr><td>SEZ north Gate Complex</td><td>175 KLD</td><td>Aerobic Digestion</td></tr>
<tr><td>Agri Park</td><td>10 KLD</td><td>Aerobic Digestion</td></tr>
</table>
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.<br><br>
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.<br><br>
STP of 2.5 MLD capacity is also constructed in SEZ area as part of social infrastructure project (having a separate independent environmental clearance).<br><br>
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.<br><br>
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>Average</th><th>Perm. Limit$</th></tr>
</table>
</td></tr>
</table>

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|

| | | | | | | |
|---|---|---|---|---|---|---|
| pH | -- | 6.84 | 7.48 | 7.3 | 6.5 to 9.0 |
| TSS | mg/L | 6 | 28 | 22.28 | 100 |
| BOD (3 Days @ 27 °C) | mg/L | 12 | 19 | 16.44 | 30 |
| Residual Chlorine | ppm | 0.64 | 0.94 | 0.81 | -- |
| Fecal Coliform | MPN/ 100 ml | 23 | 130 | 70.17 | < 1000 |

$ as per CC&A granted by GPCB

Please refer **Annexure – 6** 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 2022-23 is to the tune of INR 1448.06 lakh. Out of which, Approx. INR 1366.28 lakh are spent during the year 2022-23 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.<br><br>**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.<br><br>**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 |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | Ltd., Kodinar) for Co-processing as RDF (Refused Derived Fuel).<br><br>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.<br><br>**Hazardous & Other Waste:**<br>• 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.<br>• E – Waste & Used Batteries are being sold to GPCB registered recyclers namely M/s. Galaxy Recycling, Rajkot and Sabnam Enterprise, Kutch respectively.<br>• 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.<br>• 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.<br>• Solid hazardous waste i.e. Tank bottom sludge is being sold to authorized recycler namely M/s. Mundra Oil Pvt. Ltd., Mundra for recycling.<br>• Expired paint materials is being disposed by incineration through common facility i.e. M/s. Saurashtra Enviro Projects Pvt. Ltd., Bhachau.<br>• 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.<br>• Slop Oil received from vessels is treated to separate water and oil particles in Oil Water Separator system. Separated oil from the same is being sold to authorized recycler / reprocessor namely M/s. Western India Petro Chem Ind - Bhavnagar, Aviation |

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td></td><td>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.<br>• 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.<br><br>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.<br>The following table summarizes the waste management practice (from Oct'22 to Mar'23) for different types of wastes at APSEZ:
<table>
<tr><th>Type of Waste</th><th>Quantity in MT</th><th>Disposal method</th></tr>
<tr><td colspan="3">Hazardous Waste</td></tr>
<tr><td>Pig Waste</td><td>7.12</td><td rowspan="3">Co-processing at cement industries</td></tr>
<tr><td>CETP Sludge</td><td>24.99</td></tr>
<tr><td>Oily Cotton waste</td><td>64.56</td></tr>
<tr><td>Used / Spent Oil</td><td>57.09</td><td>Sell to registered recycler</td></tr>
<tr><td colspan="3">Other Waste</td></tr>
<tr><td>E-Waste</td><td>31.37</td><td>Sell to registered recycler</td></tr>
<tr><td>Battery Waste</td><td>17.83</td><td>Sell to registered recycler</td></tr>
<tr><td>Bio Medical Waste</td><td>3.38</td><td>To approved CBWTF Site</td></tr>
<tr><td colspan="3">Non-Hazardous Waste</td></tr>
<tr><td>Recyclables Dry Waste / Scrap</td><td>1413.91</td><td>After recovery sent for recycling / Reuse within premises</td></tr>
<tr><td>Non-Recyclable Dry Waste (RDF)</td><td>230.01</td><td>Co-processing at Cement Industries</td></tr>
<tr><td>Wet Waste (Food waste + Organic waste)</td><td>465.86</td><td>Converted to Manure for Horticulture use / Biogas for cooking purpose</td></tr>
<tr><td>Horticulture Waste</td><td>385.7</td><td>Used for making of manure and utilize for horticulture purpose</td></tr>
</table>
Please refer Point No. xxiii (General Condition: 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</td><td>Complied.<br><br>DG sets are being used only as power back up source in case of power failure.<br><br>Please refer Point No. viii & ix (General Condition: Construction Phase) for further details.</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td>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>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>
<tr><td>25</td><td>APL Road</td><td>7.5</td><td>5M</td></tr>
<tr><td>26</td><td>Trolly Mounted</td><td>30</td><td>6 M</td></tr>
<tr><td>27</td><td>Trolly Mounted</td><td>15</td><td>6 M</td></tr>
<tr><td>28</td><td>Trolly Mounted</td><td>15</td><td>6 M</td></tr>
</table></td></tr>
<tr><td>vi</td><td>Noise should be controlled to ensure that it does not exceed the prescribed standards, During</td><td>Complied.<br><br>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.</td></tr>
</table>

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | 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. | 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.<br><br>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.<br><br>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.<br><br>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.<br><br>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.<br><br>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 Sep'19. During FY 2022-23, 5.56 ML of rain water has been recharged to increase the ground water table. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | 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.<br><br>However, Adani Foundation – CSR arm of Adani Group has carried out rainwater harvesting activities in the nearby villages for benefit of the locals.<br><br>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.<br><br>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.<br><br>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.<br><br>**Our water conservation work is as below.**<br><br>✓ Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams.<br>✓ 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.<br>✓ New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum.<br>✓ 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.<br>✓ Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil.<br>✓ Drip Irrigation approx. 1505 Farmers benefitted in coordination with |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | Gujrat Green Revolution Company till date.<br>✓ 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.<br>✓ Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.<br>✓ Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.<br><br>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.<br><br>Please refer **Annexure – 2** for full details of CSR activities carried out by Adani Foundation in the Mundra region.<br><br>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.<br><br>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.<br><br>Please refer Point No. v (General Condition: Construction Phase) for further details.<br><br>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 are attached as **Annexure – 9**. |
| xi. | Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be | Complied.<br><br>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 |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | fully internalized and no public space should be utilized. | 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 incorporating details about building materials & technology, R & D Factors etc. and submitted to the Ministry along with six monthly monitoring report. | Complied<br><br>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 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 | Complied<br><br>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.<br>• Used fly ash based cement and bricks<br>• Special types of glasses were used which gives maximum sunlight and less heat<br>• VOC free paint used certified by CII (Certificate of Indian Industries)<br>• Water flow reducer installed in the entire building<br><br>CFL / LED lighting are being used at various common areas of SEZ |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
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| | 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. | as well buildings and townships. Used CFL are collected and sent for recycling through authorized e-waste collection agency.<br><br>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.<br><br>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 problems from solid waste processing plant and STP. | Complied<br><br>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.<br><br>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.<br><br>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.<br><br>Compliance report of all the environmental safeguards contained in the EMP report is attached as **Annexure – 5**. |
| xvii. | Adequate drinking water facility be provided. | Complied.<br><br>Drinking water facility at approx. 200 locations within APSEZ area |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | | 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.<br><br>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.<br><br>Please refer following condition nos. for further details.<br>• v, viii & xi of General Conditions – Construction Phase<br>• 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.<br><br>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.<br><br>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.<br><br>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.<br><br>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. |
| 1 | Officials from the | Complied. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
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| 2 | 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 MOEF, Bhopal. | 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.<br><br>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.<br><br>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.<br><br>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.<br><br>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.<br><br>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 |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
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| | | no non-compliance observed.<br><br>It also be noted that officials from GPCB Regional office is also doing regular site visit. Last visit of 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 | Not Applicable at present.<br><br>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. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | 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. | |
| 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 Notification, 2006. | Point noted and agreed. |
| 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 | Complied<br><br>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. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
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| | 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. | |
| 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. |
| 1 | Any appeal against | Point noted and agreed. |

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| 9 | 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. | |
| 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 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. | Complied<br><br>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 to the MoEF & CC along with half yearly compliance report for the period from Apr – 2014 to Sep – 2014.<br><br>Clearance letter is also put up on the website of the Adani ports https://www.adaniports.com/ports-downloads |
| 21 | 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 | Complied.<br><br>Compliance report of EC conditions is uploaded regularly. Last compliance report including results of monitoring data for the period of Apr'22 to Sep'22 was submitted to Integrated Regional Office (IRO) @ Gandhinagar, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar & Gandhidham and Dept. of Forests & Env., Gandhinagar vide our letter dated 21.11.2022. Copy of the same is also available on our web site https://www.adaniports.com /ports-downloads. A soft copy of the same was also submitted through e- |

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31.03.2023</th></tr>
<tr><td></td><td>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">mail on 30.11.2022 to all the concern authorities. Please refer below for the details regarding past six compliance submissions.<br><br><table><tr><th>Sr. No.</th><th>Compliance period</th><th>Date of submission</th></tr><tr><td>1</td><td>Oct'19 to Mar'20</td><td>20.05.2020</td></tr><tr><td>2</td><td>Apr'20 to Sep'20</td><td>26.11.2020</td></tr><tr><td>3</td><td>Oct'20 to Mar'21</td><td>25.05.2021</td></tr><tr><td>4</td><td>Apr'21 to Sep'21</td><td>30.11.2021</td></tr><tr><td>5</td><td>Oct'21 to Mar'22</td><td>30.05.2022</td></tr><tr><td>6</td><td>Apr'22 to Sep'22</td><td>30.11.2022</td></tr></table></td></tr>
<tr><td>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</td><td>Complied.<br><br>Environmental statement for each financial year is submitted to GPCB. The same for the FY ending 31.03.2022 in Form-V is submitted to GPCB vide our letter dated 17th June, 2022. The acknowledgement copy of the Environmental Statement of FY 2021-22 was submitted during compliance period Apr'22 to sep'22. Copy of the same is also available on our web site https://www.adaniports.com/ports-downloads.</td></tr>
</table>

| Sr. No. | Conditions | Compliance Status as on 31.03.2023 |
|---|---|---|
| | subsequently, shall also be put on the website of the company along with the 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.

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

| Sr. No. | Condition | Compliance Status as on 31-03-2023 |
|---|---|---|
| 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<br><br>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<br><br>This reply covers condition no ii, iv and v.<br><br>Based on the MoEF&CC directions,<br><br>1. APSEZ, vide letter dtd. 19th October 2015 had requested GCZMA, for consideration of project for finalization of ToR for NCSCM.<br>2. Project was considered on 28th GCZMA meeting, scheduled on 22nd April 2016, where ToR was discussed and agreed, upon.<br>3. APSEZ, vide its letter dtd. 25th April 2016, submitted the proposal to GCZMA along with Scope of work, as submitted by NCSCM.<br>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.<br>5. NCSCM has carried out number of site surveys during the period, February 2017 – April 2018 as per the defined scope<br>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.<br>7. A reminder letter was submitted to GCZMA vide letter dated 4th Jan 2019.<br><br>Details of above chronology were submitted along with half yearly compliance report for the period Apr'19 to Sep'19. |
| 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 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. | |
| 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. | |

| Sr. No. | Condition | Compliance Status as on 31-03-2023 |
|---|---|---|
| | | The site survey carried out by NCSCM includes:<br>1. Bathymetry survey of creeks<br>2. Topography survey of intertidal areas<br>3. Mangrove survey (health and area demarcation)<br>4. Sampling of soil and water for analysis of physico-chemical and biological parameters<br>5. Tide and currents data collection (including residence time of tidal water)<br>6. Focus Group Discussions with the community in the close vicinity of the project area<br><br>In addition to the site surveys, NCSCM has procured satellite images for analysis of mangrove cover.<br><br>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.<br><br>Based on the final study report, outcome is summarized in to following points:<br>1. There is no obstruction to any water stream (creeks / branches of creeks / rivers)<br>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)<br>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.<br><br>NCSCM study same was submitted to the GCZMA on 04.06.2018. Details of the same |

<table>
<tr><th>Sr. No.</th><th>Condition</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>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.<br><br>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.<br><br>
<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.<br>• 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</td></tr>
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| | | | | between March 2017 and September 2019 to the extent of 256 Ha, which is about 10.7%.<br>• 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.<br>• Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019.<br>• The cost of the said study was INR 23.56 Lacs incurred by APSEZ. |
| | | 2. | Tidal observation in creeks in and around APSEZ | • APSEZ carried out the tidal observations at locations similar to 2017 in Kotdi, Baradimata, Navinal, Bocha and Khari creeks under the guidance of |

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| | | | | NCSCM.<br>• The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves.<br>• 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.<br>• 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 is attached as **Annexure -1**. |
| | | 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.<br>• Adani Foundation provides good Quality dry and |

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| | | | | green fodder to 24 Villages. Project is covering total 14116 Cattels / 3008 farmers and hence enhancing cattle productivity during last FY 2022-23.<br>• Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 200.89 Lacs during FY 2022-23 which was incurred by APSEZ.<br>• **Individual Fodder Cultivation:** Farmers were Aware, Convince and trained to cultivate super Napier Grass as on farm projects to reduce their Fodder Dependency and expense. With that effort 192 farmers have Adopted and Cultivated Super NAPIER Grass in 190-acre area and produce 3800 Fodder Tons Yield annually, lead to save Approx Rs 52 Lacs of farmers.<br>• **Grass Land** |

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| | | | | **development**: AF converted 205 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara and siracha village to transform into Fodder Sustain village with Community participation and responsibility for maintain and Monitoring.<br>• Among that 18 Acre of Guchar land is fenced and sowed with Multispecies Green Fodder with Having Good nutritive value More than 2250 Cattle will sustain with Improving quality and Quantity Of Milk.<br>• Other than this dedicated security guard with gate system deployed by APSEZ across the coastal area and no unauthorized persons allowed within coastal as well as mangrove areas.<br>• APSEZ has celebrated the International Day for the Conservation of the Mangrove Ecosystem on |

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| | | <table><tr><td></td><td></td><td>July 26th to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The photographs of celebration were submitted in previous compliance period Apr'22 to Sep'22.<br>• Refer CSR report attached as **Annexure – 2**.</td></tr></table><br>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.<br><br>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 previous compliance period Oct'21 to Mar'22.<br><br>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.<br><br>After that as suggested by Joint Review Committee in its report that mangrove related |

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<tr><th>Sr. No.</th><th>Condition</th><th>Compliance Status as on 31-03-2023</th></tr>
<tr><td></td><td></td><td>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.</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<br><br>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>
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| | | <table><tr><td>7</td><td>NEERI, Nagpur</td><td>19th & 20th January, 2023</td><td>EC Compliance verification of MSEZ. Copy of last site visit compliance verification report is attached as **Annexure – 3**.</td></tr></table><br>It may also be noted that GPCB, Regional Office does regular site visit of APSEZ area and no non-compliance observed.<br><br>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.<br><br>Last visit of Regional Office, GPCB was done on 03.10.2022. There was no any inspection remarks during the site visit. |
| 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<br><br>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.<br><br>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.<br><br>Adani Foundation (AF) is the CSR arm of the Adani Group actively working for upliftment of |

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| | | 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.<br><br>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.<br><br>Till, FY 2022-23 approx. 13.38 Cr. INR, has already been invested fisherfolk livelihood. Further, details regarding the expenditure incurred against the commitment are attached as **Annexure – 10**.<br><br>APSEZ is carrying out various initiatives specific to the Fisherfolk community which includes:<br><br>• **Vidya Deep Yojana**<br>Developing school preparedness programme and empowering balwadis at fisherfolk settlement<br>Under this scheme, 4 balwadis at different settlement has been constructed<br>This programme include nutrition food, hygiene, awareness of health, cleanliness, discipline, regularity and development of basic age appropriate conception<br>• **Vidya Sahay Yojana – Scholarship Support**<br>All basic education supportive facilities have been created to promote education in fisher folk community.<br>• **Adani Vidya Mandir**<br>Children of the family with the income of salary less than 1.5 lac/annum are admitted<br>School focusses on nutrition food, uniform and other services to the children for free.<br>• **Fisherman Approach in SEZ**<br>After due consultative process, APSEZ has provided 7 fishermen access roads for to approach to the sea for |

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| | | fishing activity.<br>• **Machhimar Arogya Yojana**<br>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<br>• **Machhimar Kaushalya Vardhan Yojana**<br>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<br>• **Machhimar Sadhan Sahay Yojana**<br>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<br>• **Machhimar Awas Yojana**<br>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.<br>• **Machhimar Shudhh Jal Yojana**<br>This scheme of providing potable water has helped in reducing the drudgery of women and contributed largely towards general wellbeing<br>• **Sughad Yojana**<br>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.<br>• **Machhimar Akshay kiran Yojana**<br>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.<br>• **Machhimar Suraksha Yojana**<br>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<br>• **Machhimar Ajivika Uparjan Yojana**<br>Mangrove plantation in the area as means of alternate income generating activity for the fisher folk community during the non-fishing months.<br>During the non-fishing months, the fishermen under usual circumstances were benefited by other alternate economic activity to sustain them. |

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| | | • **Bandar Svachhata Yojana**<br>Waste bins have been provided for proper collection and segregation of waste.<br><br>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.<br><br>- Education<br>- Community Health<br>- Rural Infrastructure<br>- Sustainability Livelihood<br><br>Brief information about activities in the main four persuasions is mentioned below. Activities carried out for the same are summarized as below. |

| Area | Activity |
|---|---|
| Community Health | • Mobile Heath Care Units and Rural Clinics<br>• 09 Rural Clinics<br>• 06 villages of Mundra, 02 villages of Anjar & 01 village Mandvi block has benefited by rural clinic service.<br>• Total Patients Benefitted FY 22-23:- 25088 (direct & indirect).<br>• 5 financially challenged patients has been supported with Dialysis treatment at 97 Times which added day in their Life.<br><br>**Health camp:**<br>• 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.<br>• Specialty health (Gynec , Pediatric eye specialty health camp) :- 1527 Patients.<br>• General health camp :- 3379 Patients Awareness Session<br>• Cattle health camp: Total 17299 cattle of 19 Villages had benefitted With different kind of medicines and vaccines.<br>• Women's Health: Provided health services to over 1150 women through |

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| | | | 102 + Menstrual Hygiene workshops.<br>• Dialysis Support: During this year, 4 patients were supported for regular dialysis (twice a week) with partial support<br>• Total 590800 CC quantity of Blood had been donated by 1710 Employees.<br>• Medical Supports: 2460 beneficiary in 63 village.<br>• TB screening & Awareness session: benefited 1795.<br>• 25 villages and 07 fishermen settlements covered, with 90 types of general and lifesaving medicines through Mobile healthcare unit<br>• 1491 –Economically Challenged patients have been supported for operation, OPD, IPD, Medicines and lab-test.<br>• For Preventive health care General and multispecialty camps Pediatric camp, General Health camps in 9 villages and Super specialist camp which benefitted more than 4906 patients of Mundra Taluka.<br>• Cattle Health Camp: Adani Foundation and Animal Husbandry department Veterinary Jointly organizing cattle health Awareness and vaccination programs in 24 Villages of our periphery villages. Total 17299 cattle of 19 Villages had benefitted with different kind of medicines and vaccines.<br>• Lumpy Disease Vaccination Drive: Total 40 000 cattle were covered through therapeutic and ayurvedic treatment and Nutritive Cattle feed Support with association District Animal Husbandry department through vaccination and awareness drive. |
| | | Sustainable Livelihood – Fisher folk, Agriculture & Women | • Government scheme Awareness session was held in association with Fisheries department Bhuj to facilitate pagadiya fishermen by providing fishing kits to seven Fishermen. The coordination was made by Adani Foundation to process application.<br>• To promote Natural farming Adani Foundation has originated cow-based farming initiative with interconnected techniques which can increase farmer yield.<br>• Adani foundation and Agri Department jointly organized district level workshop on Natural Farming Practice with Gram Seva.<br>• Natural farming- 1392 farmers |

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| | | benefitted by 20 nos of training from which 60 farmers chemical usage is reduced to half extent in 500 Acres approximately.<br>• 100 nos. of Facilitation of Home Biogas under Gobardhan Yojna.<br>• Benefited 837 people linkages with Govt. cow based Nurturing Scheme.<br>• Supported 1500 farmers for barrel & wormi compost.<br>• 19 nos. of Market Linkage for supporting to Green carnival at Samudra Township & Shantivan colony 17 472 Kg Vegetable with Rs. 4.36 Lacs.<br>• 257 Farmers have started to prepare Jiva Mrut & Gaukrupa Amrutam Bio-fertilizer and using in agricrop. Series of Training is arranged by ATMA and Adani Foundation.<br>• Adani Foundation has also provided 7.31 lacs kg Dry Fodder and 23.59 lacs kg Green fodder in 29 villages of Mundra and Anjar Block to support the resource dependent villagers, to avoid their dependency on mangroves. The expenditure for fodder supporting activities was approx. 200.89 Lacs during FY 2022-23.<br>• Adani Foundation provides Good Quality dry and green fodder to 29 Villages. Project is covering total 14116 Cattels / 3008 farmers and hence enhancing cattle productivity. Dry Fodder 731230 Kg Green –2359204 Kg.<br>• **Individual Fodder Cultivation:** Farmers were Aware, Convince and trained to cultivate super Napier Grass as on farm projects to reduce their Fodder Dependency and expense. With that effort 192 farmers have Adopted and Cultivated Super **NAPIER Grass** in 190-acre area and produce 3800 Fodder Tons Yield annually, lead to save Approx Rs 52 Lacs of farmers.<br>• **Grass Land development:** AF converted 205 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara and siracha village to transform into Fodder Sustain village.<br>• **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 |

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| | | | livelihoods Through this initiative, we have empowered over 850 women to become self-reliant with Savings of Rs 30 42 Lacs.<br>• Mangrove plantation and Nursery development work has created a two facet impact by providing Livelihood to Fisherfolk during two months Fishing during Off season and developing 162 hector dense mangrove afforestation.<br>• 5200 Men days work provide to 285 Fisherfolk of Luni, Sekhdiya and Bhadreshwar Villages in coordination with Horticulture Det.<br>• Formed **Sagar Saheli SHG** of Navinal Fisherfolk Women and Linked with DRDA after completion of Stitching Training, received first order of Rs 80 000 to prepare Cotton Bags. Total 12 Women are engaged and planning to expand with more Women and Order.<br>• During FY2022-23 Approx. INR 185.37 lakh were spent for Fisherfolk Amenitites work in different core areas.<br>• Till FY 2022-23, Adani Foundation has done total expenditure of INR 1338.19 lakh for Fisherfolk Amenitites work in different core areas.<br>• To protect Cattles against Bovine Brucellosis zoonotic disease, Awareness and vaccination program is ongoing with Kutch fodder fruit & Forest development trust (KFFT) in our 11 Villages. In end of the year 100 percentage female calves will be benefitted by this initiative.<br>• Current year KKPC served for Date Packaging box, Milk Supply to Colonies, NB 21 Off suits Supply, Vegetable Seed, Mineral Mixture and Cattle feed supply and plan to extend more service. The company has been set up with 237 Farmers shareholders. Current Year turnover is Rs 28 89 lacs by started Different Kind of Initiatives.<br><br>Skill Development and Income Generation – Adani Foundation is working with 15 Self-help group and supporting to develop entrepreneur skills to become self-reliant, sourcing more than 850 women to absorb in various job. |
| | | Education | • Conduct baseline assessment of 7034 Students, 3364 Students were progressive learner, 1403 Students mainstreamed.<br>• ISLM (International School Library Month) was celebrated by 69 Utthan |

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| | | | schools. And school from Russia joined with us in zoom to engage under the virtual connection around the world.<br>• 100 hours capacity building programs for Uthhan sahayak and school Teachers specially focusing on Foundational Literacy and Numeracy Utthan sahayak attend CBP (Capacity building program) once in every month.<br>• Utthan sahayak create 150 Worksheets on Yoga In the run up to India's 75th Independence Day celebrated across India's Azadi Ka Amrit Mahotsav The tour covers 75 heritage, tourist and archaeological sites and landmark architectural sites across Gujarat.<br>• Provided facility for preparing JNV, NMMS & PSE examination. 898 number of students participated for JNV, NMMS & PSE.<br>• Mental and Physical Cognitive Education with Joy full learning activities to 2.5- to 6-year-old children. Provide Nutritional Food Facilities. Capacity Building program for Balwadi teachers.<br>• Total 82 Active SHG Group – 850 women are engaged with Adani Foundation for Savings activity. Among 15 SHG groups are involved in income generation. We facilitate them capacity building training for quality, Marketing Finance and team work to made them self-sustain.<br>• 507 underprivileged students of Fisherman & Maldhari communities underprivileged from 8 villages taking education at the Adani Vidya Mandir school.<br>• Celebration of various days is villages school.<br>• **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 320 women in various skills, and many of them have started their own businesses.<br>motivating 150 Woman from different 82 SHG's. Current year theme was Digital ALL: Innovation & technology for gender equality |
| | | Rural Infrastructure & Environmental | Adani foundation designed and built various structure and provide service in the Health, Education, agriculture and sustainable livelihood area. |

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| | | Sustainability | **WORK COMPLETED**<br>• 40 RRWHS structure have been completed<br>• 208 Bore-well recharging activity is completed.<br>• Percolation well Recharging work at Bhadiya & Mota Kandgra village.<br>• Sluice gate Construction to Control Flood during Flooding at Khoydivadi Vistar Bhujpur.<br>• Pond Beatification and Bund Strengthening at Bhujpur village.<br>• Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.<br>• commissioning of Community Training Centre at Shekhadiya.<br>• Two Pond Deepening at Zarpara under Amrut Sarovar Yojna.<br>• Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan.<br>• Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.<br>• JCB & Hitachi Machine Support for Pre-Moonson activities. Repairing and Maintenance work of Approach at Luni, Bavdi and Navinal Fishermen Bandar.<br>• 3 Re-strengthening of Approach Road.<br>• Renovate Blood storage Lab CHC Mundra Renovation Blood storage Lab CHC Mundra.<br>• Constructed 2 nos. of CC Road of 700 mtr.<br>• Constructed Community Training center Shekadiya.<br>• Constructed 2 nos. Disable Widow Toilet Block<br>• Installed R.O. Plant at Mokha with capacity 1000ltr /HR.<br>• Constructed 4 nos. Common gathering Open Shed<br>• Constructed 03 nos. of Water Tank at Luni Bandar.<br>• Developed of Cricket Ground at Hatdi Village<br><br>**ENVIRONMENT SUSTAINABILITY PROJECTS**<br>• **Miyawaki Forest Development, Nana Kapaya** - Plantation of 5880 saplings of |

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| | | different 42 species is completed which will result in dense forest within 2 years<br>• **Smruti Van** – Plantation more than 47,000 sapling with more than 115 species through Miyawaki methodology.<br>• **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.<br>• **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,<br>• Mangroves Biodiversity Park within one year<br>• **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.<br>• As per SORI use of biogas each farmer can save Rs.23400/year.<br><br>**Water Conservation Projects** –<br>• Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams.<br>• 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.<br>• New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum.<br>• Roof Top Rainwater Harvesting 145 |

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| | | | 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.<br>• Recharge Borewell 208 Nos (19 Nos. current FY 2022-23) which is best ever option to direct recharge the soil.<br>• Drip Irrigation approx. 1505 Farmers benefitted in coordination with Gujrat Green Revolution Company till date.<br>• 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.<br>• Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.<br>Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year. |
| | | Skill Development | Over the previous few years, Adani Skill Development Center has assessed various aspects of the technical, leadership and soft skills gaps that organizations, in general, face and accordingly focuses on imparting required training in those areas in partnership with various colleges and institutes.<br><br>**<u>ASDC, Mundra</u>**<br>• **Youth Employment: -** Adani Foundation is committed for youth employment with imparting technical and Non-Technical Training for Fisherfolk Youth and started Electrical, Welder ad Masson work training under Adani Skill Development Centre.<br>• 23 Youth have been Placed in Different company after Completion of Technical training.<br>• Total 217 Fisherfolk are Employed and earning on Monthly Base. Average Monthly Income Rs.14500/ Individual.<br><br>**<u>ASDC and Thermax Foundation Done MoU</u>**<br>• ASDC and Thermax Foundation Jointly Organised , Skill Development training program for " Dhrab Village youth", In 1st phase completed Domestic Data Entry Operator training with 50 students ( 25 girls and 25 boys)<br>• Chief Guest of this program was Mr. |

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| | | | Anees Shaikh-Head, ER & Administration, Thermax, Ashlambhai Turk-Dhrab Village Sarpanch remained present<br>• CSR head Thermax Ms. Sujata Deshpande has joined from Pune and given motivation and best wishes for training.<br>• In this MOU ASDC has provided training of Digital Literacy to 1341 students and Basic Functional English to 2659 students in Kachchh District Schools. As per MOU Kachchh District Education Office has provided 4000 candidates to us for training (Adani Skill Development Centre). Funding from Thermax, CFS and DEO made it possible<br>• **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.<br>• **Soft Launch of Data Entry Operator Batch:** Soft launched Data Entry Operator Batch with 50 candidates under Thermax Foundation Tie up.<br><br>**ASDC, Bhuj**<br><br>✓ **Mud Work Training–Outreach Batch at Samundra township**<br>Total 45 candidates are enrolled.<br><br>✓ **Soft Launch of Data Entry Operator Batch**<br>Soft launched Data Entry Operator Batch with 50 candidates under Thermax Foundation Tie-up<br><br>✓ **Soft Launch of Solar Panel Manufacturing**<br>Technician Training of Solar Panel Manufacturing Technician Training at Bhuj, ITI with 25 candidates.<br><br>✓ **Soft Launch of DL Training under DEO Project**<br>Soft Launch of DL Training at AVMB School with 61 Students<br><br>Tie Ups with (Thermax Foundation, Empazer, Navin Group and DEO Kutch @ Rs.24.25 lacs<br>. |

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|---|---|---|
| | | • MOU with Kachchh District Education Office. In this MOU we will provide training of Digital Literacy and Basic Functional English in Kachchh District Schools. As per MOU Kachchh District Education Office will provide minimum 4000 candidates to us for training (Adani Skill Development Centre).<br>• During FY 2022-23, Total 4706 people directly trained in various trainings to enhance socio economic development.<br><br>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 2022-23 is to the tune of INR 1894.42 lakh. Out of which, Approx. INR 1527.49 lakh are spent during the current FY 2022-23.<br><br>Till FY 2022-23, Adani Foundation has done total expenditure of INR 158.27 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.<br><br>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.<br><br>Joint Review Committee (JRC) constituted by MoEF&CC during its visit on during 1st to 3rd September, 2021 directed APSEZ to consult National Grassland Research Institute, Jhansi |

| Sr. No. | Condition | Compliance Status as on 31-03-2023 |
|---|---|---|
| | | for undertaking a scheme/project for improvement in the grassland habitat for developing suitable fodder species in 400 acres of grazing land. In line to the same we had contacted IGFRI, Jhansi initially for the development of grassland at Gaucher land. As a part of this direction APSEZ has awarded the work order vide order no. 4802024253 , dated 19/12/2022 to the IGFRI, Jhansi for developing suitable fodder species in 400 acres of grazing land.<br><br>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. |
| ix<br><br>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.<br><br>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<br><br>This reply covers direction no ix and x.<br>1. APSEZ vide its letter dtd. 24th Feb 2014 has submitted draft ToR for preparation of CIA report to GCZMA for their approval.<br>2. GCZMA vide its letter dtd. 19th Dec 2014, has approved ToR for CIA.<br>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.<br>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.<br>5. The study has been concluded and the final report was submitted to GCZMA and |

| Sr. No. | Condition | Compliance Status as on 31-03-2023 |
|---|---|---|
| | | MoEF&CC for their consideration vide our letter dated 30.04.2018.<br>6. Reminder letter has been submitted to GCZMA for their comments and consideration vide letter dated 4th Jan 2019.<br><br>Details of above chronology were submitted along with half yearly compliance report for the period Apr'19 to Sep'19.<br><br>Total cost of the study is approx. INR 1.3 cr. which is financed by APSEZ.<br><br>The stated study was carried out in following 3 phases<br>• Baseline data collection and review of the past EIA reports and clearances issued to APSEZ.<br>• Mathematical modelling and other technical studies for identification of potential impacts (for the year 2030) of the approved and existing project activities.<br>• Development of macro level EMP for the phase wise implementation of actionable points.<br><br>As part of the study, following modelling exercises / technical studies have been carried out to study the impacts on all environmental attributes:<br>• Ambient air quality<br>• Marine (Hydrodynamic, Thermal & Salinity dispersion, Sediment transport)<br>• Noise level<br>• Traffic assessment<br>• Oil spill contingency plan<br>• Water resource and salinity ingress<br>• Land Use / Land Cover<br>• Socioeconomic, Regional infrastructure<br>• Waste management<br>• Ecology, Bio diversity and Fisheries<br>• Shoreline change assessment |

| Sr. No. | Condition | Compliance Status as on 31-03-2023 |
|---|---|---|
| | | 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.<br><br>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.<br>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.<br><br>Reminder Letter vide dated 07.09.2020 & 10.03.2021 submitted to the GCZMA, Gandhinagar for further directives to present the findings of the CIA report in detail. Details were submitted as a part of half yearly EC compliance report for the period Oct'20 to |

| Sr. No. | Condition | Compliance Status as on 31-03-2023 |
|---|---|---|
| | | Mar'21.<br><br>Presentation done before GCZMA on 31.10.2021 and 16.02.2021 to discuss proposed EMP of CIA study in detail and way forward.<br><br>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 during the last compliance period Apr'22 to Sep'22.<br><br>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 – 11**. |

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

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

| adani Ports and Logistics | Adani Ports and Special Economic Zone Limited, Mundra. | From : Oct'22<br>To : Mar'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.<br><br>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.<br><br>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<br><br>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

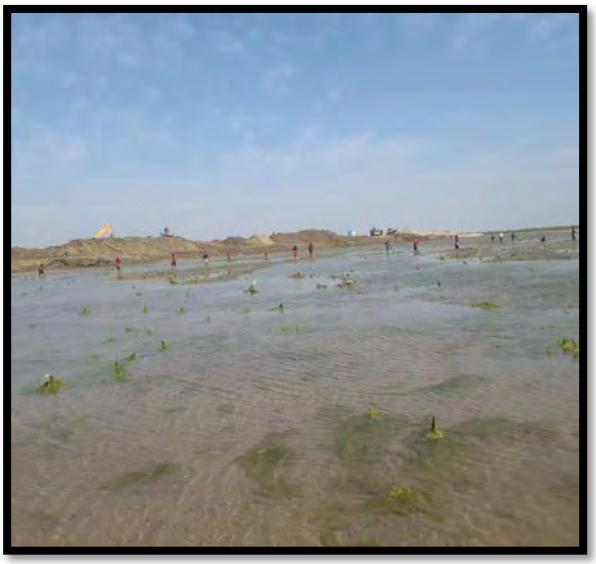
## ALGAL REMOVAL WORK FROM MANGROVE AREAS

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

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

Reference photographs of activities undertaken as per given guidelines,

**A) Plantation of Mangroves & removal of algal encrustations:**



# Annexure – 2

adani
Foundation

# Annual Report 2022-23

## CSR Kutch

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

## Our Journey by Mr. Rakshit Shah Executive Director APSEZ

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

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

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

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

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

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

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

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CSR Kutch

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Awards and Accolades 81

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Budget Utilization 84

Media Coverage 85

CSR

KUTCH

# Demographic Details

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

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

# ENVIRONMENT SUSTAINABILITY PROJECTS

# ENVIRONMENT SUSTAINABILITY

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

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

**Biodiversity conservation:** to preserve biodiversity and Natural Resources.

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


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

# REDUCING CARBON FOOTPRINT

**1. Miyawaki – Nana Kapaya**

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

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

**2. Smritivan Memorial park– Bhuj**

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

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

# REDUCING CARBON FOOTPRINT

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

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

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

# REDUCING CARBON FOOTPRINT

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

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

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

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

**4,176** TONS OF ANIMAL MANURE TREATED

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

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


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

# REDUCING CARBON FOOTPRINT

## 5. Water Conservation Project - CSR

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

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

# REDUCING CARBON FOOTPRINT

- **Impact**

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

# Water conservation and Management

## Process Flow for Rooftop Rain Water Harvesting System

Social Survey & TDS mapping

Community Contribution

RRWHS

Impact

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

Total RRWHS :- 145

RRWHS Constructed in 2022-23 :- 40

Population Impacted :- 500+

Savings per household :- 10000+

**TDS difference between Ground water and RRWHS water**

# REDUCING CARBON FOOTPRINT

## 6. Tree Plantation

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

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

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


# EDUCATION

# PROJECT UTTHAN

उत्थान

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

8 DECENT WORK AND ECONOMIC GROWTH

# PROJECT UTTHAN

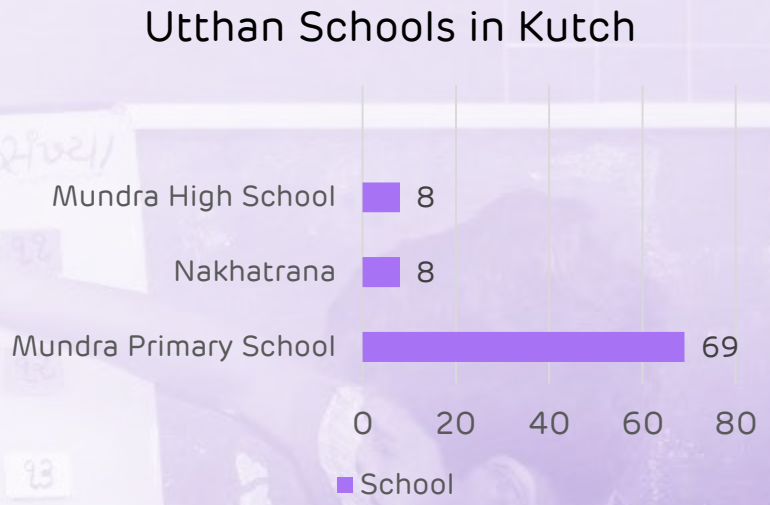
The Adani Foundation set out an innovative intervention in year 2018–19 through project Utthan to improve students' learning capabilities, provide facilities to schools to improve environment and achieve better learning outcomes at the grassroots level with the help of Utthan sahayak. This extensive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

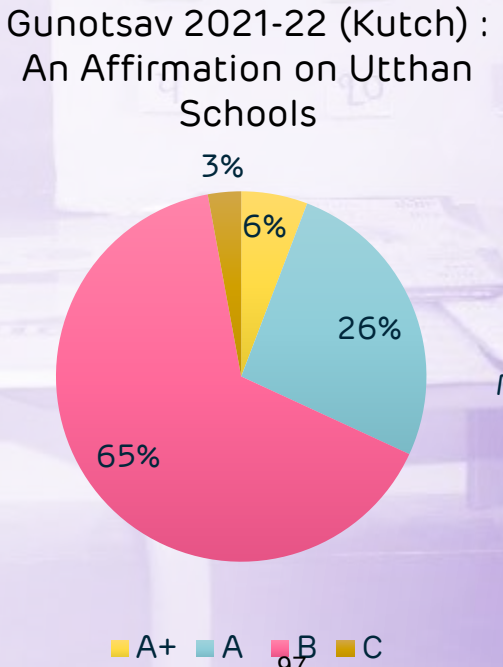
## Key Aspect of Project Utthan

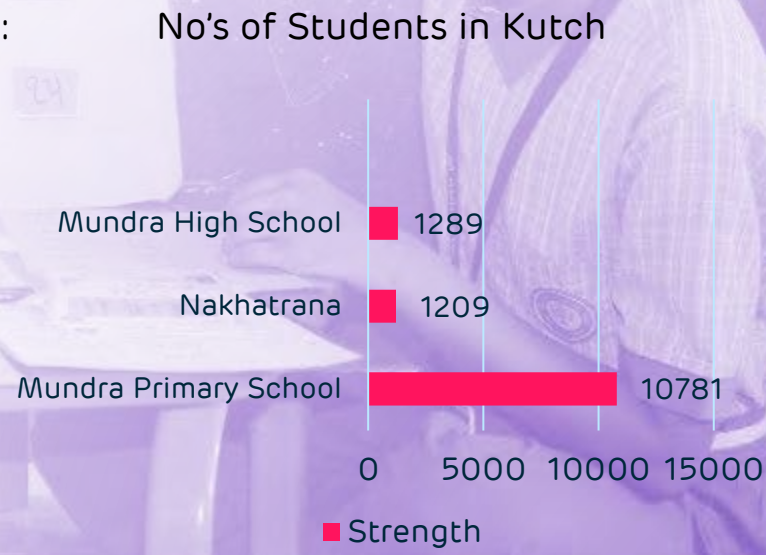
- ✓ Adopting government primary schools.
- ✓ Main streaming Progressive learners
- ✓ Enhancing Learning Outcomes
- ✓ Arresting dropout rates
- ✓ Introducing English as a Third Language
- ✓ Enabling Joyful Learning Spaces
- ✓ Collaborating for teachers' capacity building

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

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



# PROJECT UTTHAN

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

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

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

## Cultivating Reading Culture

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

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

# PROJECT UTTHAN


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

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

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

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

## Competitive exam Preparation

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

## 500+ Mothers meet with 11000+ Mothers

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

# PROJECT UTTHAN

## International School Library Month (ISLM)

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

## Signed MoU with 18 more Government Primary Schools at Mundra

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

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

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

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

# PROJECT UTTHAN

**Utthan's outreach strategies to Increase children's learning**

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

# EDUCATION PROJECT

**Adani Vidya Mandir, Bhadreshwar**

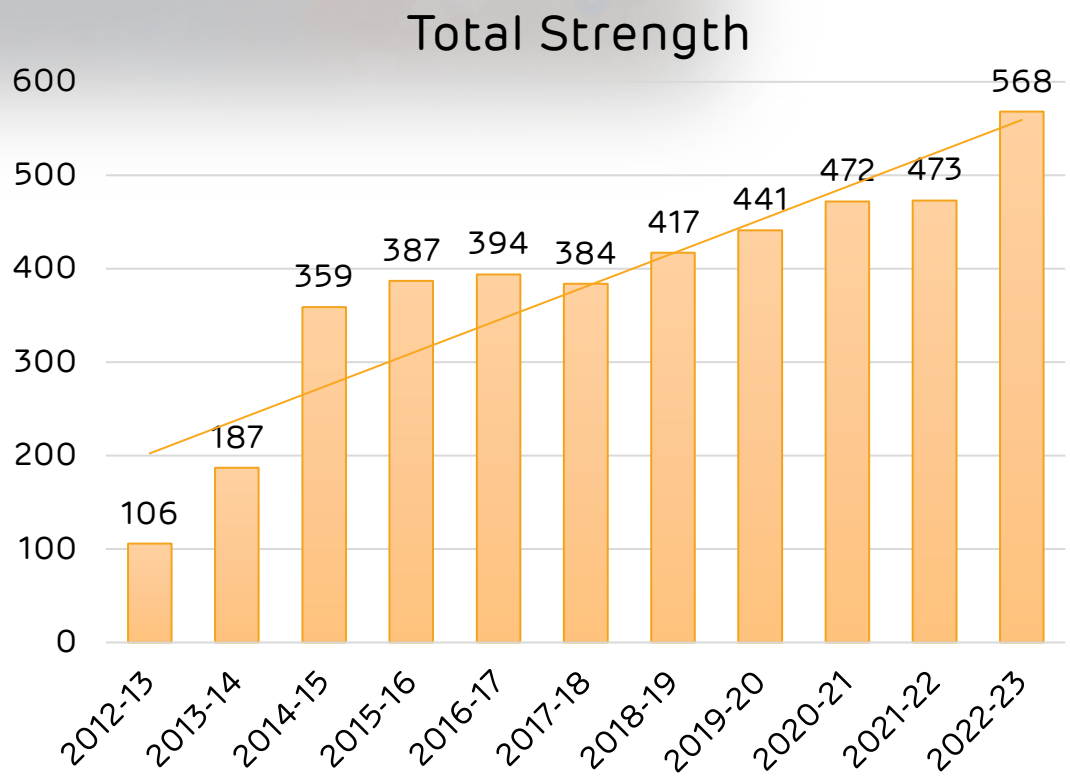
**EDUCATION: FREE AND COMPULSORY -** vision of Adani Foundation to provide cost-free education, food, uniform, books to the children of economically challenged families of Mundra Bock. Adani Vidya Mandir, Bhadreshwar was established in June 2012, with aim of uplifting the communities through education.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

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

# ADANI VIDYA MANDIR, BHADRESHWAR


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

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




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

# PROJECT UDAAN

**Vision** : To create a pool of inspired young mind

**Mission** : To motivate young students to dream big


**6204**
Total No. of Visit

**400577**
Total No. of participants

**10,000+**
Positive Feedbacks

**100+**
Mementos received

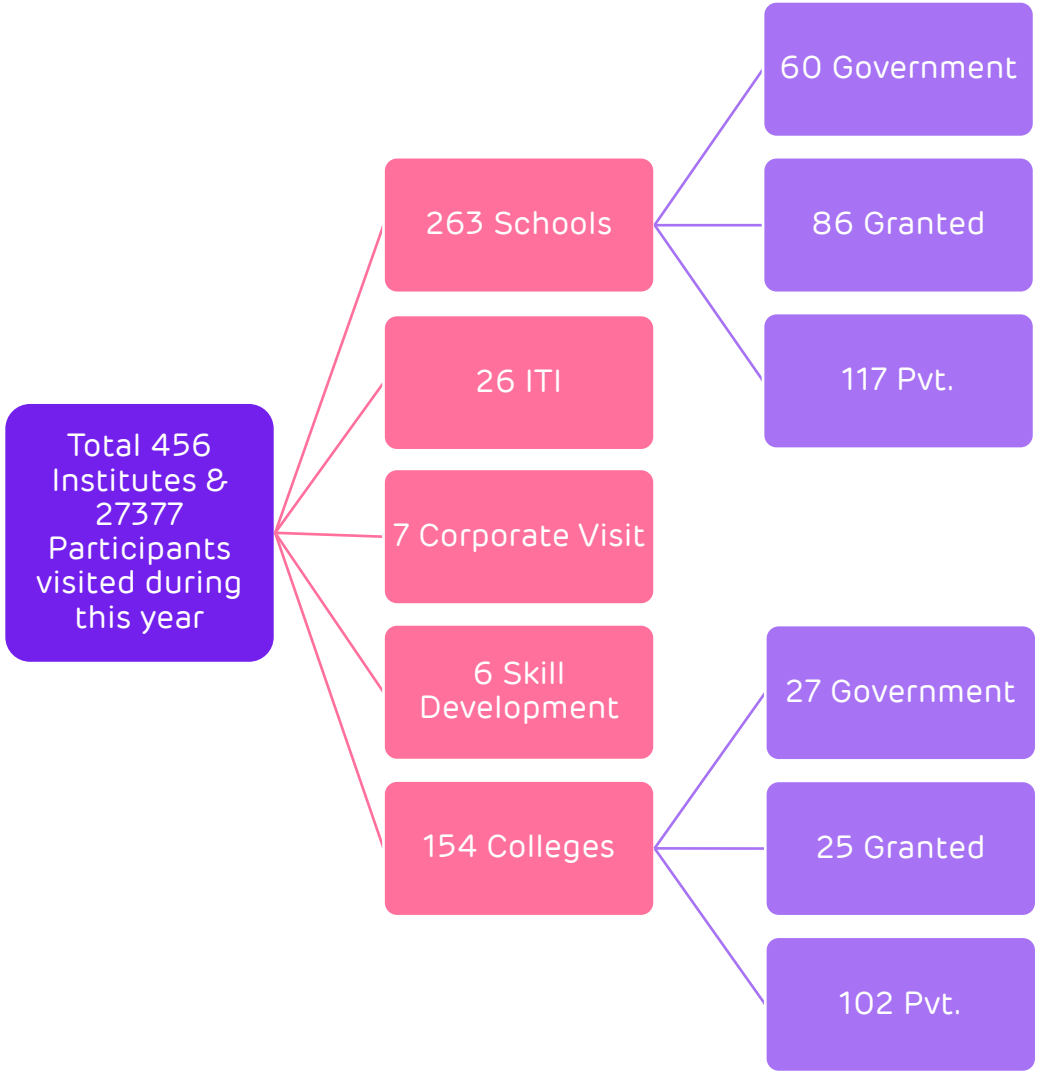
**55+**
Certificates received

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

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

# PROJECT UDAAN

## Dashboard Sustainable project revenue generated




### Impact

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

# SUSTAINABLE LIVELIHOOD DEVELOPMENT

# SUSTAINABLE LIVELIHOOD DEVELOPMENT

**The Pashudhan & Preventive Health care management**

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

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

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

# SUSTAINABLE LIVELIHOOD DEVELOPMENT

## Grass Land development

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

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

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

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

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

**This Intervention could save Rs.52,96,400.00**

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

## Individual Fodder Cultivation

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

# SUSTAINABLE LIVELIHOOD DEVELOPMENT

**Cattle health camp**

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

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

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

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

**Lumpy Disease Vaccination Drive.**

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

# SUSTAINABLE LIVELIHOOD DEVELOPMENT

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

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

**Under this project following activities were carried out,**

Meeting with Gram Panchayat, Farmers and Livestock Owners

Development and Distribution of the Awareness Materials among the stakeholders

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

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

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

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

## Promotion of Natural Farming

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

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

**Impact**

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

# SUSTAINABLE LIVELIHOOD DEVELOPMENT


## Implementation Process of Projects

**Awareness Session Farmers**
1392

20 **Workshop & Training**

**Farmers Exposures.**
03

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

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

**1500 Barrel Support & Wormi compost Support**

**Market Linkage Green carnival at Samudra Township & Shantivan colonyl**
19

17 472 Kg Vegetable – Rs. 4.36 Lacs

# SUSTAINABLE LIVELIHOOD DEVELOPMENT

**Prakrutik Sahkari Mandli**

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

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

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

**Farmer's Producer Organization**

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

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

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

# SUSTAINABLE LIVELIHOOD – FISHERFOLK COMMUNITY

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

Transportation Facilities to Govt. & AVMB School- 33 Students


Free AVMB –School Education - 147 Students

Book Support -43 High School Students

Scholarship Support -43 Students of SMJ School Luni

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

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

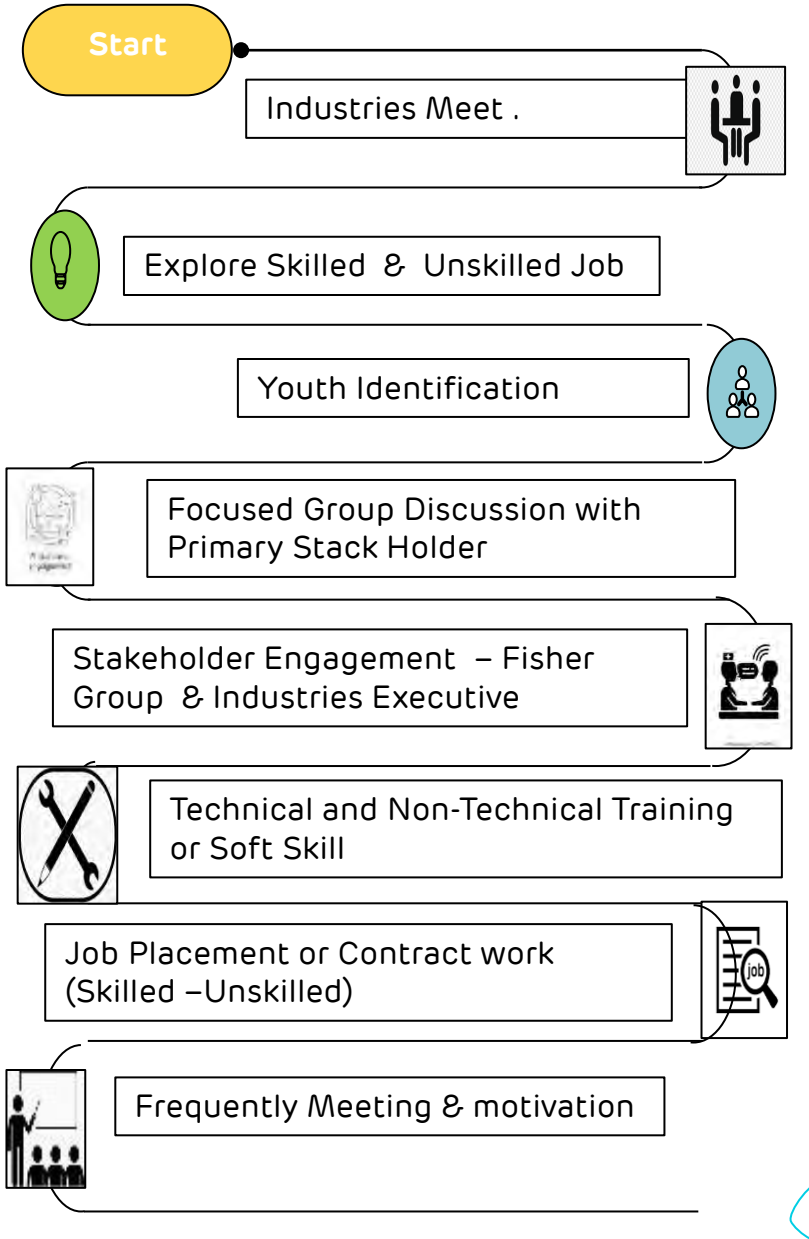
**Impact**

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

# SUSTAINABLE LIVELIHOOD DEVELOPMENT

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

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



# SUSTAINABLE LIVELIHOOD DEVELOPMENT

**Fisherfolk Livelihood**

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

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

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

# WOMEN EMPOWERMENT PROJECT

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

# WOMEN EMPOWERMENT PROJECT

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

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

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

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

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

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

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

# WOMEN EMPOWERMENT PROJECT

1. 56+ women by Gram Bharati Platform

2. 102 + Menstrual Hygiene workshops

3. 12+ Advocacy and Domestic violence sessions

4. 82 SHG - Saving & Credit Activity

5. 220 + Job Placement

# WOMEN EMPOWERMENT PROJECT

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

# WOMEN EMPOWERMENT PROJECT

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

# Community Health

*Access to quality healthcare is a fundamental right of every individual*

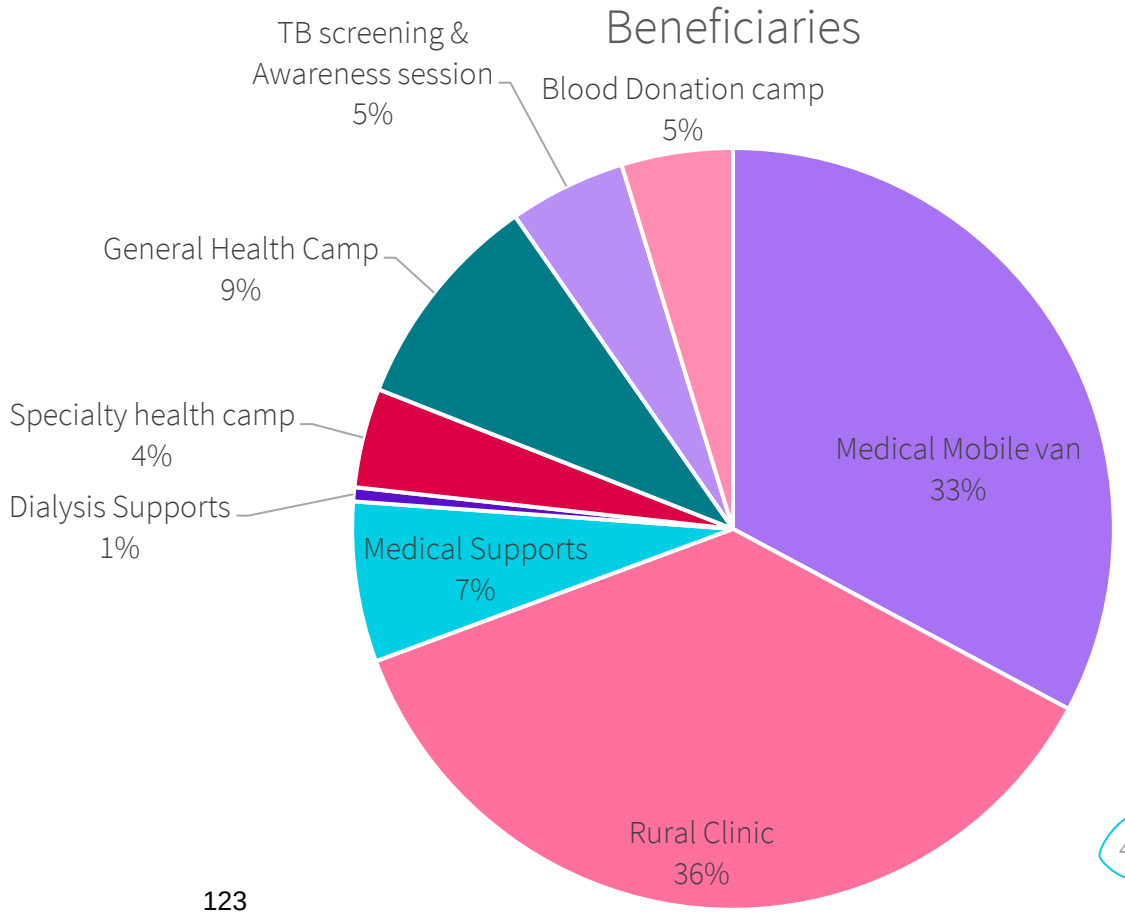
Health plays a crucial role in transforming people's lives.We all realized importance of health after facing challenging situation during Pendamic. Access to quality health care gives a fair chance to lead healthy, productive lives. Healthy people can utilize opportunities available to them.

# Community Health

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

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

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



# Community Health

## Rural Clinic & Mobile Health Care unit

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

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

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

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

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


# Community Health

## Medical Support Detail

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

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

## Dialysis Support

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

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

## NCD Awareness and Prevention

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

## Machhimar Shudhh Jal Yojana

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

# COMMUNITY INFRASTRUCTURE DEVELOPMENT

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

# COMMUNITY INFRASTRUCTURE DEVELOPMENT

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

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

Community Training center Shekadiya

Vegetable Market at Mundra

Development of Gate Valve at Checkdam

School Compound wall at Rampar

Fisherman approach Road restoration

Bund Strengt-hening at Bhujpur

2 Pond Deepening - Azadi ka Amrut Mahotsav

Renovation Training center Mundra

Renovation Blood storage Lab CHC Mundra

2 Disable Widow Toilet Block

2 CC Road of 700 mtr.

R.O. Plant Mokha 1000ltr /HR

JCB & Hitachi Support for Pre-Monsoon Activity

Check dam Re – strengthening Bharudiya

Pond Pipeline work 800 Mtr

Flood Water Control Sluice Gate at Zarpara

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

# CRC MUNDRA

## Community Resource Center

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

**Key Achievements of Community Resource Center**

**Monthly Base**

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

# CRC MUNDRA

## Widow Pension Yojna

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

## Monthly Pension and other allied Scheme

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

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

## Bal Sakha Yojna

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

## Palak Mata Pita Yojna:-

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

## Niradhar Pension Scheme

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

# CRC MUNDRA

## Key Achievements of Community Resource Center

### One time

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

**Some Glimpse of Cow Nutrition Support scheme Biogas Under Gobardhan scheme**

# ADANI SKILL DEVELOPMENT CENTRE

**Total Centre Admissions FY 22 - 23**

## Mundra

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

## Bhuj

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

# ADANI SKILL DEVELOPMENT CENTRE BHUJ

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

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

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

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


# ADANI SKILL DEVELOPMENT CENTRE MUNDRA

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

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

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

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

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

# ADANI SKILL DEVELOPMENT CENTRE MUNDRA

## DEO Project

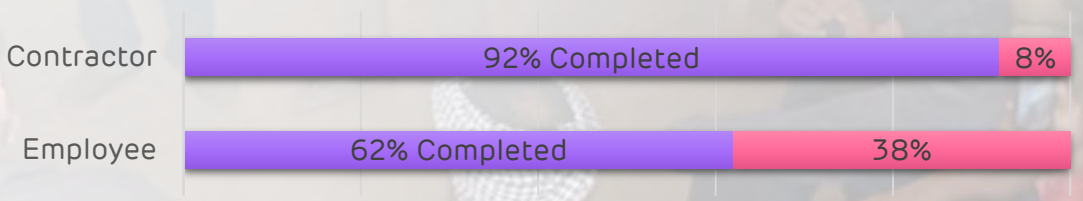
MOU with Kachchh  District Education Office. In this MOU ASDC has provided training of Digital Literacy and Basic Functional English in Kachchh District Schools. As per MOU Kachchh District Education Office has provided 4000 candidates to us for training (Adani Skill Development Centre). Funding from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

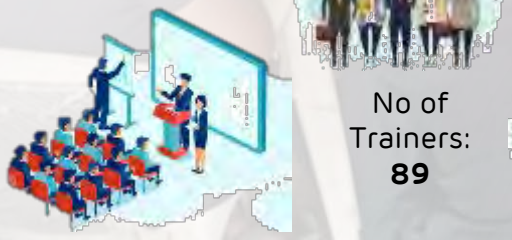
| Courses | Total Students Trained |
|---|---|
| Basic Functional English | 2659 |
| Digital Literacy | 1341 |
| **Total** | **4000** |

# Dignity of Work Force Programe - EVP

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

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

No of sessions
**200+**

No of Trainers:
**89**

No of days
**144**

Total no covered:
**8000**

# Dignity of Work Force Programe - EVP

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

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

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

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

# Dignity of Work Force Programe - EVP









# Health Camp for workforce and Green Carinal Celebration

**18** Green carnivals

**17472** Kg Fruits and Vegetable

**436000** INR

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

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

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

# ADANI KANDLA BULK TERMINAL PVT LTD - TUNA

**Water at Fisherfolk settlement**

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

**Fodder Support**

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

**Tree –Plantation**

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

# ADANI KANDLA BULK TERMINAL PVT LTD - TUNA

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

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

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

# ADANI GREEN ENERGY LTD - ABDASA

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

# Impact Story

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

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

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

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

# Impact Story


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

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

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

# Impact Story

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

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

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

# Impact Story

**Empowered Women, empowered nation!**

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

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

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

# Impact Story

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

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

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

# Impact Story

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

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

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

# Impact Story

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

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

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

# Impact Story

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

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

# Impact Story

*Health care service is to save the lives !*

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

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

# EVENTS

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

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

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

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

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

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

# EVENTS

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

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

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

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

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

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

# EVENTS

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

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

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

# EVENTS

National Farmer day on 22 dec with Honoring Women Farmers.

Animal Husbandry Awareness Program

International wet land ay Celebration Through Poster presentation Competition

Teacher Day & Youth Day Celebration

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

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

# EVENTS

International coastal Day celebration at Mandavi with Cleanliness Drive

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

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

# AWARDS

## ASSOCHAM AWARD FOR HEALTH CARE

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

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

# Awards and Recognition

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

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

# Awards and Recognition

નાયબ પશુપાલન નિયામકશ્રીની કચેરી,

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


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

# Support to children lost their parents in Morbi bridge collapsed incidence


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

## One step forward towards growth with goodness...

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

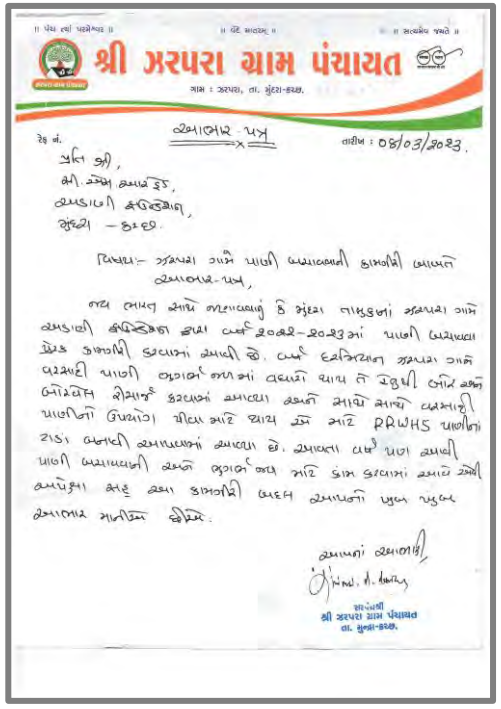
Representatives from Adani Foundation, Karsanbhai and Jagrutiben visited above districts to check on the affected children and also met with SBI bank officials, collectors regarding disbursal of amount. 10 Children received amount in their respective bank accounts. For others, work is under process.

# Capacity Building Training

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

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

# Awards and Recognition



શ્રી રપરા ગ્રામ પંચાયત

ગામ : રપરા, તા. મુંદરા-કચ્છ.

પ્રતિ શ્રી,
મી. જેમ્સ આર્થર કુક,
રપરાની કલેક્ટરશ્રી,
મુંદરા – કચ્છ.

વિષય:- રપરા ગામે પાણી પ્રશ્નાવાની બાબતે
રજુઆત-પત્ર,

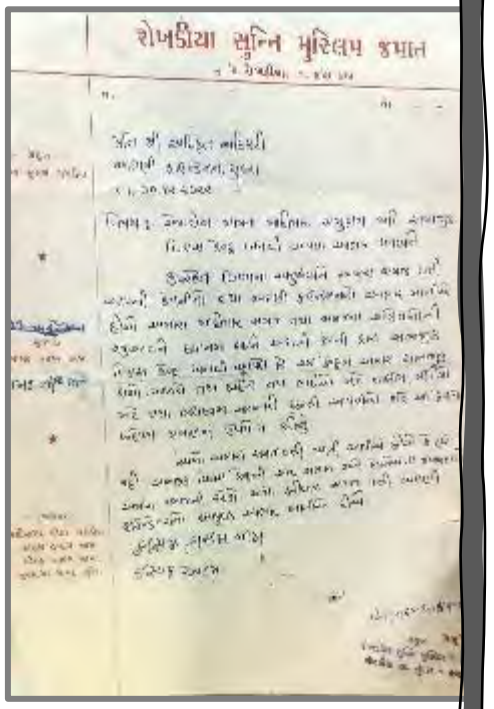
શ્રી નાના કપાયા પ્રાથમિક શાળા,નાના કપાયા,

મુન્દ્રા-કચ્છ

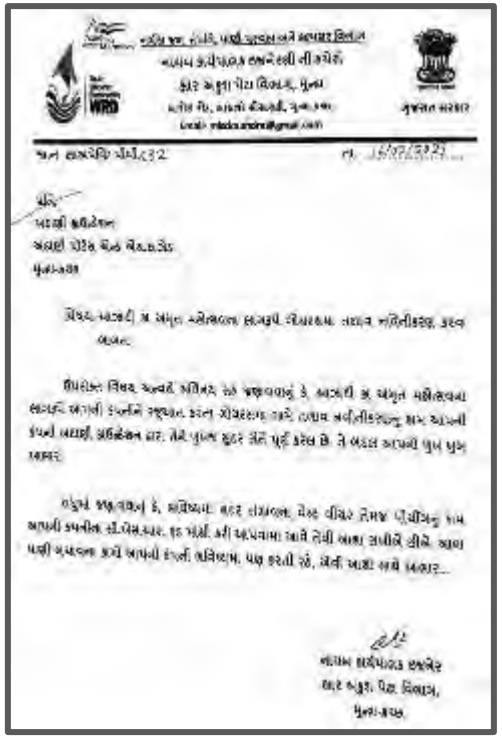
તા- 26/07/2022

SHREE RAMPAR GRAM PANCHAYAT OFFICE

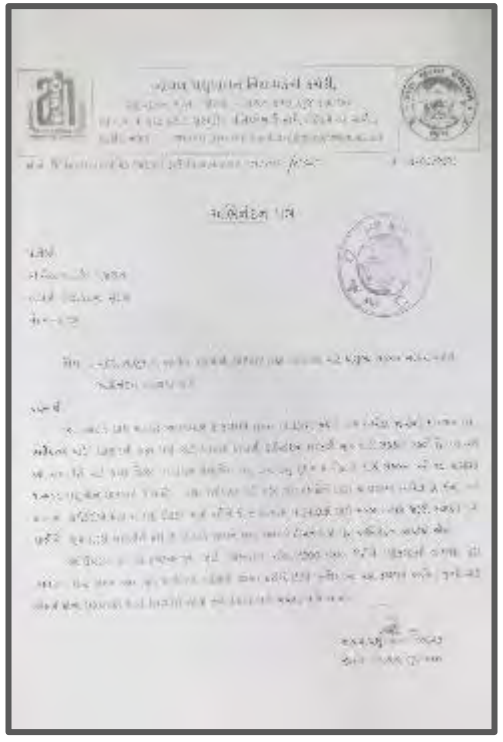
શ્રી રામપર ગ્રામ પંચાયત કચેરી

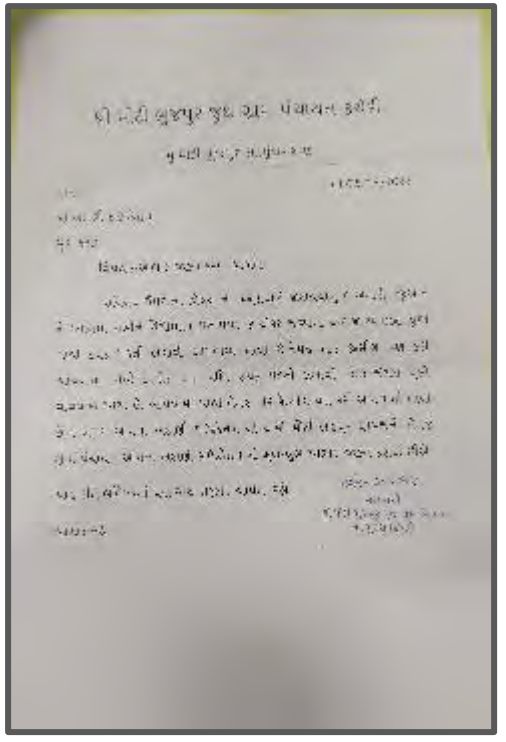


શેખડીયા મુસ્લિમ જમાત




District Primary Education Office,
Bhuj-Kutch






વન વિભાગ, કચ્છ - ભુજ
સન્માનપત્ર


૭૪ માં પ્રજાસત્તાક પર્વની ઉજવણી નિમિત્તે
જિલ્લા વહીવટી તંત્ર મોરબી દ્વારા
પ્રશસ્તિ પત્ર


દિવ્યાંગ મંડળ - કચ્છ
અંજાર-કચ્છ.
સન્માન પત્ર
શ્રી અદાણી ફાઉન્ડેશન મુન્દ્રા

# Beneficiaries List

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

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

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

સર્વે સંતુ નિરામયા, સર્વે ભદ્રાણી પચયન્તુ

## અદાણી ફાઉ. દ્વારા સ્ત્રીરોગ નિદાન કેમ્પમાં ૩૦૦ જેટલી બહેનોને નિ:શુલ્ક નિદાન અને સારવાર

ગુજરાત સમાચાર

મચ્છરના પોરા અને પોરા ભક્ષક માછલીનું નિદર્શન

## વિશ્વ મેલેરિયા દિનની ઉજવણીએ સંપૂર્ણ સારવાર પર ભાર મૂકાયો

## મુન્દ્રા સેઝમાં રોજગારીની તક આપીને દિવ્યાંગોને પગભર કરવાનો પ્રયાસ

### અદાણી ફાઉન્ડેશને વિશ્વ દિવ્યાંગ દિવસની કરી અનોખી ઉજવણી

ભુજ

## માછીમાર સમુદાયના છાત્રોને શિષ્યવૃત્તિ

અદાણી ફાઉન્ડેશન દ્વારા શરૂ

(પ્રથમ આવૃત્તિ) ગુજરાત સમાચાર 3

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

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

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

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

### આંતરરાષ્ટ્રીય મિલેટ વર્ષ-૨૦૨૩ને સુસંગત કાર્યક્રમનું સફળ આયોજન

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

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

વિશેષ પ્રતિભા પુરાવતા

નખત્રાણાના ફુલાય-છારીઢંઢ વિસ્તા
૯૭૩ જેટલા ઊંટોનું રસીકરણ કર

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

### ગાય વર્ગના પશુઓમાં આવેલી મહામારી માટે ફરતું મેડિકલ વાહનથી અપાતી સારવાર

કચ્છમિત્ર ભુજ - શુક્રવાર, તા. ૦૬-

અદાણી ફાઉન્ડેશનના સહકારથી કુરણના બી.આર.સી. ભવનમા યોજાયેલા તાલુકા વિજ્ઞાનમેળામા કૃતિ નિહાળતા અતિથિઓ તથા અન્ય.

# મુંદરા તાલુકા કક્ષાના વિજ્ઞાનમેળામાં ૫૧ શાળાના છાત્રે કરાવ્યાં પ્રતિભાનાં દર્શન

ભુજ, તા. ૫ : બાળકે અવનવું શીખે, અભ્યાસમા રસ, નવુ જાણવા ઓછી ભણાય એ હેતુસર જાત-ભાત આયોજન થતા રહે એ આવશ્યક છે. એ સદર્ભે મુંદરા તાલુકા કક્ષા એટલે કે બી.આર.સી. ક્ષેત્રના વિજ્ઞાન મેળાનુ આયોજન ગ્રામ ઉદ્યોગ્યુવન મોનસાણા ખાતે કરવામા આવ્યુ હતુ.

આ આયોજન જી.એસ.હાઈસ્કુલ.ટી.સી. ગાંધીધામના અને ગ્રામ સેવક યુવાના માર્ગદર્શન હેઠળ કરવામા આવ્યુ હતુ. આ મેળામા ૫૧ શાળાના ૧૦૨ વિદ્યાર્થીઓએ ભાગ લીધો હતો. જેમા બી.આર.સી. ક્ષેત્રના પ્રદર્શિત કરવામા આવી હતી. આ પ્રદર્શનમા ગણિત અને નાવિન્ય, ગણિત નાવિન્ય હાથ ધરેલ વિજ્ઞાન વિષયોને લગતા હતા. આ પ્રદર્શિત થયા જ બાદ વૈજ્ઞાનિકોને પણ પ્રોત્સાહન રૂપે ઈનામોપણ, પ્રમાણ પત્રો આપી અભિવાદિત કરવામા આવ્યા હતા. તેમના માર્ગદર્શક શિક્ષકને પણ પ્રોત્સાહિત કરવામા આવ્યા હતા.

## અદાણી ફાઉન્ડેશનના સહકારથી થઈ કરાયુ આયોજન : ૧૦૨ વિદ્યાર્થીએ કૃતિ રજૂ કરી

મુંદરા તાલુકાની શાળાના પાચ વૈજ્ઞાનિક, તેમના માર્ગદર્શકો, તાલુકા સી.આર.સી. પ્રમુખ, બી.આર.સી. કોર્ડીનેટરો તેમજ તેમની ટીમ, ટી.પી.ઈ.ઓ. ડેપ્યુ. ડી.પી.ઈ.ઓ. જયંતીલાલ

# રશિયાના વિદ્યાર્થીઓ કચ્છ અને અહીંની સંસ્કૃતિથી વાકેફ થયા

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

પુંદરા અને માંડવી તા.ની શાળાના છાત્રોના પરિવારો સાથે વર્ષુઅલ સવાદની તસવીર.

ભુજ, તા. ૧ : ઉત્થાન પ્રોજેક્ટ એ અદાણી ફાઉન્ડેશન દ્વારા કચ્છની ૬૯ સરકારી પ્રાથમિક શાળામાં ૨૦૧૮થી અમલમાં છે. એક ઉત્થાન સહાયકની નિમણૂક થકી વિદ્યાર્થીઓને ડેસ્કટોપ દ્વારા એકથી ચાર ધોરણના અંગ્રેજી લીખવવાના મુખ્ય હેતુ સાથે વિવિધ અતિરિક્ત સુવિધાઓ સાથે બાળકના સર્વાંગી વિકાસ માટે વિવિધ પ્રવૃત્તિ કરાય છે. બાળકના વિકાસમાં વાલીઓનો સાથ વિવિધ અનુભવ થકી બાળકનો સમગ્રલક્ષી વિકાસ તે આશયથી છે જે

આર્થિક સહાયને ૧૦ વર્ષના ૩૮ શાળા પાર્ટનર શાળા તરીકે નવી કરાયુ હતુ. તે જ પ્રમાણે ઓગષ્ટ-

# અદાણી ફાઉન્ડેશન દ્વારા ઉમરપાડાના આદિવાસી ખેડૂતો માટે જાગૃતિ શિબિર

## ખેડૂતોને જૈવિક ખેતી- ટપક સિંચાઈ ખેતી અંગે જાણકારી અપાઈ

જૂની પેતી અંગેના વિવિધ મુદ્દાઓને આવરી લઈને એક જાગૃતિ શિબિર સુરત જિલ્લાના ઉમરપાડા તાલુકાના ચોખવાડા ગામ ખાતે યોજાઈ હતી. અદાણી ફાઉન્ડેશન, ઉજાસ દ્વારા આયોજિત આ શિબિરમાં આદિ જાતિના ખેડૂતોએ ભાગ લીધો હતો. આ શિબિરમાં ખેડૂતોએ પેતી વિષયક માર્ગદર્શન પૂરુ પાડવું હતું અને ખેડૂતોના પ્રશ્નોના ઉકેલ આવ્યા હતા.

પેસા જાગૃતિ અંગેના આ કાર્યક્રમમાં ઉમરપાડાના ચોખવાડા ગામના ખેડૂતોએ હાજર રહીને

# અદાણી ફાઉન્ડેશન પ્રકલ્પ ઉત્થાન પ્રોજેક્ટ અંતર્ગત વિવિધ દિવસોની ઉજવણા આવતી અનોખી રીતે ઉજવણી

# અદાણી ફાઉન્ડેશન દહેજ દ્વારા વાગરા તહસીલ के 14 स्कूलों में परियोजना उत्थान के तहत दीपावली मेले का आयोजन

દહેજ, અદાણી ફાઉન્ડેશન દ્વારા

# વાગરા તાલુકાની ૧૪ શાળામાં પ્રોજેક્ટ ઉત્થાન અંતર્ગત દિવાળી મેળો યોજાયો

# હેલ્થકેર સમિટમાં અદાણી ફાઉન્ડેશનને પ્રતિષ્ઠિત એવોર્ડ એનાયત કરવામાં આવ્યો

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

# મોરબી દુર્ઘટનામાં છત્રછાયા ગુમાવનારા ૨૦ બાળકને પાંચ કરોડની સહાય

# અદાણી ફાઉન્ડેશનના નેત્રંગના કોટવાળિયાએ બનાવેલી વાંસની બનાવટો અદાણી ગ્રુપના ગ્રામ ભારતીમાં પ્રદર્શિત થઈ

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

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# કચ્છની ૫૯ શાળાઓમાં 'ઇકો ફ્રેન્ડલી' રક્ષાબંધનની ઉજવણી

# THANK YOU

# Annexure – 3

डॉ एम. सुरेश कुमार /Dr. M. Suresh Kumar
मुख्य वैज्ञानिक तथा प्रमुख/Chief Scientist & Head
प्रोफेसर एसीएसआईआर/Professor AcSIR
पर्यावरणीय प्रभाव एवं संधारणीय प्रभाग
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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/07

Date: 06/03/2023

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 19-20.01.2023

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 19th to 20th January, 2023 and the compliance report (April 2022 - September, 2022) 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,

(M. Suresh Kumar)

# Annexure – 4

# Details of Greenbelt Development at APSEZ, Mundra

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

# Details of Mangrove Afforestation done by APSEZ

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

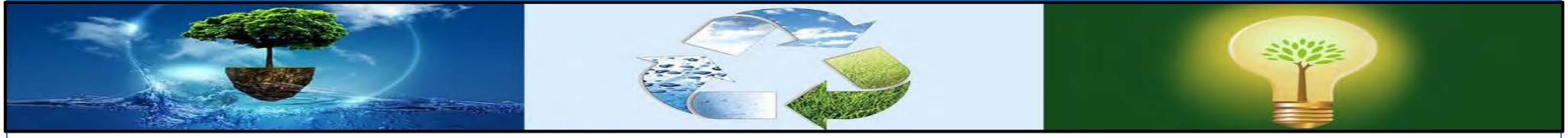
# Annexure – 5

# Compliance Report of EMP & Mitigation Measures

| Sr. No. | Suggested Measures | Compliance Status |
|---|---|---|
| ✍ **Construction Phase:** | | |
| **A** | **Air Environment** | |
| 1 | Water sprinkling in vulnerable areas | Water sprinkling on road and other construction area as well as on construction materials is being carried out on regular bases. |
| 2 | Enforce proper maintenance of vehicles and construction equipment. Allowing only PUC approved vehicles in the site. | Please refer Condition No. ix of Part-B (General Conditions Construction phase) of EC and CRZ Clearance. |
| 3 | Enforce usage of covered trucks for transport of construction material. | Covered trucks are being used for handling of construction materials. |
| **B** | **Noise Environment** | |
| 4 | Enforce proper maintenance of vehicles and construction equipment. Enforce use of earmuffs / earplugs to workers in high noise level areas. | The vehicles of on-going construction work enter inside the premises after the fitness check. Ear protection device is provided to workers in high noise areas. |
| **C** | **Water Environment** | |
| 5 | Provide temporary drinking water supply and proper sanitation facilities within the site | Provision of drinking water and sanitation facility is being provided. |
| **D** | **Land / Soil Environment** | |
| 6 | Proper disposal of construction debris at regular intervals | Construction debris is being kept at identified temporary storage area and is being utilized for area development. |
| **E** | **Thermal Environment** | |
| 7 | Enforce (i) use of Portland Pozzalano Cement / (ii) use of Portland Slag Cement / (iii) use fly ash as admixture in construction | Fly ash mixed paver blocks are being used are used for development of back up area, footpath, colonies area, parking area, approach road etc.<br><br>Please refer Condition No. xii of Part-B (General Conditions: Construction phase) of EC and CRZ Clearance. |
| **F** | **Energy** | |
| 8 | Wherever possible, piping shall be along the natural topography to permit gravity flow. Else, energy efficient pumps shall be used. Pipe material shall be such as to minimize friction losses. | Energy efficient pumps and HDPE Pipelines are used for supply of utilities. Refer point no. xii of EC & CRZ Clearance in Part – B (Operation Phase) for energy efficient electrical fittings. Few of the buildings in MSTPL are designed as green building. |
| 9 | Wherever possible, natural light shall | |

| Sr. No. | Suggested Measures | Compliance Status |
|---|---|---|
| | be used. Energy efficient electrical fittings and fixtures shall be used. | |
| ✍ **Operation Phase:** | | |
| **A** | **Land / Soil Environment** | |
| 1 | Good quality non-corrosive type pipeline should be used. Regular checking of the pipelines for early detection of any possible leakage and damage. Regular ground water monitoring should be done within the SEZ. | HDPE pipelines are used for supply of utility. Regular visual surveillance along the utility lines corridor is being done to check leakage or damage.<br><br>Third party analysis of the ground water is being carried out at every three month by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi.<br><br>Please refer Condition No. v of Part-B (General Conditions: Construction phase) of EC and CRZ Clearance. |
| 2 | The waste should be transported in covered trucks. Vermi-composting is highly recommended for treatment and disposal of biodegradable and kitchen wastes.<br>Other domestic solid waste (garbage) shall be disposed through MSW facility or as per prevailing norms. | Please refer Condition No. iv of Part-B (General Conditions: Construction phase) of EC and CRZ Clearance. |
| 3 | The waste should be transported in covered trucks. Transporter should be informed of remedial measures required to be taken in case of spillage of waste | Waste handling vehicles are being handled through covered trucks only. Details were submitted along with compliance report submission i.e. Apr'17 to Sep'17. |
| **B** | **Socio-Economic Environment** | |
| 4 | It will encourage development of surrounding areas & further generate employment. People from various cultures shall mingle encouraging a more tolerant society. | Please refer Condition No. vii of **Annexure – B** (Compliance Status of MoEF & CC Order dated 18.09.2015). |

# Annexure – 6



# “Half Yearly Environmental Monitoring Reports “

**For,**

adani
Ports and Logistics

## M/S. ADANI PORTS & SEZ Limited.

Notified SEZ area, Tal. – Mundra, Dist. – Kutch – 370421.

**Monitoring Period: October– 2022 to March - 2023**

**Submitted By**

UniStar
Environment and Research Labs Pvt. Ltd.

## UniStar Environment & Research Labs Pvt. Ltd.

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

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Oct-22 | | Nov-22 | | Dec-22 | | | |
| | | | 10-10-2022 | 21-10-2022 | 7-11-2022 | 17-11-2022 | 12-12-2022 | 30-12-2022 | | |
| 1. | pH @ 25 ° C | -- | 7.4 | 7.42 | 7.25 | 7.2 | 7.14 | 7.28 | 6.5 to 9 | APHA 23rd Ed.,2017,4500-$H^+$B |
| 2. | Total Suspended Solids | mg/L | 22 | 24 | 28 | 22 | 24 | 22 | 100 | APHA 23rd Ed.,2017,2540 -D |
| 3. | Biochemical Oxygen Demand (BOD) (5 days at 20 ° C) | mg/L | 15 | 17 | 18 | 19 | 16 | 14 | 30 | APHA 23rd Ed,2017,5210-B 5-6 |
| 4. | Residual chlorine | mg/L | 0.68 | 0.72 | 0.82 | 0.88 | 0.76 | 0.74 | 0.5 Min. | APHA 23rd Ed.,2017,4500-Cl-B |
| 5. | Fecal Coliform | MPN Index/100ml | 40 | 50 | 80 | 60 | 110 | 60 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan-23 | | Feb-23 | | Mar-23 | | | |
| | | | 09-01-2023 | 31-01-2023 | 10-02-2023 | 27-02-2023 | 13-03-2023 | 28-03-2023 | | |
| 1. | pH @ 25 ° C | -- | 7.31 | 7.24 | 7.28 | 7.24 | 7.32 | 7.36 | 6.5 to 9 | APHA 23rd Ed.,2017,4500-$H^+$B |
| 2. | Total Suspended Solids | mg/L | 24 | 28 | 26 | 24 | 20 | 18 | 100 | APHA 23rd Ed.,2017,2540 -D |
| 3. | Biochemical Oxygen Demand (BOD) (5 days at 20 ° C) | mg/L | 16 | 18 | 17 | 16 | 16 | 16 | 30 | APHA 23rd Ed,2017,5210-B 5-6 |
| 4. | Residual chlorine | mg/L | 0.82 | 0.78 | 0.82 | 0.82 | 0.88 | 0.94 | 0.5 Min. | APHA 23rd Ed.,2017,4500-Cl-B |
| 5. | Fecal Coliform | MPN Index/100ml | 60 | 80 | 70 | 110 | 60 | 110 | 1000 | IS 1622: 1981 |

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

**Mr. Nilesh Patel**
Sr. Chemist

**Mr. Nitin Tandel**
Technical Manager

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## RESULTS OF STP OUTLET WATER

| SR.NO. | TEST PARAMETERS | UNIT | North Gate STP OUTLET | | | | | | GPCB Permissible Limit | TEST METHOD |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Oct-22 | | Nov-22 | | Dec-22 | | | |
| | | | 10-10-2022 | 21-10-2022 | 7-11-2022 | 17-11-2022 | 12-12-2022 | 29-12-2022 | | |
| 1. | pH @ 25 ° C | -- | 7.29 | 7.46 | 7.42 | 7.38 | 7.29 | 7.42 | 6.5 to 9 | APHA 23rd Ed.,2017,4500-$H^+$B |
| 2. | Total Suspended Solids | mg/L | 26 | 24 | 26 | 24 | 22 | 18 | 100 | APHA 23rd Ed.,2017,2540 -D |
| 3. | Biochemical Oxygen Demand (BOD) (5 days at 20 ° C) | mg/L | 16 | 17 | 18 | 16 | 15 | 14 | 30 | APHA 23rd Ed,2017,5210-B 5-6 |
| 4. | Residual chlorine | mg/L | 0.74 | 0.82 | 0.84 | 0.94 | 0.82 | 0.84 | 0.5 Min. | APHA 23rd Ed.,2017,4500-Cl-B |
| 5. | Fecal Coliform | MPN Index/100ml | 80 | 70 | 50 | 80 | 70 | 60 | 1000 | IS 1622: 1981 |

Continue…


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

## RESULTS OF STP OUTLET WATER

| SR.NO. | TEST PARAMETERS | UNIT | North Gate STP OUTLET | | | | | | GPCB Permissible Limit | TEST METHOD |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Jan-23 | | Feb-23 | | Mar-23 | | | |
| | | | 09-01-2023 | 30-01-2023 | 11-02-2023 | 28-02-2023 | 14-03-2023 | 28-03-2023 | | |
| 1. | pH @ 25 ° C | -- | 7.41 | 7.35 | 7.28 | 7.41 | 7.44 | 7.48 | 6.5 to 9 | APHA 23rd Ed.,2017,4500-$H^+$B |
| 2. | Total Suspended Solids | mg/L | 20 | 22 | 24 | 26 | 20 | 24 | 100 | APHA 23rd Ed.,2017,2540 -D |
| 3. | Biochemical Oxygen Demand (BOD) (5 days at 20 ° C) | mg/L | 18 | 19 | 16 | 17 | 18 | 17 | 30 | APHA 23rd Ed,2017,5210-B 5-6 |
| 4. | Residual chlorine | mg/L | 0.94 | 0.85 | 0.88 | 0.82 | 0.74 | 0.82 | 0.5 Min. | APHA 23rd Ed.,2017,4500-Cl-B |
| 5. | Fecal Coliform | MPN Index/100ml | 60 | 80 | 130 | 90 | 80 | 90 | 1000 | IS 1622: 1981 |

**Mr. Nilesh Patel**
**Sr. Chemist**

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

**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. | 03-10-2022 | 79.37 | 28.34 | 17.38 | 26.86 | 0.92 | NOT DETECTED | NOT DETECTED |
| 2. | 06-10-2022 | 83.47 | 36.86 | 19.63 | 23.26 | 1.15 | NOT DETECTED | NOT DETECTED |
| 3. | 10-10-2022 | 82.38 | 32.12 | 17.88 | 29.10 | 1.00 | NOT DETECTED | NOT DETECTED |
| 4. | 13-10-2022 | 73.48 | 29.73 | 18.39 | 26.24 | 1.12 | NOT DETECTED | NOT DETECTED |
| 5. | 17-10-2022 | 84.32 | 26.46 | 24.96 | 31.82 | 1.00 | NOT DETECTED | NOT DETECTED |
| 6. | 20-10-2022 | 88.74 | 37.94 | 23.58 | 29.39 | 1.10 | NOT DETECTED | NOT DETECTED |
| 7. | 27-10-2022 | 75.93 | 23.63 | 29.34 | 37.43 | 0.96 | NOT DETECTED | NOT DETECTED |
| 8. | 28-10-2022 | 81.29 | 32.45 | 22.25 | 31.98 | 1.13 | NOT DETECTED | NOT DETECTED |
| 9. | 31-10-2022 | 78.64 | 39.41 | 31.48 | 38.71 | 1.00 | NOT DETECTED | NOT DETECTED |
| 10. | 03-11-2022 | 83.21 | 27.43 | 11.24 | 16.78 | 1.00 | 4.72 | NOT DETECTED |
| 11. | 07-11-2022 | 78.23 | 21.25 | 14.78 | 20.15 | 1.15 | 3.29 | NOT DETECTED |
| 12. | 10-11-2022 | 65.78 | 31.16 | 17.89 | 24.56 | 0.94 | 5.63 | NOT DETECTED |
| 13. | 14-11-2022 | 77.58 | 22.47 | 23.45 | 31.36 | 1.00 | 5.09 | NOT DETECTED |
| 14. | 17-11-2022 | 81.24 | 26.28 | 26.78 | 30.15 | 1.00 | 4.37 | NOT DETECTED |
| 15. | 21-11-2022 | 83.45 | 34.56 | 23.10 | 28.15 | 1.15 | 4.86 | NOT DETECTED |

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 |
| 16. | 24-11-2022 | 73.45 | 28.51 | 22.45 | 27.14 | 0.95 | 2.98 | NOT DETECTED |
| 17. | 28-11-2022 | 80.12 | 23.83 | 19.25 | 22.53 | 1.00 | 4.12 | NOT DETECTED |
| 18. | 01-12-2022 | 84.42 | 23.57 | 16.38 | 26.47 | 1.16 | 3.72 | NOT DETECTED |
| 19. | 05-12-2022 | 68.54 | 21.75 | 19.43 | 25.79 | 1.00 | 4.76 | NOT DETECTED |
| 20. | 08-12-2022 | 82.71 | 24.17 | 26.19 | 34.27 | 1.10 | 4.88 | NOT DETECTED |
| 21. | 12-12-2022 | 76.83 | 29.96 | 28.77 | 37.36 | 1.13 | 4.26 | NOT DETECTED |
| 22. | 15-12-2022 | 86.53 | 32.78 | 21.91 | 27.52 | 1.00 | 3.57 | NOT DETECTED |
| 23. | 19-12-2022 | 83.36 | 31.26 | 27.62 | 33.13 | 1.16 | 3.72 | NOT DETECTED |
| 24. | 22-12-2022 | 79.16 | 34.04 | 25.12 | 31.98 | 1.00 | 3.14 | NOT DETECTED |
| 25. | 26-12-2022 | 73.58 | 29.36 | 22.65 | 29.07 | 1.00 | 3.64 | NOT DETECTED |
| 26. | 29-12-2022 | 85.63 | 36.42 | 26.83 | 36.17 | 1.15 | 4.12 | NOT DETECTED |
| 27. | 02-01-2023 | 72.36 | 29.62 | 13.28 | 31.34 | 1.00 | 2.96 | NOT DETECTED |
| 28. | 05-01-2023 | 84.27 | 24.38 | 26.73 | 34.86 | 1.12 | 3.59 | NOT DETECTED |
| 29. | 09-01-2023 | 81.63 | 27.47 | 17.38 | 26.47 | 1.00 | 3.26 | NOT DETECTED |
| 30. | 12-01-2023 | 75.38 | 37.24 | 26.77 | 32.14 | 1.00 | 4.83 | NOT DETECTED |
| 31. | 16-01-2023 | 87.31 | 26.48 | 16.64 | 27.92 | 1.15 | 4.89 | NOT DETECTED |

Continue…

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

Continue…

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

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(Manager - Operations)

## Results of Ambient Air Quality Monitoring

| Name of Location | | Adani Guest House | | | | |
|---|---|---|---|---|---|---|
| Sr. No. | Date of Monitoring | Parameter with Results | | | | |
| | | $PM_{10}$ µg/m³ | $PM_{2.5}$ µg/m³ | $SO_2$ µg/m³ | $NO_2$ µg/m³ | CO mg/m³ |
| 1. | 03-10-2022 | 79.7 | 32.63 | 18.34 | 27.84 | NOT DETECTED |
| 2. | 06-10-2022 | 76.58 | 39.09 | 19.73 | 23.69 | -- |
| 3. | 10-10-2022 | 89.47 | 32.53 | 21.24 | 28.72 | -- |
| 4. | 13-10-2022 | 82.64 | 29.85 | 23.96 | 34.28 | -- |
| 5. | 17-10-2022 | 84.38 | 38.66 | 21.47 | 36.94 | -- |
| 6. | 20-10-2022 | 78.36 | 39.54 | 18.75 | 26.14 | -- |
| 7. | 27-10-2022 | 80.72 | 42.96 | 26.45 | 36.58 | -- |
| 8. | 28-10-2022 | 87.16 | 39.28 | 19.38 | 28.73 | -- |
| 9. | 31-10-2022 | 86.34 | 37.16 | 24.84 | 31.46 | -- |
| 10. | 03-11-2022 | 65.77 | 31.25 | 7.12 | 14.56 | -- |
| 11. | 07-11-2022 | 72.34 | 33.45 | 9.12 | 16.78 | -- |
| 12. | 10-11-2022 | 68.93 | 24.54 | 6.89 | 15.35 | -- |
| 13. | 14-11-2022 | 72.34 | 35.12 | 8.95 | 17.89 | -- |
| 14. | 17-11-2022 | 68.12 | 25.67 | 7.12 | 14.56 | -- |
| 15. | 21-11-2022 | 84.56 | 35.12 | 8.34 | 21.34 | -- |

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. | 24-11-2022 | 86.57 | 32.15 | 9.2 | 18.79 | -- |
| 17. | 28-11-2022 | 66.15 | 25.89 | 7.65 | 15.67 | -- |
| 18. | 01-12-2022 | 73.38 | 36.72 | 11.25 | 16.63 | -- |
| 19. | 05-12-2022 | 68.38 | 31.44 | 13.52 | 15.47 | -- |
| 20. | 08-12-2022 | 78.17 | 29.52 | 14.73 | 18.29 | -- |
| 21. | 12-12-2022 | 82.36 | 38.19 | 10.46 | 17.61 | -- |
| 22. | 15-12-2022 | 73.26 | 34.64 | 9.36 | 12.75 | -- |
| 23. | 19-12-2022 | 76.22 | 39.81 | 13.58 | 16.53 | -- |
| 24. | 22-12-2022 | 64.68 | 33.79 | 11.31 | 19.63 | -- |
| 25. | 26-12-2022 | 82.38 | 28.15 | 14.27 | 17.26 | -- |
| 26. | 29-12-2022 | 78.46 | 26.39 | 9.62 | 14.63 | -- |
| 27. | 02-01-2023 | 62.38 | 26.79 | 10.58 | 19.73 | NOT DETECTED |
| 28. | 05-01-2023 | 84.57 | 39.32 | 16.42 | 22.53 | -- |
| 29. | 09-01-2023 | 73.62 | 36.69 | 11.28 | 16.36 | -- |
| 30. | 12-01-2023 | 83.77 | 31.52 | 14.79 | 21.68 | -- |
| 31. | 16-01-2023 | 82.49 | 42.09 | 17.63 | 24.73 | -- |

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. | 19-01-2023 | 74.18 | 31.52 | 9.61 | 13.28 | -- |
| 33. | 23-01-2023 | 78.51 | 26.36 | 10.83 | 16.97 | -- |
| 34. | 26-01-2023 | 76.42 | 36.58 | 13.67 | 19.05 | -- |
| 35. | 30-01-2023 | 87.28 | 33.83 | 13.17 | 17.36 | -- |
| 36. | 02-02-2023 | 78.62 | 32.16 | 12.47 | 21.28 | -- |
| 37. | 06-02-2023 | 61.89 | 34.86 | 14.19 | 17.63 | -- |
| 38. | 09-02-2023 | 74.38 | 29.69 | 9.84 | 14.89 | -- |
| 39. | 13-02-2023 | 84.27 | 27.81 | 11.27 | 18.36 | -- |
| 40. | 16-02-2023 | 73.14 | 37.88 | 14.34 | 19.49 | -- |
| 41. | 20-02-2023 | 85.39 | 29.84 | 10.28 | 16.81 | -- |
| 42. | 23-02-2023 | 71.29 | 34.16 | 16.69 | 23.48 | -- |
| 43. | 27-02-2023 | 89.17 | 29.96 | 12.37 | 16.69 | -- |
| 44. | 02-03-2023 | 89.13 | 37.52 | 14.26 | 17.72 | -- |
| 45. | 06-03-2023 | 73.91 | 35.16 | 18.53 | 23.38 | -- |
| 46. | 09-03-2023 | 78.64 | 33.48 | 13.76 | 18.55 | -- |
| 47. | 13-03-2023 | 88.24 | 29.85 | 15.31 | 21.43 | -- |

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. | 16-03-2023 | 82.83 | 32.18 | 11.28 | 18.64 | -- |
| 49. | 20-03-2023 | 79.12 | 35.63 | 14.19 | 19.61 | -- |
| 50. | 23-03-2023 | 85.26 | 26.19 | 13.84 | 17.19 | -- |
| 51. | 27-03-2023 | 80.84 | 32.74 | 15.95 | 21.63 | -- |
| 52. | 30-03-2023 | 87.42 | 27.79 | 12.64 | 16.29 | -- |
| **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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## 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. | 03-10-2022 | 86.52 | 34.56 | 15.67 | 21.44 | NOT DETECTED |
| 2. | 06-10-2022 | 82.35 | 27.86 | 13.45 | 18.78 | -- |
| 3. | 10-10-2022 | 89.34 | 30.23 | 18.78 | 24.56 | -- |
| 4. | 13-10-2022 | 78.44 | 24.21 | 21.34 | 27.67 | -- |
| 5. | 17-10-2022 | 85.67 | 26.57 | 20.45 | 24.56 | -- |
| 6. | 20-10-2022 | 81.07 | 37.68 | 22.45 | 28.79 | -- |
| 7. | 27-10-2022 | 87.42 | 26.75 | 22.46 | 27.65 | -- |
| 8. | 28-10-2022 | 74.56 | 23.28 | 19.89 | 25.61 | -- |
| 9. | 31-10-2022 | 81.52 | 27.9 | 23.48 | 29.35 | -- |
| 10. | 03-11-2022 | 72.34 | 26.12 | 15.21 | 21.45 | -- |
| 11. | 07-11-2022 | 82.34 | 29.34 | 15.67 | 22.34 | -- |
| 12. | 10-11-2022 | 89.15 | 37.12 | 14.23 | 19.38 | -- |
| 13. | 14-11-2022 | 88.12 | 32.69 | 17.23 | 24.56 | -- |
| 14. | 17-11-2022 | 73.45 | 28.72 | 22.34 | 29.35 | -- |
| 15. | 21-11-2022 | 81.23 | 36.29 | 20.15 | 27.68 | -- |

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. | 24-11-2022 | 65.78 | 23.42 | 23.18 | 28.55 | -- |
| 17. | 28-11-2022 | 77.23 | 29.56 | 24.17 | 31.25 | -- |
| 18. | 01-12-2022 | 62.58 | 34.26 | 20.38 | 26.23 | -- |
| 19. | 05-12-2022 | 67.36 | 36.49 | 18.74 | 24.18 | -- |
| 20. | 08-12-2022 | 74.24 | 26.75 | 17.27 | 23.68 | -- |
| 21. | 12-12-2022 | 69.26 | 39.17 | 23.59 | 29.52 | -- |
| 22. | 15-12-2022 | 87.57 | 34.98 | 16.63 | 21.39 | -- |
| 23. | 19-12-2022 | 72.5 | 29.47 | 13.93 | 18.48 | -- |
| 24. | 22-12-2022 | 84.27 | 31.41 | 16.38 | 25.67 | -- |
| 25. | 26-12-2022 | 81.38 | 37.19 | 21.64 | 28.41 | -- |
| 26. | 29-12-2022 | 76.62 | 24.82 | 18.39 | 27.46 | -- |
| 27. | 02-01-2023 | 67.18 | 39.72 | 24.47 | 31.92 | 0.07 |
| 28. | 05-01-2023 | 83.72 | 43.47 | 26.25 | 32.53 | -- |
| 29. | 09-01-2023 | 88.62 | 34.79 | 21.38 | 27.44 | -- |
| 30. | 12-01-2023 | 76.24 | 28.61 | 20.88 | 25.73 | -- |
| 31. | 16-01-2023 | 68.62 | 27.36 | 19.73 | 28.48 | -- |

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 |
| 32. | 19-01-2023 | 88.23 | 38.57 | 24.42 | 33.62 | -- |
| 33. | 23-01-2023 | 68.24 | 37.18 | 22.87 | 27.16 | -- |
| 34. | 26-01-2023 | 62.4 | 45.66 | 27.34 | 34.63 | -- |
| 35. | 30-01-2023 | 82.27 | 34.32 | 24.28 | 31.27 | -- |
| 36. | 02-02-2023 | 89.17 | 43.76 | 30.69 | 37.28 | -- |
| 37. | 06-02-2023 | 83.68 | 32.48 | 21.35 | 28.93 | -- |
| 38. | 09-02-2023 | 76.06 | 37.53 | 18.16 | 26.55 | -- |
| 39. | 13-02-2023 | 87.29 | 35.42 | 27.53 | 36.19 | -- |
| 40. | 16-02-2023 | 71.53 | 33.73 | 29.93 | 38.61 | -- |
| 41. | 20-02-2023 | 85.16 | 31.96 | 32.39 | 39.46 | -- |
| 42. | 23-02-2023 | 87.52 | 42.09 | 28.31 | 34.83 | -- |
| 43. | 27-02-2023 | 79.26 | 32.58 | 22.79 | 31.18 | -- |
| 44. | 02-03-2023 | 86.38 | 35.82 | 24.18 | 31.64 | -- |
| 45. | 06-03-2023 | 83.54 | 27.19 | 27.63 | 36.81 | -- |
| 46. | 09-03-2023 | 71.49 | 31.47 | 23.38 | 29.42 | -- |
| 47. | 13-03-2023 | 86.51 | 42.87 | 31.48 | 39.53 | -- |

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 |
| 48. | 16-03-2023 | 81.28 | 40.16 | 25.96 | 32.47 | -- |
| 49. | 20-03-2023 | 78.51 | 37.55 | 28.17 | 34.28 | -- |
| 50. | 23-03-2023 | 86.42 | 33.75 | 23.18 | 27.06 | -- |
| 51. | 27-03-2023 | 71.32 | 38.19 | 29.73 | 35.62 | -- |
| 52. | 30-03-2023 | 82.74 | 41.78 | 32.57 | 41.48 | -- |
| **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 – 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. | 03-10-2022 | 73.9 | 21.4 | 13.45 | 17.68 | NOT DETECTED |
| 2. | 06-10-2022 | 66.5 | 17.6 | 15.65 | 22.34 | -- |
| 3. | 10-10-2022 | 89.53 | 25.68 | 14.34 | 20.13 | -- |
| 4. | 13-10-2022 | 76.28 | 21.23 | 12.56 | 17.43 | -- |
| 5. | 17-10-2022 | 81.4 | 28.76 | 11.21 | 15.56 | -- |
| 6. | 20-10-2022 | 65.92 | 19.55 | 10.15 | 16.78 | -- |
| 7. | 27-10-2022 | 77.67 | 22.34 | 12.65 | 18.94 | -- |
| 8. | 28-10-2022 | 75.51 | 26.78 | 10.45 | 15.67 | -- |
| 9. | 31-10-2022 | 63.75 | 18.94 | 12.45 | 18.93 | -- |
| 10. | 03-11-2022 | 54.23 | 23.45 | 11.25 | 16.78 | -- |
| 11. | 07-11-2022 | 79.14 | 28.23 | 12.68 | 17.23 | -- |
| 12. | 10-11-2022 | 62.34 | 20.17 | 14.56 | 20.17 | -- |
| 13. | 14-11-2022 | 69.22 | 25.34 | 17.98 | 23.45 | -- |
| 14. | 17-11-2022 | 59.63 | 19.55 | 12.34 | 16.78 | -- |
| 15. | 21-11-2022 | 72.34 | 33.67 | 11.25 | 15.21 | -- |

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. | 24-11-2022 | 77.45 | 29.16 | 16.35 | 19.25 | -- |
| 17. | 28-11-2022 | 68.35 | 26.12 | 13.35 | 15.84 | -- |
| 18. | 01-12-2022 | 67.29 | 19.57 | 18.39 | 26.63 | -- |
| 19. | 05-12-2022 | 63.61 | 23.73 | 16.42 | 23.58 | -- |
| 20. | 08-12-2022 | 84.57 | 16.35 | 11.74 | 16.37 | -- |
| 21. | 12-12-2022 | 60.54 | 29.51 | 15.63 | 19.88 | -- |
| 22. | 15-12-2022 | 74.58 | 27.93 | 19.24 | 27.63 | -- |
| 23. | 19-12-2022 | 59.5 | 26.48 | 16.73 | 24.12 | -- |
| 24. | 22-12-2022 | 68.13 | 21.26 | 20.58 | 29.65 | -- |
| 25. | 26-12-2022 | 71.69 | 32.37 | 17.41 | 22.28 | -- |
| 26. | 29-12-2022 | 69.24 | 27.04 | 21.82 | 28.37 | -- |
| 27. | 02-01-2023 | 88.37 | 24.53 | 22.14 | 31.83 | NOT DETECTED |
| 28. | 05-01-2023 | 71.62 | 27.66 | 19.97 | 21.35 | -- |
| 29. | 09-01-2023 | 89.41 | 23.49 | 17.27 | 20.69 | -- |
| 30. | 12-01-2023 | 75.39 | 21.84 | 23.69 | 29.74 | -- |
| 31. | 16-01-2023 | 61.33 | 33.59 | 24.17 | 34.28 | -- |

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. | 19-01-2023 | 82.17 | 29.62 | 20.89 | 28.31 | -- |
| 33. | 23-01-2023 | 52.74 | 27.57 | 26.36 | 36.02 | -- |
| 34. | 26-01-2023 | 63.29 | 22.78 | 22.41 | 28.76 | -- |
| 35. | 30-01-2023 | 73.64 | 31.26 | 26.48 | 33.14 | -- |
| 36. | 02-02-2023 | 79.63 | 17.35 | 20.68 | 27.55 | -- |
| 37. | 06-02-2023 | 86.38 | 23.69 | 26.52 | 36.17 | -- |
| 38. | 09-02-2023 | 72.83 | 29.13 | 24.77 | 31.46 | -- |
| 39. | 13-02-2023 | 81.62 | 27.34 | 18.89 | 25.6 | -- |
| 40. | 16-02-2023 | 75.26 | 24.81 | 29.63 | 39.15 | -- |
| 41. | 20-02-2023 | 89.37 | 19.68 | 24.35 | 33.89 | -- |
| 42. | 23-02-2023 | 69.74 | 32.28 | 21.26 | 29.63 | -- |
| 43. | 27-02-2023 | 73.59 | 26.47 | 28.92 | 34.29 | -- |
| 44. | 02-03-2023 | 81.62 | 21.85 | 23.27 | 32.71 | -- |
| 45. | 06-03-2023 | 75.27 | 19.79 | 21.86 | 27.47 | -- |
| 46. | 09-03-2023 | 87.3 | 25.62 | 28.27 | 35.21 | -- |
| 47. | 13-03-2023 | 73.16 | 31.16 | 25.84 | 33.59 | -- |

Continue…

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| 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. | 16-03-2023 | 78.48 | 27.32 | 21.49 | 27.38 | -- |
| 49. | 20-03-2023 | 75.26 | 24.91 | 29.64 | 36.17 | -- |
| 50. | 23-03-2023 | 88.51 | 28.85 | 28.75 | 34.29 | -- |
| 51. | 27-03-2023 | 74.27 | 35.74 | 31.25 | 38.63 | -- |
| 52. | 30-03-2023 | 79.58 | 26.36 | 24.78 | 30.25 | -- |
| **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. | 03-10-2022 | 71.23 | 22.34 | 11.24 | 17.89 | NOT DETECTED |
| 2. | 06-10-2022 | 60.56 | 17.89 | 15.34 | 21.34 | -- |
| 3. | 10-10-2022 | 68.78 | 22.34 | 13.24 | 18.78 | -- |
| 4. | 13-10-2022 | 59.8 | 19.86 | 10.26 | 15.67 | -- |
| 5. | 17-10-2022 | 82.34 | 26.78 | 17.67 | 24.51 | -- |
| 6. | 20-10-2022 | 75.56 | 28.78 | 21.34 | 27.89 | -- |
| 7. | 27-10-2022 | 63.45 | 24.34 | 17.89 | 24.55 | -- |
| 8. | 28-10-2022 | 71.54 | 25.67 | 15.45 | 22.16 | -- |
| 9. | 31-10-2022 | 78.35 | 27.92 | 19.85 | 23.45 | -- |
| 10. | 03-11-2022 | 68.95 | 21.34 | 14.12 | 21.35 | -- |
| 11. | 07-11-2022 | 59.94 | 16.47 | 11.29 | 16.34 | -- |
| 12. | 10-11-2022 | 66.12 | 23.19 | 18.24 | 23.21 | -- |
| 13. | 14-11-2022 | 69.95 | 21.38 | 19.24 | 24.73 | -- |
| 14. | 17-11-2022 | 82.34 | 30.15 | 21.24 | 26.74 | -- |
| 15. | 21-11-2022 | 73.62 | 24.56 | 17.34 | 26.11 | -- |

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. | 24-11-2022 | 80.12 | 26.78 | 13.28 | 21.4 | -- |
| 17. | 28-11-2022 | 65.38 | 23.45 | 17.45 | 26.16 | -- |
| 18. | 01-12-2022 | 79.27 | 16.38 | 17.63 | 28.46 | -- |
| 19. | 05-12-2022 | 66.43 | 19.46 | 18.54 | 25.38 | -- |
| 20. | 08-12-2022 | 78.56 | 17.32 | 13.49 | 31.73 | -- |
| 21. | 12-12-2022 | 62.36 | 27.49 | 24.55 | 29.68 | -- |
| 22. | 15-12-2022 | 69.58 | 21.72 | 27.59 | 34.43 | -- |
| 23. | 19-12-2022 | 83.16 | 18.53 | 24.41 | 28.18 | -- |
| 24. | 22-12-2022 | 65.39 | 22.86 | 19.63 | 27.42 | -- |
| 25. | 26-12-2022 | 74.06 | 27.62 | 26.57 | 32.44 | -- |
| 26. | 29-12-2022 | 64.38 | 23.49 | 21.24 | 28.93 | -- |
| 27. | 02-01-2023 | 79.24 | 26.46 | 26.23 | 31.48 | NOT DETECTED |
| 28. | 05-01-2023 | 63.86 | 24.84 | 23.69 | 29.75 | -- |
| 29. | 09-01-2023 | 69.83 | 14.19 | 19.73 | 26.42 | -- |
| 30. | 12-01-2023 | 88.63 | 21.49 | 29.8 | 37.91 | -- |
| 31. | 16-01-2023 | 79.76 | 29.64 | 21.82 | 28.68 | -- |

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. | 19-01-2023 | 81.49 | 26.39 | 17.13 | 24.33 | -- |
| 33. | 23-01-2023 | 75.13 | 31.38 | 14.48 | 22.89 | -- |
| 34. | 26-01-2023 | 87.36 | 26.14 | 22.47 | 27.36 | -- |
| 35. | 30-01-2023 | 72.14 | 32.48 | 26.36 | 31.24 | -- |
| 36. | 02-02-2023 | 87.39 | 26.46 | 26.23 | 31.48 | -- |
| 37. | 06-02-2023 | 79.62 | 24.84 | 23.69 | 29.75 | -- |
| 38. | 09-02-2023 | 83.74 | 14.19 | 19.73 | 26.42 | -- |
| 39. | 13-02-2023 | 76.53 | 21.49 | 29.8 | 37.91 | -- |
| 40. | 16-02-2023 | 82.19 | 29.64 | 21.82 | 28.68 | -- |
| 41. | 20-02-2023 | 87.66 | 26.39 | 17.13 | 24.33 | -- |
| 42. | 23-02-2023 | 89.38 | 31.38 | 14.48 | 22.89 | -- |
| 43. | 27-02-2023 | 73.19 | 26.14 | 22.47 | 27.36 | -- |
| 44. | 02-03-2023 | 73.52 | 37.61 | 29.17 | 36.74 | -- |
| 45. | 06-03-2023 | 86.18 | 29.49 | 27.64 | 31.59 | -- |
| 46. | 09-03-2023 | 83.73 | 34.18 | 33.62 | 39.47 | -- |
| 47. | 13-03-2023 | 81.35 | 27.93 | 25.79 | 31.57 | -- |

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. | 16-03-2023 | 79.73 | 25.13 | 28.19 | 33.81 | -- |
| 49. | 20-03-2023 | 75.38 | 28.19 | 23.85 | 28.47 | -- |
| 50. | 23-03-2023 | 88.63 | 38.88 | 31.47 | 38.55 | -- |
| 51. | 27-03-2023 | 88.41 | 29.16 | 28.52 | 35.27 | -- |
| 52. | 30-03-2023 | 82.85 | 32.18 | 31.94 | 38.63 | -- |
| **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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## 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. | 03-10-2022 | 86.28 | 29.74 | 18.93 | 31.41 | 0.06 |
| 2. | 06-10-2022 | 83.84 | 32.28 | 21.74 | 26.73 | 0.04 |
| 3. | 10-10-2022 | 79.52 | 27.59 | 19.14 | 18.37 | 0.03 |
| 4. | 13-10-2022 | 73.92 | 24.26 | 14.61 | 23.53 | 0.05 |
| 5. | 17-10-2022 | 78.72 | 26.85 | 14.38 | 20.78 | 0.03 |
| 6. | 20-10-2022 | 69.61 | 30.83 | 19.22 | 25.24 | 0.08 |
| 7. | 27-10-2022 | 88.24 | 32.88 | 20.16 | 32.23 | 0.04 |
| 8. | 28-10-2022 | 82.96 | 27.19 | 13.72 | 22.73 | 0.06 |
| 9. | 31-10-2022 | 78.48 | 30.39 | 17.53 | 27.74 | 0.06 |
| 10. | 03-11-2022 | 72.34 | 27.69 | 12.35 | 18.95 | 0.06 |
| 11. | 07-11-2022 | 68.15 | 25.68 | 17.36 | 26.13 | 0.02 |
| 12. | 10-11-2022 | 80.14 | 31.24 | 14.55 | 22.34 | 0.06 |
| 13. | 14-11-2022 | 62.34 | 35.23 | 17.23 | 21.59 | 0.05 |
| 14. | 17-11-2022 | 68.59 | 27.49 | 15.12 | 23.63 | 0.03 |
| 15. | 21-11-2022 | 79.23 | 28.15 | 21.34 | 30.25 | 0.04 |

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. | 24-11-2022 | 82.34 | 32.51 | 19.26 | 24.55 | 0.02 |
| 17. | 28-11-2022 | 71.27 | 34.74 | 22.15 | 28.12 | 0.05 |
| 18. | 01-12-2022 | 87.26 | 36.31 | 19.22 | 27.73 | 0.04 |
| 19. | 05-12-2022 | 76.4 | 32.69 | 24.64 | 34.58 | 0.05 |
| 20. | 08-12-2022 | 63.53 | 27.84 | 21.46 | 29.71 | 0.06 |
| 21. | 12-12-2022 | 69.17 | 28.49 | 23.58 | 32.93 | 0.04 |
| 22. | 15-12-2022 | 84.38 | 35.96 | 17.61 | 27.31 | 0.06 |
| 23. | 19-12-2022 | 88.53 | 33.84 | 27.02 | 36.86 | 0.06 |
| 24. | 22-12-2022 | 71.64 | 39.57 | 26.62 | 31.79 | 0.03 |
| 25. | 26-12-2022 | 86.19 | 29.12 | 27.58 | 32.16 | 0.05 |
| 26. | 29-12-2022 | 75.38 | 32.79 | 22.73 | 28.14 | 0.05 |
| 27. | 02-01-2023 | 69.38 | 39.26 | 14.39 | 26.84 | 0.08 |
| 28. | 05-01-2023 | 85.42 | 37.48 | 29.74 | 38.46 | 0.06 |
| 29. | 09-01-2023 | 79.5 | 36.21 | 27.39 | 36.82 | 0.04 |
| 30. | 12-01-2023 | 72.37 | 33.64 | 26.29 | 28.48 | 0.13 |
| 31. | 16-01-2023 | 67.52 | 39.72 | 24.53 | 36.64 | 0.06 |

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. | 19-01-2023 | 73.49 | 43.18 | 21.39 | 32.96 | 0.09 |
| 33. | 23-01-2023 | 81.96 | 29.46 | 28.73 | 34.27 | 0.05 |
| 34. | 26-01-2023 | 78.36 | 27.93 | 23.72 | 31.28 | 0.07 |
| 35. | 30-01-2023 | 84.27 | 38.43 | 28.27 | 36.38 | 0.05 |
| 36. | 02-02-2023 | 83.48 | 32.67 | 18.37 | 29.71 | 0.09 |
| 37. | 06-02-2023 | 87.24 | 43.5 | 21.37 | 34.88 | 0.13 |
| 38. | 09-02-2023 | 76.59 | 39.13 | 16.84 | 27.93 | 0.1 |
| 39. | 13-02-2023 | 89.61 | 37.82 | 19.37 | 31.84 | 0.05 |
| 40. | 16-02-2023 | 75.05 | 31.49 | 21.93 | 32.27 | 0.08 |
| 41. | 20-02-2023 | 85.74 | 36.57 | 27.28 | 38.46 | 0.16 |
| 42. | 23-02-2023 | 72.18 | 41.28 | 31.47 | 39.82 | 0.07 |
| 43. | 27-02-2023 | 86.39 | 38.31 | 29.64 | 37.16 | 0.08 |
| 44. | 02-03-2023 | 89.36 | 41.38 | 23.19 | 31.58 | 0.11 |
| 45. | 06-03-2023 | 83.65 | 37.18 | 26.63 | 29.84 | 0.16 |
| 46. | 09-03-2023 | 84.68 | 34.79 | 21.1 | 28.62 | 0.13 |
| 47. | 13-03-2023 | 76.25 | 39.76 | 26.49 | 34.36 | 0.08 |

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. | 16-03-2023 | 82.16 | 35.53 | 17.47 | 26.85 | 0.11 |
| 49. | 20-03-2023 | 86.19 | 31.28 | 21.55 | 29.26 | 0.14 |
| 50. | 23-03-2023 | 73.96 | 38.36 | 27.94 | 34.81 | 0.1 |
| 51. | 27-03-2023 | 81.39 | 34.91 | 24.73 | 28.46 | 0.13 |
| 52. | 30-03-2023 | 88.37 | 32.48 | 28.13 | 36.81 | 0.09 |
| **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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## Results of Noise Level Monitoring

| Location Name | | PUB / Adani House | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) - Day Time | | | | | |
| | | 03-10-2022 | 03-11-2022 | 01-12-2022 | 02-01-2023 | 02-02-2023 | 02-03-2023 |
| 1 | 06:00 to 07:00 | 62.5 | 63.8 | 62.7 | 61.8 | 60.6 | 62.4 |
| 2 | 07:00 to 08:00 | 66.1 | 61.4 | 64.2 | 63.5 | 62.5 | 61.8 |
| 3 | 08:00 to 09:00 | 68.2 | 58.7 | 63.1 | 62.8 | 60.9 | 63.7 |
| 4 | 09:00 to 10:00 | 62.4 | 62.6 | 65.6 | 62.4 | 63.2 | 63.2 |
| 5 | 10:00 to 11:00 | 67.8 | 68.7 | 64.2 | 63.4 | 67.4 | 64.2 |
| 6 | 11:00 to 12:00 | 64 | 63.4 | 67.9 | 69.6 | 65.2 | 61.8 |
| 7 | 12:00 to 13:00 | 61.3 | 69.7 | 64.3 | 65.7 | 68.9 | 65.9 |
| 8 | 13:00 to 14:00 | 65.9 | 62.1 | 63.2 | 64.2 | 64.8 | 63.1 |
| 9 | 14:00 to 15:00 | 64.2 | 62.5 | 66.5 | 67.5 | 63.6 | 66.3 |
| 10 | 15:00 to 16:00 | 63.7 | 61.8 | 65.2 | 67.1 | 61.8 | 62.9 |
| 11 | 16:00 to 17:00 | 67 | 65.5 | 64.5 | 63.8 | 66.4 | 64.7 |
| 12 | 17:00 to 18:00 | 65.3 | 64.1 | 65.1 | 64.9 | 67.9 | 64.3 |
| 13 | 18:00 to 19:00 | 69.1 | 59.2 | 62.7 | 63.8 | 58.2 | 60.1 |
| 14 | 19:00 to 20:00 | 66.7 | 68.3 | 61.3 | 65.4 | 67 | 63.4 |
| 15 | 20:00 to 21:00 | 61.8 | 63.3 | 60.2 | 63.9 | 61.9 | 62.7 |
| 16 | 21:00 to 22:00 | 60.4 | 66.3 | 60.8 | 62.5 | 65.3 | 61.2 |
| Day Time | | <75 dB (A) | | | | | |

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 | | | | | |
| | | 03-10-2022 | 03-11-2022 | 01-12-2022 | 02-01-2023 | 02-02-2023 | 02-03-2023 |
| 1 | 22:00 to 23:00 | 63.6 | 56.3 | 58.7 | 60.3 | 57.3 | 58.4 |
| 2 | 23:00 to 24:00 | 64.2 | 57.8 | 61.6 | 62.3 | 56.2 | 54.2 |
| 3 | 24:00 to 01:00 | 63.4 | 54.3 | 60.7 | 59.8 | 54.3 | 55.7 |
| 4 | 01:00 to 02:00 | 64.1 | 58.6 | 60.6 | 60.6 | 57.4 | 58.3 |
| 5 | 02:00 to 03:00 | 58.6 | 59.3 | 59.3 | 58.1 | 60.1 | 59.2 |
| 6 | 03:00 to 04:00 | 58.2 | 55.8 | 60.5 | 59.2 | 56.3 | 57.9 |
| 7 | 04:00 to 05:00 | 64.2 | 59.2 | 61.3 | 60.5 | 59.2 | 55.4 |
| 8 | 05:00 to 06:00 | 61.3 | 57.4 | 62.7 | 61.3 | 58.3 | 57.8 |

| Night Time | <70 dB (A) |
|---|---|

| Test Method | IS: 9989 : 1981 |
|---|---|

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## Results of Noise Level Monitoring

| Location Name | | Adani Guest House | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) - Day Time | | | | | |
| | | 25-10-2022 | 29-11-2022 | 31-12-2022 | 31-01-2023 | 28-02-2023 | 31-03-2023 |
| 1 | 06:00 to 07:00 | 59.2 | 61.6 | 59.8 | 61.8 | 62.2 | 61.3 |
| 2 | 07:00 to 08:00 | 60.6 | 63.8 | 61.3 | 63.2 | 61.8 | 63.8 |
| 3 | 08:00 to 09:00 | 62.5 | 64.9 | 62.7 | 62.7 | 63.2 | 67.3 |
| 4 | 09:00 to 10:00 | 61.8 | 63.7 | 64.4 | 64.2 | 65.9 | 64.3 |
| 5 | 10:00 to 11:00 | 60.7 | 62.1 | 63.8 | 63.8 | 64.2 | 62.1 |
| 6 | 11:00 to 12:00 | 62.5 | 64.5 | 62.9 | 63.8 | 67.8 | 63.8 |
| 7 | 12:00 to 13:00 | 61.6 | 64.7 | 64.5 | 64.5 | 65.3 | 61.4 |
| 8 | 13:00 to 14:00 | 64.2 | 62.8 | 64.8 | 65.8 | 64.7 | 66.9 |
| 9 | 14:00 to 15:00 | 60.6 | 61.1 | 63.5 | 62.1 | 63.9 | 62.7 |
| 10 | 15:00 to 16:00 | 62.5 | 64.8 | 66.1 | 68.5 | 65.9 | 64.3 |
| 11 | 16:00 to 17:00 | 61.8 | 63.9 | 64.7 | 67.2 | 64.2 | 65.7 |
| 12 | 17:00 to 18:00 | 62.8 | 63.6 | 65.5 | 65.5 | 63.6 | 68.2 |
| 13 | 18:00 to 19:00 | 62.7 | 62.1 | 62.6 | 64.9 | 61.7 | 63.8 |
| 14 | 19:00 to 20:00 | 60.8 | 62.8 | 61.8 | 63.4 | 62.8 | 61.3 |
| 15 | 20:00 to 21:00 | 59.4 | 60.2 | 59.3 | 59.3 | 63.2 | 65.4 |
| 16 | 21:00 to 22:00 | 58.1 | 59.9 | 60.3 | 63.7 | 61.7 | 61.8 |
| Day Time | | <75 dB (A) | | | | | |

Continue...

| Location Name | | Adani Guest House | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) – Night Time | | | | | |
| | | 25-10-2022 | 29-11-2022 | 31-12-2022 | 31-01-2023 | 28-02-2023 | 31-03-2023 |
| 1 | 22:00 to 23:00 | 59.9 | 58.6 | 57.8 | 59.2 | 59.7 | 57.4 |
| 2 | 23:00 to 24:00 | 54.3 | 56.2 | 59.6 | 60.7 | 56.3 | 59.3 |
| 3 | 24:00 to 01:00 | 52.7 | 56.8 | 61.4 | 57.4 | 58.5 | 56.2 |
| 4 | 01:00 to 02:00 | 56.4 | 54.3 | 60.8 | 61.3 | 54.9 | 56.9 |
| 5 | 02:00 to 03:00 | 54.3 | 58.4 | 60.5 | 60.2 | 57.4 | 59.5 |
| 6 | 03:00 to 04:00 | 58.3 | 59.5 | 58.1 | 59.4 | 56.2 | 59.2 |
| 7 | 04:00 to 05:00 | 58.6 | 56.9 | 59.5 | 60.6 | 56.9 | 58.1 |
| 8 | 05:00 to 06:00 | 55.9 | 58.2 | 60.9 | 60.8 | 57.1 | 56.7 |

| 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 | | | | | |
| | | 04/10/2022 | 09/11/2022 | 03/12/2022 | 04/01/2023 | 08/02/2023 | 04/03/2023 |
| 1 | 06:00 to 07:00 | 63.6 | 58.3 | 62.4 | 62.1 | 59.4 | 59.4 |
| 2 | 07:00 to 08:00 | 63.5 | 63.2 | 65.4 | 64.8 | 62.7 | 61.7 |
| 3 | 08:00 to 09:00 | 58.9 | 66.8 | 65.1 | 64.3 | 65.4 | 63.8 |
| 4 | 09:00 to 10:00 | 62.4 | 64.5 | 65.9 | 66.9 | 63.9 | 67.4 |
| 5 | 10:00 to 11:00 | 67.8 | 68.6 | 68.4 | 67.5 | 67 | 64.3 |
| 6 | 11:00 to 12:00 | 69.5 | 65.2 | 67.3 | 67.3 | 67.8 | 65.8 |
| 7 | 12:00 to 13:00 | 68.1 | 67.1 | 63.9 | 63.9 | 63.8 | 65.2 |
| 8 | 13:00 to 14:00 | 66.2 | 66.1 | 66.1 | 67.4 | 63.2 | 69.4 |
| 9 | 14:00 to 15:00 | 62.3 | 69 | 61.8 | 61.8 | 62.4 | 63.2 |
| 10 | 15:00 to 16:00 | 65.5 | 68.2 | 63.4 | 64.2 | 62.5 | 63.1 |
| 11 | 16:00 to 17:00 | 67.4 | 66.9 | 64.6 | 67.5 | 67.1 | 68.4 |
| 12 | 17:00 to 18:00 | 60.5 | 62.8 | 62.8 | 69 | 63.9 | 65 |
| 13 | 18:00 to 19:00 | 61.8 | 65.8 | 62.5 | 64.8 | 67.4 | 68.4 |
| 14 | 19:00 to 20:00 | 60.2 | 61.3 | 61.3 | 62.8 | 63.2 | 61.2 |
| 15 | 20:00 to 21:00 | 59.3 | 68.9 | 63.5 | 63.5 | 67.6 | 64.9 |
| 16 | 21:00 to 22:00 | 58.8 | 65.7 | 62.7 | 63.7 | 68.7 | 63.6 |
| Day Time | | <75 dB (A) | | | | | |

Continue...

| Location Name | | WTP- Nr. CETP | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) – Night Time | | | | | |
| | | 04/10/2022 | 09/11/2022 | 03/12/2022 | 04/01/2023 | 08/02/2023 | 04/03/2023 |
| 1 | 22:00 to 23:00 | 57.2 | 59.5 | 61.2 | 58.6 | 56.4 | 55.7 |
| 2 | 23:00 to 24:00 | 60.2 | 56.8 | 60.5 | 61.3 | 57.3 | 57.3 |
| 3 | 24:00 to 01:00 | 57.6 | 56.2 | 61.3 | 61.4 | 57.8 | 57.8 |
| 4 | 01:00 to 02:00 | 55.3 | 60.7 | 63.9 | 63.9 | 59.2 | 59.1 |
| 5 | 02:00 to 03:00 | 55.5 | 56.2 | 58.5 | 59.7 | 57.6 | 56.8 |
| 6 | 03:00 to 04:00 | 57.8 | 59.3 | 59.4 | 60.2 | 59.3 | 57.3 |
| 7 | 04:00 to 05:00 | 56.2 | 55.7 | 60.2 | 63.5 | 56.8 | 58.2 |
| 8 | 05:00 to 06:00 | 58.9 | 57.1 | 63.6 | 62.7 | 58.3 | 59.3 |

| Night Time | <70 dB (A) |
|---|---|

| Test Method | IS: 9989 : 1981 |
|---|---|

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## Results of Noise Level Monitoring

| Location Name | | SAMUDRA TOWNSHIP – STP | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) - Day Time | | | | | |
| | | 12/10/2022 | 15/11/2022 | 10/12/2022 | 11/01/2023 | 14/02/2023 | 11/03/2023 |
| 1 | 06:00 to 07:00 | 60.9 | 63.9 | 62.3 | 61.8 | 62.8 | 62.1 |
| 2 | 07:00 to 08:00 | 61.4 | 61.2 | 64.8 | 65.2 | 62.3 | 63.4 |
| 3 | 08:00 to 09:00 | 66.7 | 67.8 | 66.4 | 65.7 | 68.9 | 63.8 |
| 4 | 09:00 to 10:00 | 63.3 | 66.3 | 67.8 | 67.8 | 67.1 | 61.3 |
| 5 | 10:00 to 11:00 | 68.2 | 63.2 | 64.9 | 64.9 | 64.8 | 67.8 |
| 6 | 11:00 to 12:00 | 65.4 | 67.3 | 68.4 | 67.1 | 65.5 | 63.2 |
| 7 | 12:00 to 13:00 | 63.9 | 64.2 | 62.5 | 63.6 | 63.8 | 68.4 |
| 8 | 13:00 to 14:00 | 67.1 | 62.9 | 63.6 | 67.4 | 63.2 | 62.1 |
| 9 | 14:00 to 15:00 | 62.6 | 65.4 | 65.4 | 65.4 | 67.9 | 66.8 |
| 10 | 15:00 to 16:00 | 65.5 | 69.1 | 63.7 | 66.6 | 65.1 | 64.3 |
| 11 | 16:00 to 17:00 | 62.7 | 65.5 | 67.5 | 67.5 | 68.4 | 67.5 |
| 12 | 17:00 to 18:00 | 69.2 | 68.9 | 66.1 | 62.5 | 68.9 | 65.8 |
| 13 | 18:00 to 19:00 | 62 | 61.3 | 64.1 | 64.1 | 61.3 | 64.3 |
| 14 | 19:00 to 20:00 | 62.3 | 64.2 | 64.2 | 63 | 63.5 | 64.9 |
| 15 | 20:00 to 21:00 | 60.6 | 67.5 | 63.2 | 63.2 | 67.5 | 65.4 |
| 16 | 21:00 to 22:00 | 62.3 | 61.3 | 62.4 | 61.4 | 62.8 | 60.1 |
| 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 | | SAMUDRA TOWNSHIP – STP | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) – Night Time | | | | | |
| | | 12/10/2022 | 15/11/2022 | 10/12/2022 | 11/01/2023 | 14/02/2023 | 11/03/2023 |
| 1 | 22:00 to 23:00 | 58.7 | 59.4 | 57.4 | 57.9 | 60.7 | 59.3 |
| 2 | 23:00 to 24:00 | 54.3 | 56.7 | 58.3 | 58.3 | 57.3 | 59.1 |
| 3 | 24:00 to 01:00 | 55.6 | 56.8 | 55.9 | 57.3 | 56.8 | 61.6 |
| 4 | 01:00 to 02:00 | 57.3 | 58.9 | 60.3 | 61.2 | 58.9 | 56.4 |
| 5 | 02:00 to 03:00 | 52.6 | 54.2 | 56.8 | 58.9 | 54.9 | 57.4 |
| 6 | 03:00 to 04:00 | 56.8 | 57.6 | 58.4 | 58.4 | 58.2 | 56.9 |
| 7 | 04:00 to 05:00 | 55.1 | 58.4 | 59.1 | 60.3 | 58.4 | 58.4 |
| 8 | 05:00 to 06:00 | 59.3 | 61.5 | 58.2 | 59.3 | 59.7 | 57.5 |

| Night Time | <70 dB (A) |
|---|---|

| Test Method | IS: 9989 : 1981 |
|---|---|

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## Results of Noise Level Monitoring

| Location Name | | SAMUDRA TOWNSHIP CUSTOMER CARE | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) - Day Time | | | | | |
| | | 18/10/2022 | 23/11/2022 | 17/12/2022 | 20/01/2023 | 21/02/2023 | 18/03/2023 |
| 1 | 06:00 to 07:00 | 58.4 | 60.2 | 60.6 | 58.3 | 60.9 | 60.3 |
| 2 | 07:00 to 08:00 | 64.3 | 64.7 | 59.6 | 60.2 | 63.1 | 62.7 |
| 3 | 08:00 to 09:00 | 60.5 | 65.4 | 62.3 | 62.3 | 65.4 | 66.4 |
| 4 | 09:00 to 10:00 | 68.4 | 64.5 | 68.4 | 65.7 | 63.7 | 68.4 |
| 5 | 10:00 to 11:00 | 64.5 | 65.4 | 63.9 | 65.9 | 65.4 | 64.3 |
| 6 | 11:00 to 12:00 | 63.3 | 65.5 | 64.2 | 62.7 | 66.8 | 62.8 |
| 7 | 12:00 to 13:00 | 66.1 | 67.9 | 63.2 | 64.8 | 67.9 | 66.5 |
| 8 | 13:00 to 14:00 | 61.4 | 61.9 | 63.7 | 67.5 | 62.4 | 64.2 |
| 9 | 14:00 to 15:00 | 61.8 | 65.8 | 62.5 | 63.4 | 67.5 | 68.5 |
| 10 | 15:00 to 16:00 | 63.2 | 64.2 | 65.8 | 69.1 | 64.2 | 65.3 |
| 11 | 16:00 to 17:00 | 63.2 | 63.8 | 61.5 | 63.6 | 62.4 | 64.3 |
| 12 | 17:00 to 18:00 | 66.6 | 61.6 | 63.4 | 63.4 | 61.6 | 63.6 |
| 13 | 18:00 to 19:00 | 62.1 | 60.2 | 60.2 | 60.2 | 65.9 | 62.7 |
| 14 | 19:00 to 20:00 | 60.2 | 61.5 | 62.2 | 64.8 | 61.5 | 64.8 |
| 15 | 20:00 to 21:00 | 59.7 | 63 | 60.5 | 60.5 | 64.7 | 61.3 |
| 16 | 21:00 to 22:00 | 59.8 | 62.7 | 60.8 | 64.8 | 61.1 | 59.6 |
| 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 | | SAMUDRA TOWNSHIP CUSTOMER CARE | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) – Night Time | | | | | |
| | | 18/10/2022 | 23/11/2022 | 17/12/2022 | 20/01/2023 | 21/02/2023 | 18/03/2023 |
| 1 | 22:00 to 23:00 | 57.6 | 56.9 | 59.6 | 60.3 | 58.5 | 56 |
| 2 | 23:00 to 24:00 | 56.4 | 57.5 | 59.9 | 60.7 | 56.8 | 58.4 |
| 3 | 24:00 to 01:00 | 54.3 | 57.2 | 62.6 | 62.6 | 59.3 | 56.8 |
| 4 | 01:00 to 02:00 | 56.9 | 57.1 | 61.8 | 62.8 | 59 | 57.5 |
| 5 | 02:00 to 03:00 | 55.4 | 56.6 | 60.3 | 57.3 | 57.8 | 61.2 |
| 6 | 03:00 to 04:00 | 58.2 | 54.5 | 58.5 | 58.5 | 55.2 | 58.5 |
| 7 | 04:00 to 05:00 | 60.3 | 59.4 | 59.4 | 59.4 | 58.4 | 58.5 |
| 8 | 05:00 to 06:00 | 57.6 | 56.3 | 60.8 | 59.8 | 56.3 | 56.9 |

| Night Time | <70 dB (A) |
|---|---|

| Test Method | IS: 9989 : 1981 |
|---|---|

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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 | | | | | |
| | | 21/10/2022 | 26/11/2022 | 24/12/2022 | 24/01/2023 | 25/02/2023 | 25/03/2023 |
| 1 | 06:00 to 07:00 | 61.1 | 62.9 | 61.1 | 60.5 | 59.8 | 63.7 |
| 2 | 07:00 to 08:00 | 68.5 | 61.5 | 63.5 | 62.7 | 62.7 | 64.2 |
| 3 | 08:00 to 09:00 | 65.5 | 63.3 | 64.3 | 63.9 | 67.8 | 63.8 |
| 4 | 09:00 to 10:00 | 63.3 | 62.3 | 64.8 | 65.1 | 64.5 | 65.8 |
| 5 | 10:00 to 11:00 | 65.7 | 61.2 | 62.4 | 67.3 | 61.2 | 64.9 |
| 6 | 11:00 to 12:00 | 62.8 | 63.4 | 63.4 | 66.9 | 68.4 | 67 |
| 7 | 12:00 to 13:00 | 68.2 | 67.4 | 65.8 | 63.2 | 64.2 | 63.8 |
| 8 | 13:00 to 14:00 | 65.6 | 68 | 62.9 | 62.9 | 69.1 | 67.5 |
| 9 | 14:00 to 15:00 | 64.2 | 63.7 | 64.9 | 64.9 | 65.8 | 66.3 |
| 10 | 15:00 to 16:00 | 68.2 | 63.6 | 64.7 | 63.3 | 64.3 | 62.5 |
| 11 | 16:00 to 17:00 | 63.6 | 65.1 | 65.3 | 67.5 | 67.2 | 68.4 |
| 12 | 17:00 to 18:00 | 67.2 | 63.2 | 63.2 | 64.7 | 63.2 | 65.4 |
| 13 | 18:00 to 19:00 | 68.7 | 60.4 | 60.4 | 62.4 | 60.4 | 64.1 |
| 14 | 19:00 to 20:00 | 68.5 | 60.6 | 60.1 | 62.5 | 60.9 | 63 |
| 15 | 20:00 to 21:00 | 61.1 | 59.6 | 58.5 | 58.5 | 62.6 | 62.7 |
| 16 | 21:00 to 22:00 | 60.9 | 61.8 | 63.6 | 62.8 | 63.6 | 62.4 |
| 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 | | AIR STRIP | | | | | |
|---|---|---|---|---|---|---|---|
| Sr. No. | Sampling Date and Time | Noise Level Leq. dB(A) – Night Time | | | | | |
| | | 21/10/2022 | 26/11/2022 | 24/12/2022 | 24/01/2023 | 25/02/2023 | 25/03/2023 |
| 1 | 22:00 to 23:00 | 59.6 | 55.8 | 60.7 | 58.4 | 57.3 | 58.5 |
| 2 | 23:00 to 24:00 | 57.4 | 56.8 | 57.8 | 57.8 | 58.1 | 57.4 |
| 3 | 24:00 to 01:00 | 63.5 | 59.3 | 59.1 | 58.3 | 60.4 | 57.9 |
| 4 | 01:00 to 02:00 | 60.7 | 56.2 | 62.1 | 61.2 | 57.8 | 59.3 |
| 5 | 02:00 to 03:00 | 60.2 | 56.4 | 58.4 | 59 | 57.6 | 57.2 |
| 6 | 03:00 to 04:00 | 63.8 | 61.3 | 58.7 | 58.7 | 60.3 | 61.7 |
| 7 | 04:00 to 05:00 | 58.2 | 57.3 | 60.8 | 61.1 | 57.8 | 56.4 |
| 8 | 05:00 to 06:00 | 62.1 | 58.7 | 62.2 | 62.1 | 58.7 | 58.1 |

| Night Time | <70 dB (A) |
|---|---|

| Test Method | IS: 9989 : 1981 |
|---|---|

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(Manager - Operations)

| Results of Stack Monitoring | | | | | |
|---|---|---|---|---|---|
| Monitoring Period: October - 2022 to March - 2023 | | | | | |
| Sr. No. | Parameter | Unit | Adani Hospital DG Set<br>Feb-23<br>01-02-2023 | GPCB LIMIT | Method of Test |
| 1 | Particulate Matter | $mg/Nm^3$ | 15.26 | 150 | IS 11255 (Part - 1) |
| 2 | Sulfur Dioxide as $SO_2$ | ppm | 6.18 | 100 | IS 11255 (Part - 2) |
| 3 | Oxides of Nitrogen as $NO_X$ | ppm | 23.42 | 50 | IS 11255 (Part - 7) |

| Sr. No. | Parameter | Unit | WTP Nr CETP D.G.Set No. S-1 (380 KVA )<br>Dec-22<br>15-12-2022 | GPCB LIMIT | Method of Test |
|---|---|---|---|---|---|
| 1 | Particulate Matter | $mg/Nm^3$ | 18.4 | 150 | IS 11255 (Part - 1) |
| 2 | Sulfur Dioxide as $SO_2$ | ppm | 6.8 | 100 | IS 11255 (Part - 2) |
| 3 | Oxides of Nitrogen as $NO_X$ | ppm | 24.7 | 50 | IS 11255 (Part - 7) |

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| Results of Stack Monitoring | | | | | |
|---|---|---|---|---|---|
| Monitoring Period: October - 2022 to March - 2023 | | | | | |
| Sr. No. | Parameter | Unit | Adani House D.G.Set No. S-1 (750 KVA )<br>Mar-23<br>28-03-2023 | GPCB LIMIT | Method of Test |
| 1 | Particulate Matter | $mg/Nm^3$ | 19.29 | **150** | **IS 11255 (Part - 1)** |
| 2 | Sulfur Dioxide as $SO_2$ | ppm | 7.87 | **100** | **IS 11255 (Part - 2)** |
| 3 | Oxides of Nitrogen as $NO_X$ | ppm | 22.46 | **50** | **IS 11255 (Part - 7)** |

| Sr. No. | Parameter | Unit | D.G.Set No. S-2 (500 KVA –PUB)<br>Mar-23<br>28-03-2023 | GPCB LIMIT | Method of Test |
|---|---|---|---|---|---|
| 1 | Particulate Matter | $mg/Nm^3$ | 18.8 | **150** | **IS 11255 (Part - 1)** |
| 2 | Sulfur Dioxide as $SO_2$ | ppm | 6.9 | **100** | **IS 11255 (Part - 2)** |
| 3 | Oxides of Nitrogen as $NO_X$ | ppm | 27.2 | **50** | **IS 11255 (Part - 7)** |

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## RESULTS OF BOREHOLE WATER SAMPLE

| Sr. No | Parameters | Method | Unit | 23-02-2023 Nr. PUB Building. | 23-02-2023 Nr. CETP | 23-02-2023 Nr.flyover bridge | 23-02-2023 Dhrub |
|---|---|---|---|---|---|---|---|
| 1 | pH @ 25 ° C | IS 3025(Part 11)1983 | -- | 7.06 | 8.01 | 7.5 | 7.52 |
| 2 | Salinity | APHA 23rd Ed.,2017,2520 B | ppt | 21.38 | 2.2 | 10.48 | 3.3 |
| 3 | Oil & Grease | IS 3025(Part39)1991, Amd. 2 | mg/L | BDL(MDL:2.0) | BDL(MDL:2.0) | BDL(MDL:2.0) | BDL(MDL:2.0) |
| 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) | 0.038 |
| 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 | 0.374 | 0.046 | 0.201 | 0.042 |
| 8 | Total Chromium as Cr | IS 3025 (PART 52) 2003 | mg/L | 0.064 | BDL(MDL:0.05) | 0.009 | BDL(MDL:0.05) |
| 9 | Cadmium as Cd | IS 3025(PART 41) 1992 | mg/L | 0.194 | BDL(MDL:0.003) | 0.086 | 0.053 |
| 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 | 0.265 | BDL(MDL:0.05) | 0.137 | BDL(MDL:0.05) |
| 12 | Copper as Cu | IS 3025 (PART 42) 1992 | mg/L | 0.073 | BDL(MDL:0.05) | BDL(MDL:0.05) | BDL(MDL:0.05) |
| 13 | Iron as Fe | IS 3025(PART 53) 2003 | mg/L | 0.459 | BDL(MDL:0.1) | 0.226 | BDL(MDL:0.1) |
| 14 | Insecticides/Pesticides | USEPA 8081 B | µg/L | Absent | Absent | Absent | Absent |
| 15 | Depth of Water Level from Ground Level | -- | meter | 2.2 | 2.3 | 2.2 | 2.2 |

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**Mr. Nitin Tandel**
Technical Manager

## RESULTS OF SOIL SAMPLE

| SR.NO. | TEST PARAMETERS | UNIT | 13-02-2023 | 13-02-2023 | 13-02-2023 | 13-02-2023 |
|---|---|---|---|---|---|---|
| | | | PUB Building | Dhrub | Near Flyover Bridge | Near CETP |
| 1 | pH | -- | 9.16 | 8.43 | 8.54 | 8.77 |
| 2 | Nitrogen as N | % | 0.12 | 0.28 | 0.22 | 0.26 |
| 3 | Phosphorus as P | mg/kg | 1393.6 | 599.7 | 798.7 | 398.6 |
| 4 | Potassium as K | mg/kg | 48.59 | 1223.9 | 219.6 | 151.1 |
| 5 | Baron as B | mg/kg | 1.94 | 1.98 | 2.14 | 3.12 |
| 6 | Calcium as Ca | mg/kg | 321.1 | 3154.7 | 969.6 | 322.4 |
| 7 | Magnesium as Mg | mg/kg | 146 | 4904.3 | 440.9 | 48.9 |
| 8 | Iron as Fe | % | 0.50 | 0.97 | 0.88 | 0.75 |
| 9 | Moisture | % | 0.43 | 3.03 | 0.29 | 1.44 |
| 10 | Organic Matter | % | 0.52 | 1.67 | 1.57 | 1.38 |
| 11 | Cation exchange capacity (CEC) | meq/100gm | 9.46 | 14.58 | 10.12 | 9.74 |
| 12 | TVC | CFU/gm | $2.8x10^6$ | $2.8 \times 10^6$ | $2.2 \times 10^6$ | $1.9 \times 10^6$ |
| 13 | Cadmium as Cd | mg/kg | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) |
| 14 | Thorium as Th | mg/kg | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) |
| 15 | Antimony as Sb | mg/kg | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) |
| 16 | Arsenic as As | mg/kg | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) | BDL(MDL:1.0) |

Continue…

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| | | | | | | |
|---|---|---|---|---|---|---|
| 17 | Lead as Pb | mg/kg | 8.09 | 8.68 | 17.81 | 7 |
| 18 | Chromium as Cr | mg/kg | 3.84 | 8.74 | 4.33 | 4.32 |
| 19 | Cobalt as Co | mg/kg | 10.4 | 10.42 | 8.89 | 9.69 |
| 20 | Copper as Cu | mg/kg | 7.51 | 11.27 | 29.8 | 15.41 |
| 21 | Nickel as Ni | mg/kg | 11 | 13.74 | 13.02 | 13.28 |
| 22 | Manganese and Mn | mg/kg | 330.3 | 208.2 | 218.81 | 116.58 |
| 23 | Vanadium as V | mg/kg | 8.96 | 8.02 | 8.62 | 8.11 |

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**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 |

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| 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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : January - 2023

**Name of Location** : Village - Siracha

**ID No.** : **URA/ID/A-23/01/001**

| 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. | 03/01/2023 | 56.2 | 25.2 | 13.2 | 15.6 | | -- |
| 2. | 06/01/2023 | 59.7 | 24.5 | 11.0 | 13.4 | | -- |
| 3. | 10/01/2023 | 41.8 | 19.5 | 10.6 | 19.1 | 14.8 | BDL |
| 4. | 13/01/2023 | 59.5 | 24.9 | 10.8 | 12.3 | | -- |
| 5. | 17/01/2023 | 68.6 | 26.9 | 12.5 | 17.7 | | -- |
| 6. | 20/01/2023 | 65.2 | 25.7 | 13.6 | 18.5 | | -- |
| 7. | 24/01/2023 | 57.4 | 24.7 | 15.8 | 20.1 | | -- |
| 8. | 27/01/2023 | 58.2 | 28.5 | 11.6 | 15.2 | | -- |
| **Average** | | **58.3** | **25.0** | **12.4** | **16.5** | | -- |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : January - 2023

**Name of Location** : Village – Kandagara

**ID No.** : **URA/ID/A-22/12/002**

| 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. | 03/01/2023 | 65.1 | 25.3 | 8.8 | 11.3 | | -- |
| 2. | 06/01/2023 | 50.4 | 25.8 | 11.7 | 18.8 | | -- |
| 3. | 10/01/2023 | 68.1 | 30.0 | 10.1 | 14.3 | 14.1 | BDL |
| 4. | 13/01/2023 | 57.3 | 26.7 | 14.6 | 19.1 | | -- |
| 5. | 17/01/2023 | 61.5 | 27.6 | 11.2 | 16.9 | | -- |
| 6. | 20/01/2023 | 54.8 | 23.4 | 9.7 | 12.5 | | -- |
| 7. | 24/01/2023 | 60.6 | 28.7 | 12.7 | 19.7 | | -- |
| 8. | 27/01/2023 | 52.6 | 27.8 | 11.8 | 17.3 | | -- |
| **Average** | | **58.8** | **26.9** | **11.3** | **16.2** | | -- |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : January - 2023

**Name of Location** : Village - Wandh

**ID No.** : **URA/ID/A-23/01/003**

| 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. | 03/01/2023 | 56.6 | 29.2 | 15.6 | 18.8 | | -- |
| 2. | 06/01/2023 | 59.1 | 29.1 | 12.9 | 14.3 | | -- |
| 3. | 10/01/2023 | 52.2 | 22.7 | 11.4 | 18.7 | 18.1 | BDL |
| 4. | 13/01/2023 | 61.7 | 30.0 | 16.1 | 19.5 | | -- |
| 5. | 17/01/2023 | 70.8 | 31.5 | 13.7 | 16.4 | | -- |
| 6. | 20/01/2023 | 64.5 | 29.0 | 12.3 | 21.8 | | -- |
| 7. | 24/01/2023 | 59.0 | 27.4 | 15.6 | 18.1 | | -- |
| 8. | 27/01/2023 | 59.3 | 26.3 | 12.3 | 19.6 | | -- |
| **Average** | | **60.4** | **28.1** | **13.7** | **18.4** | | **--** |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : January - 2023

**Name of Location** : Nr.20 MLD Plant

**ID No.** : **URA/ID/A-23/01/004**

| 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 | 19/01/2023 | 58.4 | 23.1 | 13.2 | 20.6 | 16.2 | BDL |
| **Average** | | **58.4** | **23.1** | **13.2** | **20.6** | **16.2** | **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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : January - 2023

**Name of Location** : Nr. Shantiniketan - 1

**ID No.** : **URA/ID/A-23/01/005**

| 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 | 19/01/2023 | 48.7 | 20.6 | 11.8 | 18.8 | 14.3 | BDL |
| **Average** | | **48.7** | **20.6** | **11.8** | **18.8** | **14.3** | **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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : October - 2022

**Name of Location** : Village - Siracha

**ID No.** : **URA/ID/A-22/10/001**

| 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. | 04/10/2022 | 48.2 | 28.8 | 13.7 | 17.2 | | -- |
| 2. | 07/10/2022 | 64.5 | 31.3 | 19.3 | 20.6 | | -- |
| 3. | 11/10/2022 | 53.2 | 28.3 | 15.7 | 22.8 | 13.3 | BDL |
| 4. | 14/10/2022 | 67.1 | 28.8 | 13.2 | 19.9 | | -- |
| **Average** | | **58.2** | **29.3** | **15.5** | **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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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : October - 2022

**Name of Location** : Village – Kandagara

**ID No.** : **URA/ID/A-22/10/002**

| 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. | 04/10/2022 | 65.4 | 30.4 | 15.3 | 21.6 | | -- |
| 2. | 07/10/2022 | 57.5 | 29.9 | 12.1 | 17.2 | | -- |
| 3. | 11/10/2022 | 62.3 | 30.6 | 20.6 | 24.6 | 15.8 | BDL |
| 4. | 14/10/2022 | 51.2 | 26.9 | 17.7 | 21.4 | | -- |
| **Average** | | **59.1** | **29.4** | **16.4** | **21.2** | | **--** |

***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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| **Remarks:** |
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| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : October - 2022

**Name of Location** : Village - Wandh

**ID No.** : **URA/ID/A-22/10/003**

| 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. | 04/10/2022 | 61.1 | 23.4 | 14.6 | 18.2 | | -- |
| 2. | 07/10/2022 | 52.5 | 28.1 | 21.6 | 25.3 | | -- |
| 3. | 11/10/2022 | 64.4 | 30.8 | 18.4 | 23.7 | 18.4 | BDL |
| 4. | 14/10/2022 | 70.3 | 32.5 | 16.3 | 20.9 | | -- |
| **Average** | | **62.1** | **28.7** | **17.7** | **22.0** | | **--** |

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

**Analysis Method Reference: SPM** - IS: 5182 (Part 4), 1999, **$PM_{10}$** - 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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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : October - 2022

**Name of Location** : Nr.20 MLD Plant

**ID No.** : **URA/ID/A-22/10/004**

| 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 | 12/10/2022 | 70.4 | 30.8 | 16.2 | 21.5 | 20.2 | BDL |
| **Average** | | **70.4** | **30.8** | **16.2** | **21.5** | **20.2** | **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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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : October - 2022

**Name of Location** : Nr. Shantiniketan - 1

**ID No.** : **URA/ID/A-22/10/005**

| 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 | 12/10/2022 | 61.3 | 26.4 | 14.7 | 20.3 | 18.5 | BDL |
| **Average** | | **61.3** | **26.4** | **14.7** | **20.3** | **18.5** | **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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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : November - 2022

**Name of Location** : Village - Siracha

**ID No.** : **URA/ID/A-22/11/001**

| 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. | 01/11/2022 | 63.0 | 24.4 | 13.5 | 16.5 | | -- |
| 2. | 04/11/2022 | 49.5 | 20.0 | 15.8 | 22.8 | | -- |
| 3. | 08/11/2022 | 54.8 | 25.1 | 17.6 | 24.6 | 15.8 | BDL |
| 4. | 11/11/2022 | 51.5 | 18.6 | 12.7 | 15.3 | | |
| 5. | 15/11/2022 | 65.1 | 24.1 | 14.9 | 19.6 | | |
| 6. | 18/11/2022 | 59.0 | 22.3 | 17.1 | 22.2 | | |
| 7. | 22/11/2022 | 69.1 | 27.6 | 14.3 | 17.5 | | |
| 8. | 25/11/2022 | 69.8 | 24.5 | 12.9 | 19.4 | | |
| 9. | 29/11/2022 | 51.9 | 20.9 | 12.2 | 26.8 | | -- |
| **Average** | | **59.3** | **23.1** | **14.6** | **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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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : November - 2022

**Name of Location** : Village – Kandagara

**ID No.** : **URA/ID/A-22/11/002**

| 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. | 01/11/2022 | 60.5 | 24.0 | 16.3 | 20.5 | | -- |
| 2. | 04/11/2022 | 47.9 | 28.9 | 10.7 | 15.2 | | -- |
| 3. | 08/11/2022 | 65.9 | 24.6 | 13.8 | 17.5 | 18.9 | BDL |
| 4. | 11/11/2022 | 60.1 | 20.8 | 15.4 | 20.8 | | |
| 5. | 15/11/2022 | 59.8 | 24.7 | 17.9 | 23.6 | | |
| 6. | 18/11/2022 | 55.7 | 22.9 | 14.4 | 21.4 | | |
| 7. | 22/11/2022 | 71.2 | 26.2 | 13.5 | 19.7 | | |
| 8. | 25/11/2022 | 64.5 | 25.6 | 14.8 | 21.3 | | |
| 9. | 29/11/2022 | 52.0 | 22.5 | 26.6 | 25.6 | | -- |
| **Average** | | **59.8** | **24.5** | **15.9** | **20.6** | | -- |

***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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**Research Labs Pvt. Ltd.**

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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : November - 2022

**Name of Location** : Village - Wandh

**ID No.** : **URA/ID/A-22/11/003**

| 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. | 01/11/2022 | 64.6 | 30.9 | 18.5 | 22.7 | | -- |
| 2. | 04/11/2022 | 72.6 | 31.2 | 16.7 | 25.4 | | -- |
| 3. | 08/11/2022 | 66.2 | 29.5 | 15.5 | 21.2 | 22.6 | BDL |
| 4. | 11/11/2022 | 49.3 | 26.2 | 13.9 | 18.5 | | |
| 5. | 15/11/2022 | 67.9 | 30.3 | 16.2 | 23.7 | | |
| 6. | 18/11/2022 | 53.8 | 25.6 | 15.8 | 21.3 | | |
| 7. | 22/11/2022 | 68.1 | 30.2 | 14.5 | 19.8 | | |
| 8. | 25/11/2022 | 66.9 | 27.2 | 17.2 | 22.6 | | |
| 9. | 29/11/2022 | 51.9 | 23.9 | 15.7 | 20.6 | | -- |
| **Average** | | **62.4** | **28.3** | **16.0** | **21.8** | | -- |

***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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| Remarks: |
|---|
| Opinion & Interpretation (if required): |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : November - 2022

**Name of Location** : Nr.20 MLD Plant

**ID No.** : **URA/ID/A-22/11/004**

| 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 | 15/11/2022 | 68.4 | 27.1 | 15.3 | 19.2 | 18.5 | BDL |
| **Average** | | **68.4** | **27.1** | **15.3** | **19.2** | **18.5** | **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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| **Remarks:** |
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| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : November - 2022

**Name of Location** : Nr. Shantiniketan - 1

**ID No.** : **URA/ID/A-22/11/005**

| 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 | 15/11/2022 | 54.6 | 23.8 | 13.7 | 18.2 | 16.4 | BDL |
| **Average** | | **54.6** | **23.8** | **13.7** | **18.2** | **16.4** | **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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| **Remarks:** |
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| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : December - 2022

**Name of Location** : Village - Siracha

**ID No.** : **URA/ID/A-22/12/001**

| 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. | 02/12/2022 | 59.8 | 31.8 | 13.8 | 17.3 | | -- |
| 2. | 06/12/2022 | 60.6 | 29.4 | 19.5 | 23.2 | | -- |
| 3. | 09/12/2022 | 74.6 | 32.5 | 18.2 | 27.8 | 13.2 | BDL |
| 4. | 13/12/2022 | 51.3 | 22.0 | 10.6 | 15.1 | | |
| 5. | 16/12/2022 | 61.9 | 31.5 | 14.5 | 25.3 | | |
| 6. | 20/12/2022 | 45.8 | 24.7 | 18.3 | 19.5 | | |
| 7. | 23/12/2022 | 65.9 | 26.0 | 15.1 | 27.5 | | |
| 8. | 27/12/2022 | 59.6 | 30.9 | 13.4 | 22.2 | | |
| 9. | 30/12/2022 | 58.7 | 24.3 | 11.6 | 26.8 | | -- |
| **Average** | | **59.8** | **28.1** | **15.0** | **22.7** | | -- |

***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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| **Remarks:** |
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| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : December - 2022

**Name of Location** : Village – Kandagara

**ID No.** : **URA/ID/A-22/12/002**

| 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. | 02/12/2022 | 51.6 | 24.4 | 11.4 | 13.7 | | -- |
| 2. | 06/12/2022 | 57.3 | 26.9 | 12.3 | 17.8 | | -- |
| 3. | 09/12/2022 | 63.6 | 29.3 | 18.9 | 22.2 | 15.7 | BDL |
| 4. | 13/12/2022 | 46.5 | 27.7 | 14.1 | 14.2 | | |
| 5. | 16/12/2022 | 52.1 | 21.1 | 15.3 | 18.9 | | |
| 6. | 20/12/2022 | 59.3 | 27.6 | 13.7 | 18.3 | | |
| 7. | 23/12/2022 | 65.1 | 23.9 | 19.6 | 23.1 | | |
| 8. | 27/12/2022 | 73.7 | 33.5 | 17.1 | 21.5 | | |
| 9. | 30/12/2022 | 60.8 | 28.3 | 15.2 | 22.3 | | -- |
| **Average** | | **58.9** | **27.0** | **15.3** | **19.1** | | -- |

***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

**UniStar Environment & Research Labs Pvt. Ltd.**

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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : December - 2022

**Name of Location** : Village - Wandh

**ID No.** : **URA/ID/A-22/12/003**

| 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. | 02/12/2022 | 52.6 | 21.2 | 14.3 | 20.2 | | -- |
| 2. | 06/12/2022 | 57.1 | 27.0 | 12.6 | 25.3 | | -- |
| 3. | 09/12/2022 | 74.5 | 33.3 | 20.4 | 23.7 | 20.4 | BDL |
| 4. | 13/12/2022 | 64.7 | 31.9 | 17.3 | 25.1 | | |
| 5. | 16/12/2022 | 55.9 | 24.1 | 19.6 | 28.0 | | |
| 6. | 20/12/2022 | 64.4 | 31.9 | 13.1 | 17.5 | | |
| 7. | 23/12/2022 | 61.4 | 28.2 | 15.6 | 22.3 | | |
| 8. | 27/12/2022 | 63.7 | 30.2 | 20.6 | 25.2 | | |
| 9. | 30/12/2022 | 61.5 | 26.0 | 18.9 | 23.6 | | -- |
| **Average** | | **61.8** | **28.2** | **16.9** | **23.4** | | -- |

***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

**UniStar Environment & Research Labs Pvt. Ltd.**

**(Authorized Signatory)**

| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : December - 2022

**Name of Location** : Nr.20 MLD Plant

**ID No.** : **URA/ID/A-22/12/004**

| 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 | 06/12/2022 | 62.8 | 25.2 | 13.9 | 21.3 | 17.2 | BDL |
| **Average** | | **62.8** | **25.2** | **13.9** | **21.3** | **17.2** | **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

**UniStar Environment &**
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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : December - 2022

**Name of Location** : Nr. Shantiniketan - 1

**ID No.** : **URA/ID/A-22/12/005**

| 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 | 06/12/2022 | 52.1 | 21.7 | 12.9 | 20.3 | 15.1 | BDL |
| **Average** | | **52.1** | **21.7** | **12.9** | **20.3** | **15.1** | **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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| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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

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## Monthly Average Report
### AMBIENT AIR MONITORING

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

**Month of Monitoring** : February - 2023

**Name of Location** : Village - Siracha

**ID No.** : **URA/ID/A-23/02/001**

| 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. | 03/02/2023 | 50.2 | 21.0 | 10.5 | 16.7 | | -- |
| 2. | 10/02/2023 | 42.1 | 18.9 | 11.7 | 17.1 | | -- |
| 3. | 14/02/2023 | 52.5 | 27.4 | 13.8 | 18.4 | | -- |
| 4. | 17/02/2023 | 58.8 | 28.3 | 16.5 | 22.3 | | -- |
| 5. | 21/02/2023 | 68.5 | 31.5 | 17.7 | 21.1 | 17.2 | BDL |
| 6. | 24/02/2023 | 64.9 | 27.7 | 14.9 | 19.4 | | -- |
| 7. | 28/02/2023 | 69.1 | 34.7 | 15.6 | 22.6 | | -- |
| **Average** | | **58.0** | **27.1** | **14.4** | **19.7** | | -- |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : February - 2023

**Name of Location** : Village – Kandagara

**ID No.** : **URA/ID/A-22/02/002**

| 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. | 03/02/2023 | 46.4 | 21.7 | 12.4 | 18.3 | | -- |
| 2. | 10/02/2023 | 54.2 | 24.1 | 14.2 | 21.8 | | -- |
| 3. | 14/02/2023 | 51.9 | 27.4 | 15.7 | 18.5 | | -- |
| 4. | 17/02/2023 | 60.7 | 28.8 | 12.6 | 15.7 | | -- |
| 5. | 21/02/2023 | 65.3 | 30.1 | 17.3 | 24.2 | 18.9 | BDL |
| 6. | 24/02/2023 | 63.0 | 27.3 | 19.7 | 27.4 | | -- |
| 7. | 28/02/2023 | 71.8 | 33.5 | 15.4 | 20.8 | | -- |
| **Average** | | **59.1** | **27.6** | **15.3** | **20.9** | | **--** |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : February - 2023

**Name of Location** : Village - Wandh

**ID No.** : **URA/ID/A-23/02/003**

| 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. | 03/02/2023 | 52.1 | 24.0 | 13.8 | 21.6 | | -- |
| 2. | 10/02/2023 | 59.0 | 29.4 | 14.3 | 20.1 | | -- |
| 3. | 14/02/2023 | 60.5 | 26.4 | 14.6 | 19.4 | | -- |
| 4. | 17/02/2023 | 62.8 | 34.8 | 18.6 | 22.7 | | -- |
| 5. | 21/02/2023 | 72.7 | 35.1 | 19.1 | 24.6 | 22.2 | BDL |
| 6. | 24/02/2023 | 67.9 | 32.7 | 18.7 | 26.2 | | -- |
| 7. | 28/02/2023 | 61.9 | 29.5 | 17.5 | 24.5 | | -- |
| **Average** | | **62.4** | **30.3** | **16.7** | **22.7** | | **--** |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : February - 2023

**Name of Location** : Nr.20 MLD Plant

**ID No.** : **URA/ID/A-23/02/004**

| 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 | 23/02/2023 | 72.8 | 29.2 | 17.4 | 24.8 | 20.7 | BDL |
| **Average** | | **72.8** | **29.2** | **17.4** | **24.8** | **20.7** | **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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**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : February - 2023

**Name of Location** : Nr. Shantiniketan - 1

**ID No.** : **URA/ID/A-23/02/005**

| 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 | 23/02/2023 | 61.4 | 25.8 | 14.8 | 21.3 | 17.8 | BDL |
| **Average** | | **61.4** | **25.8** | **14.8** | **21.3** | **17.8** | **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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : February - 2023

**Name of Location** : Nr. Coal Handling Plant

**ID No.** : **URA/ID/A-23/02/006**

| 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 |
| GPCB Permissible Limit (TWA for 24 hrs.) | | **100** | **60** | **80** | **80** |
| 1 | 24/02/2023 | 79.5 | 32.9 | 19.4 | 23.9 |
| **Average** | | **79.5** | **32.9** | **19.4** | **23.9** |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : February - 2023

**Name of Location** : Nr. Integrated Ash Silo

**ID No.** : **URA/ID/A-23/02/007**

| 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 |
| GPCB Permissible Limit (TWA for 24 hrs.) | | **100** | **60** | **80** | **80** |
| 1 | 24/02/2023 | 67.3 | 28.6 | 17.2 | 22.1 |
| **Average** | | **67.3** | **28.6** | **17.2** | **22.1** |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : March - 2023

**Name of Location** : Village - Siracha

**ID No.** : **URA/ID/A-23/03/001**

| 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. | 03/03/2023 | 70.8 | 31.4 | 16.3 | 21.3 | | -- |
| 2. | 07/03/2023 | 57.6 | 23.4 | 14.5 | 22.7 | | -- |
| 3. | 10/03/2023 | 50.9 | 21.2 | 10.6 | 16.0 | 17.8 | BDL |
| 4. | 14/03/2023 | 61.9 | 22.8 | 13.3 | 19.9 | | -- |
| 5. | 17/03/2023 | 52.6 | 26.2 | 14.5 | 21.7 | | -- |
| 6. | 21/03/2023 | 48.1 | 20.9 | 11.7 | 17.0 | | -- |
| 7. | 24/03/2023 | 61.9 | 27.4 | 12.4 | 20.2 | | -- |
| 8. | 28/03/2023 | 61.0 | 30.8 | 12.7 | 19.3 | | -- |
| 9. | 31/03/2023 | 54.2 | 26.4 | 12.8 | 19.4 | | -- |
| **Average** | | **57.7** | **25.6** | **13.2** | **19.7** | | -- |

**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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : March - 2023

**Name of Location** : Village – Kandagara

**ID No.** : **URA/ID/A-22/03/002**

| 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. | 03/03/2023 | 62.2 | 30.7 | 16.9 | 22.7 | | -- |
| 2. | 07/03/2023 | 61.0 | 24.6 | 15.8 | 20.2 | | -- |
| 3. | 10/03/2023 | 56.5 | 23.9 | 13.4 | 16.9 | 18.3 | BDL |
| 4. | 14/03/2023 | 62.0 | 29.3 | 11.1 | 14.1 | | -- |
| 5. | 17/03/2023 | 52.8 | 29.4 | 13.8 | 22.6 | | -- |
| 6. | 21/03/2023 | 57.6 | 32.9 | 12.6 | 25.8 | | -- |
| 7. | 24/03/2023 | 64.8 | 24.8 | 13.9 | 19.0 | | -- |
| 8. | 28/03/2023 | 55.2 | 22.8 | 14.1 | 18.9 | | -- |
| 9. | 31/03/2023 | 60.6 | 27.3 | 12.5 | 20.6 | | -- |
| **Average** | | **59.2** | **27.3** | **13.8** | **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 (Mundra) Ltd.**
Village: Tunda & Siracha,
Tal. Mundra, Dist.: Kutch.
GUJARAT – 370 435.

**Month of Monitoring** : March - 2023

**Name of Location** : Village - Wandh

**ID No.** : **URA/ID/A-23/03/003**

| 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. | 03/03/2023 | 67.2 | 32.8 | 18.2 | 23.6 | | -- |
| 2. | 07/03/2023 | 72.5 | 33.4 | 16.7 | 25.7 | | -- |
| 3. | 10/03/2023 | 55.9 | 26.8 | 14.0 | 18.6 | 19.6 | BDL |
| 4. | 14/03/2023 | 57.7 | 25.1 | 12.6 | 20.7 | | -- |
| 5. | 17/03/2023 | 51.5 | 27.2 | 15.1 | 20.6 | | -- |
| 6. | 21/03/2023 | 62.7 | 35.0 | 12.7 | 18.2 | | -- |
| 7. | 24/03/2023 | 60.9 | 27.0 | 17.5 | 22.2 | | -- |
| 8. | 28/03/2023 | 52.9 | 23.0 | 12.3 | 21.3 | | -- |
| 9. | 31/03/2023 | 66.9 | 31.6 | 14.1 | 19.2 | | -- |
| **Average** | | **60.9** | **29.1** | **14.8** | **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

**UniStar Environment & Research Labs Pvt. Ltd.**

**(Authorized Signatory)**

UniStar
Environment and Research Labs Pvt. Ltd.

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



## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : March - 2023

**Name of Location** : Nr.20 MLD Plant

**ID No.** : **URA/ID/A-23/03/004**

| 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 | 04/03/2023 | 67.4 | 31.3 | 18.3 | 22.6 | 20.4 | BDL |
| **Average** | | **67.4** | **31.3** | **18.3** | **22.6** | **20.4** | **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)**

UniStar
Environment and Research Labs Pvt. Ltd.

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MoEF&CC (GOI) Recognized Environmental Laboratory under the EPA-1986 (31.03.2023 to 22.09.2024) | QCI-NABET Accredited EIA & GW Consultant Organization | GPCB Recognized Environmental Auditor (Schedule-II) | ISO 9001 : 2015 Certified Company | ISO 45001 : 2018 Certified Company

## Monthly Average Report

**AMBIENT AIR MONITORING**

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

**Month of Monitoring** : March - 2023

**Name of Location** : Nr. Shantiniketan - 1

**ID No.** : **URA/ID/A-23/03/005**

| 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 | 04/03/2023 | 57.2 | 27.4 | 13.9 | 19.4 | 19.6 | BDL |
| **Average** | | **57.2** | **27.4** | **13.9** | **19.4** | **19.6** | **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 No: - EE/ENV/2023/01/074** **Date: 09/01/2023**

# ANALYSIS REPORT

**(For the month of December - 2022)**

| **Client Details** | | | **Sample Details** | |
|---|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | | **Sample Code** | TGPL/AA1 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | | **Location** | Near Maintenance Area |
| | | | **Quantity** | N/A |
| **Sampling Done By** | | Earth Envirotech Team | **Date of Sampling** | 26/12/2022 |
| **Analysis Starts on** | | 27/12/2022 | **Sampling Method** | IS 5182 (Part – 5): 2020 Gaseous pollutants IS 5182 Part 23:2017- PM10 CPCB manual volume I-PM 2.5 |
| **Analysis Completion On** | | 02/01/2023 | **Sample Received Date** | 27/12/2022 |

## AMBIENT AIR MONITORING RESULTS

| Sr. No. | Parameters | Unit | Results | National Ambient Air Quality Standards (NAAQS) | Reference Method |
|---|---|---|---|---|---|
| | | | Near Maintenance Area | | |
| 1. | Particulate Matter $PM_{10}$ | µg/m³ | 56.92 | 100 | IS 5182 Part 23 : 2017 |
| 2. | Particulate Matter $PM_{2.5}$ | µg/m³ | 17.51 | 60 | CPCB manual Volume I |
| 3. | Sulphur Dioxide ($SO_2$) | µg/m³ | 09.33 | 80 | IS 5182 Part 2 : 2017 |
| 4. | Nitrogen Dioxide ($NO_2$) | µg/m³ | 11.80 | 80 | IS 5182 Part 6 : 2017 |

**Analyzed By:**

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

**Authorized Signatory:**

- Analysis is subject to the condition In Which the Sample Is received at our Laboratory.
- Reports can not be used as an evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 Days from the date of sampling.

**Report No: - EE/ENV/2023/01/075** **Date: 09/01/2023**

# ANALYSIS REPORT

**(For the month of December - 2022)**

| **Client Details** | | **Sample Details** | |
|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | **Sample Code** | TGPL/AA2 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | **Location** | Near Canteen Area |
| | | **Quantity** | N/A |
| **Sampling Done By** | Earth Envirotech Team | **Date of Sampling** | 26/12/2022 |
| **Analysis Starts on** | 27/12/2022 | **Sampling Method** | IS 5182 (Part – 5): 2020 Gaseous pollutants<br>IS 5182 Part 23:2017- PM10<br>CPCB manual volume I-PM 2.5 |
| **Analysis Completion On** | 02/01/2023 | **Sample Received Date** | 27/12/2022 |

## AMBIENT AIR MONITORING RESULTS

| Sr. No. | Parameters | Unit | Results | National Ambient Air Quality Standards (NAAQS) | Reference Method |
|---|---|---|---|---|---|
| | | | Near Canteen Area | | |
| 1. | Particulate Matter $PM_{10}$ | µg/m³ | 50.64 | 100 | IS 5182 Part 23 : 2017 |
| 2. | Particulate Matter $PM_{2.5}$ | µg/m³ | 20.39 | 60 | CPCB manual Volume I |
| 3. | Sulphur Dioxide ($SO_2$) | µg/m³ | 12.70 | 80 | IS 5182 Part 2 : 2017 |
| 4. | Nitrogen Dioxide ($NO_2$) | µg/m³ | 15.46 | 80 | IS 5182 Part 6 : 2017 |

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Report No: - EE/ENV/2023/01/076 Date: 09/01/2023

# ANALYSIS REPORT
## (For the month of December - 2022)

| Client Details | | Sample Details | |
|---|---|---|---|
| Name | M/s. Terram Geosynthetics Pvt. Ltd. | Sample Code | TGPL/ST1 |
| Address | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | Location | Boiler |
| | | Sampling Instrument | Stack Monitoring Kit |
| Sampling Done By | Earth Envirotech Team | Date of Sampling | 26/12/2022 |
| Analysis Starts on | 27/12/2022 | Sampling Method | Guidelines on methodologies for source emission monitoring LATS/80/2013-14 |
| Analysis Completion On | 02/01/2023 | Sample Received Date | 26/12/2022 |

## STACK MONITORING ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Limit as per GPCB Norms | Reference Method |
|---|---|---|---|---|---|
| | | | Boiler | | |
| 1. | Particulate Matter (PM) | mg/Nm³ | 69.11 | 150 | IS 11255 : Part 1 |
| 2. | Sulphur dioxide ($SO_2$) | ppm | 13.76 | 100 | IS 11255 : Part 2 |
| 3. | Oxides of Nitrogen ($NO_x$) | ppm | 09.59 | 50 | IS 11255 : Part 7 |

Analyzed By:

Authorized Signatory:

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- Sample will be retained till 15 days from the date of sampling.

Report No: - EE/ENV/2023/01/077

Date: 09/01/2023

# ANALYSIS REPORT
## (For the month of December - 2022)

| Client Details | | Sample Details | |
|---|---|---|---|
| Name | M/s. Terram Geosynthetics Pvt. Ltd. | Sample Code | TGPL/ST2 |
| Address | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | Location | D. G. Set |
| | | Sampling Instrument | Stack Monitoring Kit |
| Sampling Done By | Earth Envirotech Team | Date of Sampling | 26/12/2022 |
| Analysis Starts on | 27/12/2022 | Sampling Method | Guidelines on methodologies for source emission monitoring LATS/80/2013-14 |
| Analysis Completion On | 02/01/2023 | Sample Received Date | 26/12/2022 |

## STACK MONITORING ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Limit as per GPCB Norms | Reference Method |
|---|---|---|---|---|---|
| | | | D.G.Set | | |
| 1. | Particulate Matter (PM) | mg/Nm³ | 71.90 | 150 | IS 11255 : Part 1 |
| 2. | Sulphur dioxide ($SO_2$) | ppm | 23.16 | 100 | IS 11255 : Part 2 |
| 3. | Oxides of Nitrogen (NOx) | ppm | 20.84 | 50 | IS 11255 : Part 7 |

Analyzed By:

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Report No: - EE/ENV/2023/01/077

Date: 09/01/2023

# ANALYSIS REPORT

**(For the month of December - 2022)**

| Client Details | | Sample Details | |
|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | **Sample Code** | TGPL/ST2 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | **Location** | D. G. Set |
| | | **Sampling Instrument** | Stack Monitoring Kit |
| **Sampling Done By** | Earth Envirotech Team | **Date of Sampling** | 26/12/2022 |
| **Analysis Starts on** | 27/12/2022 | **Sampling Method** | Guidelines on methodologies for source emission monitoring LATS/80/2013-14 |
| **Analysis Completion On** | 02/01/2023 | **Sample Received Date** | 26/12/2022 |

## STACK MONITORING ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Limit as per GPCB Norms | Reference Method |
|---|---|---|---|---|---|
| | | | D.G.Set | | |
| 1. | Particulate Matter (PM) | $mg/Nm^3$ | 71.90 | 150 | IS 11255 : Part 1 |
| 2. | Sulphur dioxide ($SO_2$) | ppm | 23.16 | 100 | IS 11255 : Part 2 |
| 3. | Oxides of Nitrogen (NOx) | ppm | 20.84 | 50 | IS 11255 : Part 7 |

**Analyzed By:**

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**Report No: - EE/ENV/2023/01/078**

**Date: 09/01/2023**

# ANALYSIS REPORT

**(For the month of December - 2022)**

| **Client Details** | | **Sample Details** | |
|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | **Sample Code** | TGPL/N1-N6 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | **Location** | As per table |
| | | **Quantity** | NA |
| | | **Date of Measurement** | 26/12/2022 |
| **Measurement Done By** | Earth Envirotech Team | **Sampling Instrument** | Sound Level Meter |
| **Measurement Completion Date** | 26/12/2022 | **Sampling Method** | IS 9989 : 2020 |

## NOISE MONITORING RESULTS

| Sr. No. | Location Name | Units | Day Time | Night Time |
|---|---|---|---|---|
| | | | Spot Noise Level dB (A) Maximum | Spot Noise Level dB (B) Maximum |
| **Standard Limit** | | **dB** | **75** | **70** |
| 1. | Near Brattice Area | dB | 70.1 | 68.5 |
| 2. | Near Spinning Area | dB | 71.8 | 64.2 |
| 3. | Near Recycle Area | dB | 68.7 | 63.6 |
| 4. | Near Capstan Machine | dB | 71.9 | 65.1 |
| 5. | Near Winder Area | dB | 71.4 | 64.7 |
| 6. | Near Utility Area | dB | 71.0 | 67.3 |

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

**Analyzed By:**

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**Authorized Signatory:**

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- Sample will be retained till 15 days from the date of sampling.

Report No: - EE/ENV/2023/01/079

Date: 09/01/2023

# ANALYSIS REPORT
## (For the month of December - 2022)

| Client Details | | Sample Details | |
|---|---|---|---|
| Name | M/s. Terram Geosynthetics Pvt. Ltd. | Sample Code | TGPL/L1-L3 |
| Address | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | Location | As per table |
| | | Quantity | NA |
| | | Date of Measurement | 26/12/2022 |
| Measurement Done By | Earth Envirotech Team | Sampling Instrument | Lux Meter (LX-101 A) |
| Measurement Completion Date | 26/12/2022 | Sampling Method | Lutron - LX-101 Inst. Manual |

## LUX MONITORING RESULTS

| Sr. No. | Location Name | In Lux (Day Time) | In Lux (Night Time) |
|---|---|---|---|
| 1. | Near Converting Area | 415 | 330 |
| 2. | Spinning floor Area | 380 | 345 |
| 3. | Near Lab Area | 405 | 310 |

Analyzed By:

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Authorized Signatory:

- Analysis is subject to the condition In Which the Sample is received at our Laboratory.
- Reports can not be used as an evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till one 15 days from the date of sampling.

Report No: - EE/ENV/2023/01/080

Date: 09/01/2023

# ANALYSIS REPORT

**(For the month of December - 2022)**

| Client Details | | Sample Details | |
|---|---|---|---|
| Name | M/s. Terram Geosynthetics Pvt. Ltd. | Sample Code | TGPL/WW1 |
| Address | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | Location | STP Outlet |
| | | Quantity | 2 L |
| Sampling Done By | Earth Envirotech Team | Date of Sampling | 02/01/2023 |
| Analysis Starts on | 03/01/2023 | Sampling Method | APHA 1060 |
| Analysis Completion On | 09/01/2023 | Sample Received Date | 02/01/2023 |

## WATER ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Reference Method |
|---|---|---|---|---|
| 1. | pH | — | 6.40 | IS 3025 (P-11) |
| 2. | Total Suspended Solids | mg/l | 38.4 | IS 3025 (P-17) |
| 3. | Biochemical Oxygen Demand (5 days at 20°C) | mg/l | 25.1 | APHA 5210 |
| 4. | Fecal coliform MPN/100 | MPN/100 ml | 15 | APHA 9221 |

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT

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- Sample will be retained till 15 Days from the date of sampling.

Report No: - EE/ENV/2023/01/081

Date: 09/01/2023

# ANALYSIS REPORT

**(For the month of December - 2022)**

| Client Details | | Sample Details | |
|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | **Sample Code** | TGPL/WW2 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | **Location** | ETP outlet |
| | | **Quantity** | 2 L |
| **Sampling Done By** | Earth Envirotech Team | **Date of Sampling** | 26/12/2022 |
| **Analysis Starts on** | 27/12/2022 | **Sampling Method** | APHA 1060 |
| **Analysis Completion On** | 05/01/2023 | **Sample Received Date** | 26/12/2022 |

## WATER ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Reference Method |
|---|---|---|---|---|
| 1. | pH | — | 6.60 | IS 3025 (P-11) |
| 2. | Temperature | °C | 25.3 | APHA 2550 B |
| 3. | Total Suspended Solids | mg/l | 59.5 | IS 3025 (P-17) |
| 4. | Oil & Grease | mg/l | 2.1 | IS 3025 (P-39) |
| 5. | Phenolic Compound | mg/l | 0.078 | IS 3025 (P-43) |
| 6. | Biochemical Oxygen Demand (5 days at 20°C) | mg/l | 28.4 | APHA 5210 |
| 7. | Chemical Oxygen Demand | mg/l | 89.6 | IS 3025 (P-58) |
| 8. | Chloride | mg/l | 566 | IS 3025 (P-32) |
| 9. | Sulphate | mg/l | 449 | IS 3025 (P-24) |
| 10. | Total Dissolved Solids | mg/l | 1719 | IS 3025 (P-16) |
| 11. | Percent Sodium | % | 15.3 | IS 3025 (P-45) |

**Analyzed By:**

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- Sample will be retained till 15 Days from the date of sampling.

**Report No: - EE/ENV/2023/03/089** **Date: 29/03/2023**

# ANALYSIS REPORT
## (For the Month of March - 2023)

| Client Details | | | Sample Details | |
|---|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | | **Sample Code** | TGPL/AA1 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | | **Location** | Near Main Entrance Area |
| | | | **Quantity** | N/A |
| **Sampling Done By** | | Earth Envirotech Team | **Date of Sampling** | 22/03/2023 |
| **Analysis Starts on** | | 23/03/2023 | **Sampling Method** | IS 5182 (Part – 5) : 2020 Gaseous Pollutants<br>IS 5182 (Part - 23) : 2022- $PM_{10}$<br>EE-WI-7.2.2A - $PM_{2.5}$ |
| ***Analysis Completion On*** | | 27/03/2023 | **Sample Received Date** | 23/03/2023 |

## AMBIENT AIR MONITORING RESULTS

| Sr. No. | Parameters | Unit | Results | National Ambient Air Quality Standards (NAAQS) | Reference Method |
|---|---|---|---|---|---|
| | | | Near Main Entrance Area | | |
| 1. | Particulate Matter $PM_{10}$ | µg/m³ | 50.61 | 100 | IS 5182 (Part 23) : 2022 |
| 2. | Particulate Matter $PM_{2.5}$ | µg/m³ | 19.38 | 60 | EE-WI-7.2.2A |
| 3. | Sulphur Dioxide ($SO_2$) | µg/m³ | 11.69 | 80 | IS 5182 (Part 2) : 2022 |
| 4. | Nitrogen Dioxide ($NO_2$) | µg/m³ | 13.07 | 80 | IS 5182 (Part 6) : 2022 |

**Analyzed By:**

EARTH ENVIRONMENTAL (ANALYTICAL & ENVIRONMENTAL ENGINEERING) LABORATORY ★ GUJARAT

**Authorized Signatory**

- Analysis is subject to the condition In Which the Sample Is received at our Laboratory.
- Reports cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 Days from the date of sampling.

Report No: - EE/ENV/2023/03/090 Date: 29/03/2023

# ANALYSIS REPORT
## (For the Month of March - 2023)

| Client Details | | Sample Details | |
|---|---|---|---|
| Name | M/s. Terram Geosynthetics Pvt. Ltd. | Sample Code | TGPL/AA2 |
| Address | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | Location | Near Transformer Area |
| | | Quantity | N/A |
| Sampling Done By | Earth Envirotech Team | Date of Sampling | 22/03/2023 |
| Analysis Starts on | 23/03/2023 | Sampling Method | IS 5182 (Part – 5) : 2020 Gaseous Pollutants<br>IS 5182 (Part - 23) : 2022- $PM_{10}$<br>EE-WI-7.2.2A - $PM_{2.5}$ |
| Analysis Completion On | 27/03/2023 | Sample Received Date | 23/03/2023 |

## AMBIENT AIR MONITORING RESULTS

| Sr. No. | Parameters | Unit | Results | National Ambient Air Quality Standards (NAAQS) | Reference Method |
|---|---|---|---|---|---|
| | | | Near Transformer Area | | |
| 1. | Particulate Matter $PM_{10}$ | µg/m³ | 43.18 | 100 | IS 5182 (Part 23) : 2022 |
| 2. | Particulate Matter $PM_{2.5}$ | µg/m³ | 21.94 | 60 | EE-WI-7.2.2A |
| 3. | Sulphur Dioxide ($SO_2$) | µg/m³ | 15.70 | 80 | IS 5182 (Part 2) : 2022 |
| 4. | Nitrogen Dioxide ($NO_2$) | µg/m³ | 17.55 | 80 | IS 5182 (Part 6) : 2022 |

Analyzed By:

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)
Authorized Signatory:

- Analysis is subject to the condition In Which the Sample is received at our Laboratory.
- Reports cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 Days from the date of sampling.

Report No: - EE/ENV/2023/03/091

Date: 29/03/2023

# ANALYSIS REPORT

**(For the Month of March - 2023)**

| Client Details | | Sample Details | |
|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | **Sample Code** | TGPL/ST1 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | **Location** | Boiler |
| | | **Sampling Instrument** | Stack Monitoring Kit |
| **Sampling Done By** | Earth Envirotech Team | **Date of Sampling** | 22/03/2023 |
| **Analysis Starts on** | 23/03/2023 | **Sampling Method** | Guidelines on methodologies for source emission monitoring LATS/80/2013-14 |
| **Analysis Completion On** | 27/03/2023 | **Sample Received Date** | 22/03/2023 |

## STACK MONITORING ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Limit as per GPCB Norms | Reference Method |
|---|---|---|---|---|---|
| | | | Boiler | | |
| 1. | Particulate Matter (PM) | $mg/Nm^3$ | 73.40 | 150 | IS 11255 (Part 1) : 2019 |
| 2. | Sulphur dioxide ($SO_2$) | ppm | 15.11 | 100 | IS 11255 (Part 2) : 2019 |
| 3. | Oxides of Nitrogen (NOx) | ppm | 11.96 | 50 | 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 our Laboratory.
- Reports cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 days from the date of sampling.

Report No: - EE/ENV/2023/03/092

Date: 29/03/2023

# ANALYSIS REPORT

## (For the Month of March - 2023)

| Client Details | | Sample Details | |
|---|---|---|---|
| Name | M/s. Terram Geosynthetics Pvt. Ltd. | Sample Code | TGPL/N1-N6 |
| Address | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | Location | As per Table |
| | | Quantity | NA |
| | | Date of Measurement | 22/03/2023 |
| Measurement Done By | Earth Envirotech Team | Sampling Instrument | Sound Level Meter |
| Measurement Completion Date | 22/03/2023 | Sampling Method | IS 9989 : 2020 |

## NOISE MONITORING RESULTS

| Sr. No. | Location Name | Units | Day Time | Night Time |
|---|---|---|---|---|
| | | | Spot Noise Level dB (A) Maximum | Spot Noise Level dB (B) Maximum |
| Standard Limit | | dB (A) | 75 | 70 |
| 1. | Near Brattice Area | dB (A) | 71.4 | 67.4 |
| 2. | Near Spinning Area | dB (A) | 73.1 | 63.0 |
| 3. | Near Recycle Area | dB (A) | 70.0 | 61.8 |
| 4. | Near HDFE Geocell | dB (A) | 69.5 | 60.3 |
| 5. | Near Winder Area | dB (A) | 67.2 | 63.5 |
| 6. | Near Utility Area | dB (A) | 70.7 | 64.1 |

**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

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- Reports cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 days from the date of sampling.

**Report No: - EE/ENV/2023/03/093** **Date: 29/03/2023**

# ANALYSIS REPORT
## (For the Month of March - 2023)

| Client Details | | | Sample Details | |
|---|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | | **Sample Code** | TGPL/L1-L3 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | | **Location** | As per table |
| | | | **Quantity** | NA |
| | | | **Date of Measurement** | 22/03/2023 |
| **Measurement Done By** | | Earth Envirotech Team | **Sampling Instrument** | Lux Meter (LX-101 A) |
| **Measurement Completion Date** | | 22/03/2023 | **Sampling Method** | Lutron - LX-101 Inst. Manual |

## LUX MONITORING RESULTS

| Sr. No. | Location Name | In Lux (Day Time) | In Lux (Night Time) |
|---|---|---|---|
| 1. | Near Converting Area | 422 | 314 |
| 2. | Spinning floor Area | 376 | 351 |
| 3. | Near Lab Area | 393 | 304 |

**Analyzed By:**

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**Authorized Signatory**

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- Reports cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till one 15 days from the date of sampling.

**Report No: - EE/ENV/2023/03/094** **Date: 29/03/2023**

# ANALYSIS REPORT
**(For the Month of March - 2023)**

| **Client Details** | | **Sample Details** | |
|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | **Sample Code** | TGPL/WW1 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | **Location** | STP Outlet |
| | | **Quantity** | 2 Liter |
| **Sampling Done By** | Earth Envirotech Team | **Date of Sampling** | 22/03/2023 |
| **Analysis Starts on** | 23/03/2023 | **Sampling Method** | APHA 23rd ED. 1060 B |
| **Analysis Completion On** | 29/03/2023 | **Sample Received Date** | 22/03/2023 |

## WATER ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Reference Method |
|---|---|---|---|---|
| 1. | pH | --- | 7.34 | IS 3025 (P-11) : 2022 |
| 2. | Total Suspended Solids | mg/L | 38.4 | IS 3025 (P-17) : 2022 |
| 3. | Biochemical Oxygen Demand (5 days at 20°C) | mg/L | 25.1 | IS 3025 (P-44) : 2019 |
| 4. | Fecal coliform MPN/100 | MPN/100 ml | 15 | APHA 23rd ED. - 9221 |

**Analyzed By:**

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY) GUJARAT
**Authorized Signatory:**

- Analysis is subject to the condition In Which the Sample Is received at our Laboratory.
- *Reports cannot be used as evidence anywhere including judiciary purpose without our prior permission.*
- *Sample will be retained till 15 Days from the date of sampling.*

EARTH envirotech

**ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**
GPCB Approved Environmental Auditor

**Report No: - EE/ENV/2023/03/095**

**Date: 29/03/2023**

# ANALYSIS REPORT
**(For the Month of March - 2023)**

| **Client Details** | | **Sample Details** | |
|---|---|---|---|
| **Name** | M/s. Terram Geosynthetics Pvt. Ltd. | **Sample Code** | TGPL/WW2 |
| **Address** | Plot No.: 5, Block – B, Sector-12 S, Adani Port & SEZ, Tal: Mundra, Dist: Kutch. | **Location** | ETP outlet |
| | | **Quantity** | 2 Liter |
| **Sampling Done By** | Earth Envirotech Team | **Date of Sampling** | 22/03/2023 |
| **Analysis Starts on** | 23/03/2023 | **Sampling Method** | APHA 23rd ED. 1060 B |
| **Analysis Completion On** | 29/03/2023 | **Sample Received Date** | 22/03/2023 |

## WATER ANALYSIS RESULTS

| Sr. No. | Parameters | Unit | Results | Reference Method |
|---|---|---|---|---|
| 1. | pH | --- | 6.89 | IS 3025 (P-11) : 2022 |
| 2. | Temperature | °C | 25.7 | APHA 23rd ED. - 2550 B |
| 3. | Total Suspended Solids | mg/L | 68.10 | IS 3025 (P-17) : 2022 |
| 4. | Oil & Grease | mg/L | 1.89 | IS 3025 (P-39) : 2021 |
| 5. | Phenolic Compound | mg/L | 0.082 | IS 3025 (P-43) : 2022 |
| 6. | Biochemical Oxygen Demand (5 days at 20°C) | mg/L | 27.39 | IS 3025 (P-44) : 2019 |
| 7. | Chemical Oxygen Demand | mg/L | 84.50 | IS 3025 (P-58) : 2017 |
| 8. | Chloride | mg/L | 520.48 | IS 3025 (P-32) : 2019 |
| 9. | Sulphate | mg/L | 333.10 | IS 3025 (P-24) : 2022 |
| 10. | Total Dissolved Solids | mg/L | 1823 | IS 3025 (P-16) : 2017 |
| 11. | Percent Sodium | % | 14.49 | IS 3025 (P-45) : 2019 |

**Analyzed By:**

EARTH ENVIROTECH (ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY)

**Authorized Signatory**

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- Reports cannot be used as evidence anywhere including judiciary purpose without our prior permission.
- Sample will be retained till 15 Days from the date of sampling.

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

Ref.No.: 4004/10/2022-23

Date: 31/10/2022

# 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 | ---- | 14/10/2022 | 14/10/2022 |
| 03. | Time of sampling | Hr. | 09:30 | 09:45 |
| 04. | Duration of sampling | Hrs. | 24.00 | 24.00 |
| 05. | Dominant Wind Direction (From) | ---- | SE | SE |
| 06. | Average Wind Speed | Km/Hr. | 12.5 | 12.5 |
| 07. | Average flow rate during sampling | $m^3$/minute | 1.1 | 1.1 |
| 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/$m^3$ | 32 | 30 |
| **11.** | **Permissible Limits of $PM_{10}$** | **µg/$m^3$** | **100** | **100** |
| 12. | Measured Concentration of $PM_{10}$ | µg/$m^3$ | 40 | 45 |
| **13.** | **Permissible Limits of $SO_2$** | **µg/$m^3$** | **80** | **80** |
| 14. | Measured Concentration of $SO_2$ | µg/$m^3$ | 13.2 | 14 |
| **15.** | **Permissible Limits of $NO_2$** | **µg/$m^3$** | **80** | **80** |
| 16. | Measured Concentration of $NO_2$ | µg/$m^3$ | 19.3 | 18.1 |

Instrument Used : Ecotech make AAS - 217 BL , Gasious Sampler AAS 109, PM 2.5 Sampler AAS 127

Calibration Done on. : 27/12/2021

RAJKOT

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Analyst

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

Ref.No.: 4005/10/2022-23

Date: 31/10/2022

# 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: 14/10/2022

| 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 | 66.2 | 54.0 |
| 02. | Nr. FO Storage Area | 70.3 | 56.1 |

**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 : IL - 006719 (SIGMA)

Calibration Done On : 04/03/2022

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Analyst

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Ph.: +91 9099919954 ▪ E-mail : royalenvironment@live.com ▪ admin@royalconsultancy.com

Ref.No.: 1004/01/2022-23

Date: 30/01/2023

# 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 | ---- | 16/01/2023 | 16/01/2023 |
| 03. | Time of sampling | Hr. | 09:10 | 09:40 |
| 04. | Duration of sampling | Hrs. | 24.00 | 24.00 |
| 05. | Dominant Wind Direction (From) | ---- | SW | SW |
| 06. | Average Wind Speed | Km/Hr. | 13.8 | 13.8 |
| 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 $PM_{2.5}$ | $\mu g/m^3$ | 26 | 22 |
| **11.** | **Permissible Limits of $PM_{10}$** | **$\mu g/m^3$** | **100** | **100** |
| 12. | Measured Concentration of $PM_{10}$ | $\mu g/m^3$ | 40 | 38 |
| **13.** | **Permissible Limits of $SO_2$** | **$\mu g/m^3$** | **80** | **80** |
| 14. | Measured Concentration of $SO_2$ | $\mu g/m^3$ | 12.8 | 13.9 |
| **15.** | **Permissible Limits of $NO_2$** | **$\mu g/m^3$** | **80** | **80** |
| 16. | Measured Concentration of $NO_2$ | $\mu g/m^3$ | 18.6 | 17.4 |

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

Ashish

Analyst

273

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

Ref.No.: 1005/01/2022-23 Date: 30/01/2023

# 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:16/01/2023

| 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 | 68.2 | 52.4 |
| 02. | Nr. FO Storage Area | 69.8 | 56.4 |

**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 : 04/03/2022

Royal Environment Auditing & Consultancy Service

Ashish

Analyst

No.:- ECA /2022-23/Reports/02

Date: - 02/12/2022

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon & Chemical Ltd.** | | |
| Date of Sampling | 24/11/2022 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/Refiner/03 | Sampling Method | IS Standard |
| Time of Sampling | 11:00 AM | Location | Mundra |
| Date of Receipt of sample at Lab | 26/11/2022 | Condition of sample | OK |
| Analysis Started on | 26/11/2022 | Analysis concluded on | 01/12/2022 |

Analysis Results of Stack Air- **Refiner**

| Sr. No. | Parameter | Unit | Permissible limit | Result | Test Method |
|---|---|---|---|---|---|
| 1. | PM | $Mg/Nm^3$ | 150 | 94 | IS: 11255 (Part-1):1985 |
| 2. | $SO_2$ | ppm | 100 | 57 | IS: 11255 (Part-2):1985 |
| 3. | $NO_X$ | ppm | 50 | 34 | IS: 11255 (Part-7):2005 |

**Notes:**

1. The results refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied.
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5. Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Gujarat Jurisdiction only.
6. Permissible Limits: as per Schedule VI of EPA Rules-1986

*ND: Not Detected, BDL: Below Detection Limit

| Tested by: | Report Prepared by: | Authorized by: |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Sign: K. P. Tank | Sign: | Sign: |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Date:02/12/2022 | Date:02/12/2022 | Date:02/12/2022 |

ENVIROLYSIS CONSULTANT & AUDITOR * RAJKOT *

No.:- ECA /2022-23/Reports/02

Date: - 02/12/2022

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon & Chemical Ltd.** | | |
| Date of Sampling | 24/11/2022 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/Boiler/01<br>ECA/D.G/02 | Sampling Method | IS Standard |
| Time of Sampling | 11:00 AM | Location | Mundra |
| Date of Receipt of sample at Lab | 26/11/2022 | Condition of sample | OK |
| Analysis Started on | 26/11/2022 | Analysis concluded on | 01/12/2022 |

Analysis Results of Stack Air- **CF Boiler**

| Sr. No. | Parameter | Unit | Permissible limit | Result | Test Method |
|---|---|---|---|---|---|
| 1. | PM | $Mg/Nm^3$ | 150 | 55 | IS: 11255 (Part-1):1985 |
| 2. | $SO_2$ | ppm | 100 | 48 | IS: 11255 (Part-2):1985 |
| 3. | $NO_X$ | ppm | 50 | 26 | IS: 11255 (Part-7):2005 |

Analysis Results of Stack Air- **D.G Set**

| Sr. No. | Parameter | Unit | Permissible limit | Result | Test Method |
|---|---|---|---|---|---|
| 1. | PM | $Mg/Nm^3$ | 150 | 50 | IS: 11255 (Part-1):1985 |
| 2. | $SO_2$ | ppm | 100 | 34 | IS: 11255 (Part-2):1985 |
| 3. | $NO_X$ | ppm | 50 | 22 | IS: 11255 (Part-7):2005 |

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5. Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Gujarat Jurisdiction only.
6. Permissible Limits: as per Schedule VI of EPA Rules-1986
   *ND: Not Detected, BDL: Below Detection Limit

| Tested by: | Report Prepared by: | Authorized by: |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Sign: K. P. Tank | Sign: | Sign: |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Date:02/12/2022 | Date:02/12/2022 | Date:02/12/2022 |

ENVIROLYSIS CONSULTANT & AUDITOR * RAJKOT

No.:- ECA /2022-23/Reports/01

Date: - 02/12/2022

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon and Chemicals Ltd.** | | |
| Date of Sampling | 24/11/2022 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/AMB/01<br>ECA/AMB/02 | Sampling Method | IS Standard |
| Time of Sampling | 10:00 AM | Location | Mundra |
| Date of Receipt of sample at Lab | 26/11/2022 | Condition of sample | OK |
| Analysis Started on | 26/11/2022 | Analysis concluded on | 01/12/2022 |

Analysis Results of Ambient Air(8 Hrs) - **Main Gate**

| Sr. No. | Parameter | Unit | Permissible limit(24 hr) | Result | Test Method |
|---|---|---|---|---|---|
| 1. | PM 10 | µg/Nm$^3$ | 100 | 60 | IS 5182 (Part-23):2006 |
| 2. | PM 2.5 | µg/Nm$^3$ | 60 | 31 | IS 5182 (Part-23):2006 |
| 3. | $SO_2$ | µg/Nm$^3$ | 80 | 42 | IS 5182 (Part-2):2001 |
| 4. | $NO_X$ | µg/Nm$^3$ | 80 | 38 | IS 5182 (Part-6):2006 |

Analysis Results of Ambient Air(8 Hrs)- **R.O Plant**

| Sr. No. | Parameter | Unit | Permissible limit(24 hr) | Result | Test Method |
|---|---|---|---|---|---|
| 1. | PM 10 | µg/Nm$^3$ | 100 | 58 | IS 5182 (Part-23):2006 |
| 2. | PM 2.5 | µg/Nm$^3$ | 60 | 24 | IS 5182 (Part-23):2006 |
| 3. | $SO_2$ | µg/Nm$^3$ | 80 | 42 | IS 5182 (Part-2):2001 |
| 4. | $NO_X$ | µg/Nm$^3$ | 80 | 40 | IS 5182 (Part-6):2006 |

**Notes:**

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4. This office is not responsible for the authenticity for the samples not collected by our officials.
5. Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Gujarat Jurisdiction only.
6. Permissible Limits: as per Schedule VI of EPA Rules-1986
   *ND: Not Detected, BDL: Below Detection Limit

| Tested by: | Report Prepared by: | Authorized by: |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Sign: K. P. Tank | Sign: | Sign: |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Date: 02/12/2022 | Date: 02/12/2022 | Date: 02/12/2022 |

ENVIROLYSIS CONSULTANT & AUDITOR

No.:- ECA /2022-23/Reports/01

Date: - 02/12/2022

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon and Chemicals Ltd.** | | |
| Date of Sampling | 25/11/2022 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/AMB/03<br>ECA/AMB/04 | Sampling Method | IS Standard |
| Time of Sampling | 10:00 AM | Location | Mundra |
| Date of Receipt of sample at Lab | 26/11/2022 | Condition of sample | OK |
| Analysis Started on | 26/11/2022 | Analysis concluded on | 01/12/2022 |

Analysis Results of Ambient Air(8 Hrs)- **Near CF Boiler**

| Sr. No. | Parameter | Unit | Permissible limit(24 hr) | Result | Test Method |
|---|---|---|---|---|---|
| 1. | PM 10 | $\mu g/Nm^3$ | 100 | 61 | IS 5182 (Part-23):2006 |
| 2. | PM 2.5 | $\mu g/Nm^3$ | 60 | 30 | IS 5182 (Part-23):2006 |
| 3. | $SO_2$ | $\mu g/Nm^3$ | 80 | 38 | IS 5182 (Part-2):2001 |
| 4. | $NO_X$ | $\mu g/Nm^3$ | 80 | 34 | IS 5182 (Part-6):2006 |

Analysis Results of Ambient Air (8 Hrs)- **Near Production line-3 &4**

| Sr. No. | Parameter | Unit | Permissible limit(24 hr) | Result | Test Method |
|---|---|---|---|---|---|
| 1. | PM 10 | $\mu g/Nm^3$ | 100 | 54 | IS 5182 (Part-23):2006 |
| 2. | PM 2.5 | $\mu g/Nm^3$ | 60 | 25 | IS 5182 (Part-23):2006 |
| 3. | $SO_2$ | $\mu g/Nm^3$ | 80 | 40 | IS 5182 (Part-2):2001 |
| 4. | $NO_X$ | $\mu g/Nm^3$ | 80 | 42 | IS 5182 (Part-6):2006 |

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6. Permissible Limits: as per Schedule VI of EPA Rules-1986

*ND: Not Detected, BDL: Below Detection Limit.

| Tested by: | Report Prepared by: | Authorized by: |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Sign: K.P. Tank | Sign: | Sign: |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Date: 02/12/2022 | Date: 02/12/2022 | Date: 02/12/2022 |

No.:- ECA /2022-23/Reports/03

Date: - 02/12/2022

| Sample Details | | | |
|---|---|---|---|
| Client Name | M/s. Oriental Carbon & Chemicals Ltd. | | |
| Date of Sampling | 25/11/2022 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/INLET/01<br>ECA/ INTERMEDIATE /02<br>ECA/OUTLET/03 | Sampling Method | Grab |
| Time of Sampling | 11:00 AM | Location | Mundra |
| Date of Receipt of sample at Lab | 26/11/2022 | Condition of sample | OK |
| Analysis Started on | 26/11/2022 | Analysis concluded on | 01/12/2022 |

**Analysis Results ETP Wastewater**

| Sr. No. | Parameter | Unit | Inlet | Intermediate | Outlet | Test Method |
|---|---|---|---|---|---|---|
| 1. | pH | -- | 5.87 | 6.20 | 7.00 | APHA 23rd Edition,4500-H+-B |
| 2. | Temperature | °C | 30 | 25 | 22 | APHA 23rd Edition,2550-B |
| 3. | Colour | Units | 148 | 75 | 36 | APHA 23rd Edition, 2120-B |
| 4. | Total Suspended Solids | mg/l | 150 | 92 | 60 | APHA 23rd Edition, 2540-D |
| 5. | Total Dissolved Solids | mg/l | 1839 | 1647 | 1771 | APHA 23rd Edition, 2540-C |
| 6. | Oil and Grease | mg/l | 14 | 7 | 4 | APHA 23rd Edition,5520-B |
| 7. | Ammonical Nitrogen | mg/l | 62 | 40 | 25 | APHA 23rd Edition-4500-$NH_3$-C |
| 8. | B.O.D. (3 days, 27°C) | mg/l | 83 | 28 | 9 | IS 3025 (Part 44):1993/ Reaffirmed 2009 |
| 9. | C.O.D | mg/l | 240 | 78 | 24 | APHA 23rd Edition,2012/5220/C |
| 10. | Chloride | mg/l | 531 | 478 | 319 | APHA 23rd Edition, 4500-CL--B |
| 11. | Sulphate | mg/l | 1314 | 1080 | 776 | APHA 23rd Edition,4500-$SO_4^{-2}$-E |
| 12. | Percent Sodium | 60% | 78 | 50 | 36 | APHA 23rd Edition,-3500-Na-B |
| 13. | Phenolic Compounds | mg/l | 2.4 | BDL | BDL | APHA 23rd Edition, |
| 14. | Sulphides | mg/l | 9 | 5 | 2.4 | APHA 23rd Edition 4500-$S^2$- |
| 15. | Sodium Absorption Ratio | 26 | 42 | 30 | 14 | APHA 23rd Edition, |

**Notes:**

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6. Permissible Limits: as per Schedule VI of EPA Rules-1986

*ND: Not Detected, BDL: Below Detection Limit

| Tested by: | Report Prepared by: | Authorized by: |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Sign: K.P Tank | Sign: | Sign: |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Date:02/12/2022 | Date:02/12/2022 | Date:02/12/2022 |

ENVIROLYSIS CONSULTANT & AUDITOR

No.:- ECA /2022-23/Reports/04

Date: - 02/12/2022

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon & Chemicals Ltd** | | |
| Date of Sampling | 25/11/2022 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/INLET/01<br>ECA/OUTLET/02 | Sampling Method | Grab |
| Time of Sampling | 11:00 AM | Location | Mundra |
| Date of Receipt of sample at Lab | 26/11/2022 | Condition of sample | OK |
| Analysis Started on | 27/11/2022 | Analysis concluded on | 01/12/2022 |

**Analysis Results of STP Wastewater**

| Sr. No. | Parameter | Unit | Inlet | Outlet | Test Method |
|---|---|---|---|---|---|
| 1. | pH | -- | 7.25 | 7.38 | APHA 23rd Edition,4500-H+-B |
| 2. | Total Suspended Solids | mg/l | 125 | 60 | APHA 23rd Edition, 2540-D |
| 3. | B.O.D. (3 days, 27°C) | mg/l | 68 | 10 | IS 3025 (Part 44):1993/ Reaffirmed 2009 |
| 4. | Fecal Coli Form | -- | 1128 | 654 | APHA 23rd Edition,9230-C |

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6. Permissible Limits: as per Schedule VI of EPA Rules-1986

*ND: Not Detected, BDL: Below Detection Limit

| Tested by: | Report Prepared by: | Authorized by: |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Sign: K.P. Tank | Sign: | Sign: |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Date:02/12/2022 | Date:02/12/2022 | Date:02/12/2022 |

ENVIROLYSIS CONSULTANT & AUDITOR * RAJKOT *

No.:- ECA /2022-23/Reports/05

Date: - 02/12/2022

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon & Chemicals Ltd.** | | |
| Date of Sampling | 25/11/2022 | Sampling Conducted by | Envirolysis team |
| Time of Sampling | 1:00 PM | Location | Mundra |

| **Analysis Results of Noise Monitoring** | | | |
|---|---|---|---|
| **Sr. No.** | **Locations** | **Day(db-A)** | **Night(db-A)** |
| **Permissible limit** | | **75db-(A)** | **70db-(A)** |
| 1. | Main Gate | 61 | 59 |
| 2. | Mill Grinding Area | 71 | 66 |
| 3. | Packaging Unit | 70 | 64 |
| 4. | Production Line 1 & 2 | 70 | 65 |
| 5. | Production Line 3 & 4 | 64 | 63 |
| 6. | Canteen Area | 65 | 60 |
| 7. | Material Gate | 66 | 61 |
| 8. | R.O Plant | 60 | 55 |
| 9. | Near ETP | 70 | 65 |
| 10. | Refiners Area | 72 | 66 |
| 11. | Near CF Boiler | 72 | 67 |
| 12. | Storage Area | 65 | 61 |

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6. Permissible Limits: as per Schedule VI of EPA Rules-1986

*ND: Not Detected, BDL: Below Detection Limit

| **Tested by:** | **Report Prepared by:** | **Authorized by:** |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Sign: K. P. Tank | Sign: | Sign: |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Date:02/12/2022 | Date:02/12/2022 | Date:02/12/2022 |

ENVIROLYSIS CONSULTANT & AUDITOR * RAJKOT *

# Test Report for Wastewater

Report No.:- ECA/2022-23/Reports/33 Date: - 25/02/2023

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon & Chemicals Ltd.** | | |
| Date of Sampling | 20/02/2023 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/WW/OCC/01<br>ECA/WW/OCC/02<br>ECA/WW/OCC/03 | Sampling Method | Grab |
| Time of Sampling | 11:00 AM | Address/Location | Plot No. 141/P Mundra SEZ, Mundra 370421 |
| Date of Receipt of sample at Lab | 21/02/2023 | Environmental Condition | Sunny |
| | | Condition of sample | OK |
| Analysis Started on | 21/02/2023 | Analysis concluded on | 25/02/2023 |

**Analysis Results ETP Wastewater**

| Sr. No. | Parameter | Unit | Inlet | Intermediate | Outlet | Test Method |
|---|---|---|---|---|---|---|
| 1 | pH | -- | 5.8 | 7.3 | 7.5 | APHA 23rd Edition,4500-H+-B |
| 2 | Temperature | °C | 30 | 28 | 24 | APHA 23rd Edition,2550-B |
| 3* | Colour | Units | 152 | 82 | 38 | APHA 23rd Edition, 2120-B |
| 4 | Total Suspended Solids | mg/l | 124 | 87 | 56 | APHA 23rd Edition, 2540-D |
| 5 | Total Dissolved Solids | mg/l | 2464 | 2238 | 1746 | APHA 23rd Edition, 2540-C |
| 6* | Oil and Grease | mg/l | 14 | 9 | 4.4 | APHA 23rd Edition,5520-B |
| 7* | Ammonical Nitrogen | mg/l | 64 | 34 | 22 | APHA 23rd Edition-4500-$NH_3$-C |
| 8 | B.O.D. (3 days, 27°C) | mg/l | 83 | 27 | 9 | IS 3025 (Part 44):1993/ Reaffirmed 2009 |
| 9 | C.O.D | mg/l | 240 | 74 | 26 | APHA 23rd Edition,2012/5220/C |
| 10 | Chloride | mg/l | 684 | 546 | 415 | APHA 23rd Edition, 4500-CL--B |
| 11* | Sulphate | mg/l | 1175 | 924 | 783 | APHA 23rd Edition,4500-$SO_4^{-2}$-E |
| 12* | Percent Sodium | 60% | 79 | 55 | 38 | APHA 23rd Edition,-3500-Na-B |
| 13* | Phenolic Compounds | mg/l | 2.4 | BDL | BDL | APHA 23rd Edition, |
| 14* | Sulphides | mg/l | 8.2 | 5.4 | 2.5 | APHA 23rd Edition 4500-$S^2$- |
| 15* | Sodium Absorption Ratio | 26 | 44 | 30 | 18 | APHA 23rd Edition, |

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7. Permissible Limits: as per Schedule VI of EPA Rules-1986
   #ND: Not Detected, BDL: Below Detection Limit

| Tested by: | Report Prepared by: | Authorized by: |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Sign: K.P.Tank | Sign: | Sign: |
| Date: 25/02/2023 | Date: 25/02/2023 | Date: 25/02/2023 |

***End of Report***

**Test Report for Stack Emission**

Report No.:- ECA/2022-23/Reports/34 Date: - 25/02/2023

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon & Chemical Ltd.** | | |
| Date of Sampling | 20/02/2023 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/SE/OCC/01<br>ECA/SE/OCC/02 | Sampling Method | IS Standard |
| Time of Sampling | 11:00AM | Address/Location | Plot No. 141/P Mundra SEZ, Tal. Mundra Kutch – 370421. |
| Date of Receipt of sample at Lab | 21/02/2023 | Environmental Condition | Sunny |
| | | Condition of sample | OK |
| Analysis Started on | 21/02/2023 | Analysis concluded on | 25/02/2023 |

| Analysis Results of Stack Air- **CF Boiler** | | | | | **Type of Fuel : Coal** |
|---|---|---|---|---|---|
| **Sr. No.** | **Parameter** | **Unit** | **Permissible limit** | **Result** | **Test Method** |
| 1. | PM | $Mg/Nm^3$ | 150 | 60 | IS: 11255 (Part-1):1985 |
| 2* | $SO_2$ | ppm | 100 | 51 | IS: 11255 (Part-2):1985 |
| 3* | $NO_X$ | ppm | 50 | 24 | IS: 11255 (Part-7):2005 |

| Analysis Results of Stack Air- FBC **Boiler 1& 2 (stand by)** | | | | | **Type of Fuel : LDO** |
|---|---|---|---|---|---|
| **Sr. No.** | **Parameter** | **Unit** | **Permissible limit** | **Result** | **Test Method** |
| 1. | PM | $Mg/Nm^3$ | 150 | 86 | IS: 11255 (Part-1):1985 |
| 2* | $SO_2$ | ppm | 100 | 60 | IS: 11255 (Part-2):1985 |
| 3* | $NO_X$ | ppm | 50 | 31 | IS: 11255 (Part-7):2005 |

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7. Permissible Limits: as per Schedule VI of EPA Rules-1986
#ND: Not Detected, BDL: Below Detection Limit

| **Tested by:** | **Report Prepared by:** | **Authorized by:** |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Sign: K.P.Tank | Sign: | Sign: |
| Date: 25/02/2023 | Date: 25/02/2023 | Date: 25/02/2023 |

## Test Report for Stack Emission

Report No.:- ECA/2022-23/Reports/34 Date: - 25/02/2023

| Sample Details | | | |
|---|---|---|---|
| Client Name | **M/s. Oriental Carbon & Chemical Ltd.** | | |
| Date of Sampling | 20/02/2023 | Sampling Conducted by | Envirolysis team |
| Sample ID | ECA/SE/OCC/03 | Sampling Method | IS Standard |
| Time of Sampling | 12:00PM | Address/Location | Plot No. 141/P Mundra SEZ, Tal. Mundra Kutch – 370421. |
| Date of Receipt of sample at Lab | 21/02/2023 | Environmental Condition | Sunny |
| | | Condition of sample | OK |
| Analysis Started on | 21/02/2023 | Analysis concluded on | 25/02/2023 |

| Analysis Results of Stack Air- **FBC Boiler-3(stand by)** | | | | | **Type of Fuel : LDO** |
|---|---|---|---|---|---|
| **Sr. No.** | **Parameter** | **Unit** | **Permissible limit** | **Result** | **Test Method** |
| 1. | PM | $Mg/Nm^3$ | 150 | 90 | IS: 11255 (Part-1):1985 |
| 2* | $SO_2$ | ppm | 100 | 58 | IS: 11255 (Part-2):1985 |
| 3* | $NO_X$ | ppm | 50 | 30 | IS: 11255 (Part-7):2005 |

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7. Permissible Limits: as per Schedule VI of EPA Rules-1986
   #ND: Not Detected, BDL: Below Detection Limit

| **Tested by:** | **Report Prepared by:** | **Authorized by:** |
|---|---|---|
| Name: Kuldeep Tank | Name: Nisarg Vagadiya | Name: Savan Bhatt |
| Designation: Chemist | Designation: Lab Supervisor | Designation: Technical Manager |
| Sign: K P Tank | Sign: | Sign: |
| Date: 25/02/2023 | Date: 25/02/2023 | Date: 25/02/2023 |

***End of Report***

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# TEST REPORT
## (STACK MONITORING)

| ULR - TC775323000002855F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/03/S-102** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/S-23/03/102 | **Field Data Sheet No.** | URA/FDS/S-23/03/102 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 33 |
| 5. | Flue Gas Temperature | °C | 264 |
| 6. | Exit Gas Velocity | m/s | 18.68 |
| 7. | Exit Gas Flow | $m^3/h$ | 2111.5 |

➢ **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 | $mg/Nm^3$ | 52 | **150** | IS 11255 (Part 1) |
| 2. | Sulphur Dioxide as $SO_2$ | ppm | 29 | **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)
UERL/AIR/F-04/05



**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (STACK MONITORING)

| ULR - TC775323000001563F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/02/S-051** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/S-23/02/051 | **Field Data Sheet No.** | URA/FDS/S-23/02/051 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 257 |
| 6. | Exit Gas Velocity | m/s | 17.96 |
| 7. | Exit Gas Flow | $m^3/h$ | 2030.1 |

➢ **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 | $mg/Nm^3$ | 45 | **150** | IS 11255 (Part 1) |
| 2. | Sulphur Dioxide as $SO_2$ | ppm | 25 | **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)
UERL/AIR/F-04/05



**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/S-DKC079** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/S-23/01/079 | **Field Data Sheet No.** | URA/FDS/S-23/01/079 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/01/2023 | Date of Testing | 24/01/2023 |
| 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 | 28 |
| 5. | Flue Gas Temperature | °C | 262 |
| 6. | Exit Gas Velocity | m/s | 18.39 |
| 7. | Exit Gas Flow | $m^3/h$ | 2078.8 |

➢ **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 | 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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TC-7753

# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000013452F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/S-084** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/S-22/12/084 | **Field Data Sheet No.** | URA/FDS/S-22/12/084 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 26/12/2022 | Date of Testing | 27/12/2022 |
| 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 | 253 |
| 6. | Exit Gas Velocity | m/s | 17.18 |
| 7. | Exit Gas Flow | $m^3/h$ | 1942.0 |

➢ **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 | $mg/Nm^3$ | 44 | **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)



UERL/AIR/F-04/05

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# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000012437F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/S-093** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/S-22/11/093 | **Field Data Sheet No.** | URA/FDS/S-22/11/093 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 264 |
| 6. | Exit Gas Velocity | m/s | 17.85 |
| 7. | Exit Gas Flow | $m^3/h$ | 2017.7 |

➢ **Test Parameter Results**

| DISCIPLINE – CHEMICAL TESTING | | | 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 | 29 | **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)
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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI077** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/077 | **Field Data Sheet No.** | URA/FDS/S-22/10/077 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 31 |
| 5. | Flue Gas Temperature | °C | 258 |
| 6. | Exit Gas Velocity | m/s | 17.22 |
| 7. | Exit Gas Flow | $m^3/h$ | 1946.5 |

➢ **Test Parameter Results**

| DISCIPLINE – CHEMICAL TESTING | | | NAME OF GROUP – ATMOSPHERIC POLLUTION | | |
|---|---|---|---|---|---|
| **Sr. No.** | **Test Parameter** | **Unit of measurement** | **Result** | **Permissible Limit** | **Test Method** |
| 1. | Particulate Matter as PM | $mg/Nm^3$ | 42 | **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 | 18 | **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 - TC775323000002851F** | | | |
| **Test Report No.** | **URA/23/03/S-098** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/S-23/03/098 | **Field Data Sheet No.** | URA/FDS/S-23/03/098 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 33 |
| 5. | Flue Gas Temperature | °C | 155 |
| 6. | Exit Gas Velocity | m/s | 7.86 |
| 7. | Exit Gas Flow | $m^3/h$ | 37537.4 |

➢ **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 | $mg/Nm^3$ | 45 | **150** | IS 11255 (Part 1) |
| 2. | Sulphur Dioxide as $SO_2$ | ppm | 41 | **100** | IS 11255 (Part 2) |
| 3. | Oxide of Nitrogen as $NO_x$ | ppm | 33 | **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 - TC775323000001559F** | | | |
| **Test Report No.** | **URA/23/02/S-047** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/S-23/02/047 | **Field Data Sheet No.** | URA/FDS/S-23/02/047 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 152 |
| 6. | Exit Gas Velocity | m/s | 7.61 |
| 7. | Exit Gas Flow | $m^3/h$ | 36343.5 |

➢ **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 | $mg/Nm^3$ | 44 | **150** | IS 11255 (Part 1) |
| 2. | Sulphur Dioxide as $SO_2$ | ppm | 39 | **100** | IS 11255 (Part 2) |
| 3. | Oxide of Nitrogen as $NO_x$ | ppm | 35 | **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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/S-DKC075** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/S-23/01/075 | **Field Data Sheet No.** | URA/FDS/S-23/01/075 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/01/2023 | Date of Testing | 24/01/2023 |
| 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 | 28 |
| 5. | Flue Gas Temperature | °C | 149 |
| 6. | Exit Gas Velocity | m/s | 7.21 |
| 7. | Exit Gas Flow | $m^3/h$ | 34433.2 |

➢ **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 | $mg/Nm^3$ | 41 | **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 | 32 | **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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TC-7753

# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000013448F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/S-080** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/S-22/12/080 | **Field Data Sheet No.** | URA/FDS/S-22/12/080 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 26/12/2022 | Date of Testing | 27/12/2022 |
| 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 | 149 |
| 6. | Exit Gas Velocity | m/s | 7.46 |
| 7. | Exit Gas Flow | $m^3/h$ | 35627.1 |

➢ **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 | $mg/Nm^3$ | 45 | **150** | IS 11255 (Part 1) |
| 2. | Sulphur Dioxide as $SO_2$ | ppm | 39 | **100** | IS 11255 (Part 2) |
| 3. | Oxide of Nitrogen as $NO_x$ | ppm | 34 | **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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TC-7788

# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000012433F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/S-089** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/S-22/11/089 | **Field Data Sheet No.** | URA/FDS/S-22/11/089 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 145 |
| 6. | Exit Gas Velocity | m/s | 7.09 |
| 7. | Exit Gas Flow | $m^3/h$ | 33860.1 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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 | 31 | **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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI073** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/073 | **Field Data Sheet No.** | URA/FDS/S-22/10/073 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 31 |
| 5. | Flue Gas Temperature | °C | 140 |
| 6. | Exit Gas Velocity | m/s | 6.87 |
| 7. | Exit Gas Flow | $m^3/h$ | 32809.4 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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 | 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)



UERL/AIR/F-04/05

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# TEST REPORT
## (STACK MONITORING)

| ULR - TC775323000002854F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/03/S-101** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/S-23/03/101 | **Field Data Sheet No.** | URA/FDS/S-23/03/101 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 33 |
| 5. | Flue Gas Temperature | °C | 132 |
| 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 | $mg/Nm^3$ | 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 | 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 - TC775323000001562F** | | | |
| **Test Report No.** | **URA/23/02/S-050** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/S-23/02/050 | **Field Data Sheet No.** | URA/FDS/S-23/02/050 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 137 |
| 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 | $mg/Nm^3$ | 48 | **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 | 28 | **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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/S-DKC078** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/S-23/01/078 | **Field Data Sheet No.** | URA/FDS/S-23/01/078 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/01/2023 | Date of Testing | 24/01/2023 |
| 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 | 28 |
| 5. | Flue Gas Temperature | °C | 141 |
| 6. | Exit Gas Velocity | m/s | 7.85 |
| 7. | Exit Gas Flow | $m^3/h$ | 37489.7 |

➢ **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 | $mg/Nm^3$ | 42 | **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 | 30 | **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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TC-7753

# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000013451F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/S-083** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/S-22/12/083 | **Field Data Sheet No.** | URA/FDS/S-22/12/083 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 26/12/2022 | Date of Testing | 27/12/2022 |
| 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 | 138 |
| 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 | $mg/Nm^3$ | 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 | 26 | **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 - TC775322000012436F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/S-092** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/S-22/11/092 | **Field Data Sheet No.** | URA/FDS/S-22/11/092 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 140 |
| 6. | Exit Gas Velocity | m/s | 7.71 |
| 7. | Exit Gas Flow | $m^3/h$ | 36821.1 |

➢ **Test Parameter Results**

| DISCIPLINE – CHEMICAL TESTING | | | 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 | 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)
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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI076** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/076 | **Field Data Sheet No.** | URA/FDS/S-22/10/076 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 31 |
| 5. | Flue Gas Temperature | °C | 137 |
| 6. | Exit Gas Velocity | m/s | 7.36 |
| 7. | Exit Gas Flow | $m^3/h$ | 35149.5 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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 | 34 | **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)



UERL/AIR/F-04/05

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# TEST REPORT
## (STACK MONITORING)

| ULR - TC775323000002852F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/03/S-099** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/S-23/03/099 | **Field Data Sheet No.** | URA/FDS/S-23/03/099 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 33 |
| 5. | Flue Gas Temperature | °C | 137 |
| 6. | Exit Gas Velocity | m/s | 7.52 |
| 7. | Exit Gas Flow | $m^3/h$ | 13600.9 |

➢ **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 | $mg/Nm^3$ | 35 | **150** | IS 11255 (Part 1) |
| 2. | Sulphur Dioxide as $SO_2$ | ppm | 32 | **100** | IS 11255 (Part 2) |
| 3. | Oxide of Nitrogen as $NO_x$ | ppm | 28 | **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 - TC775323000001560F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/02/S-048** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/S-23/02/048 | **Field Data Sheet No.** | URA/FDS/S-23/02/048 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 141 |
| 6. | Exit Gas Velocity | m/s | 7.25 |
| 7. | Exit Gas Flow | $m^3/h$ | 13112.6 |

➢ **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 | 30 | **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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/S-DKC076** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/S-23/01/076 | **Field Data Sheet No.** | URA/FDS/S-23/01/076 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/01/2023 | Date of Testing | 24/01/2023 |
| 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 | 28 |
| 5. | Flue Gas Temperature | °C | 135 |
| 6. | Exit Gas Velocity | m/s | 6.90 |
| 7. | Exit Gas Flow | $m^3/h$ | 12479.6 |

➢ **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 | 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-04/05

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TC-7753

# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000013449F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/S-081** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/S-22/12/081 | **Field Data Sheet No.** | URA/FDS/S-22/12/081 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 26/12/2022 | Date of Testing | 27/12/2022 |
| 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 | 140 |
| 6. | Exit Gas Velocity | m/s | 7.21 |
| 7. | Exit Gas Flow | $m^3/h$ | 13040.2 |

➢ **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 | $mg/Nm^3$ | 39 | **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 | 28 | **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 - TC775322000012434F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/S-090** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/S-22/11/090 | **Field Data Sheet No.** | URA/FDS/S-22/11/090 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 135 |
| 6. | Exit Gas Velocity | m/s | 6.86 |
| 7. | Exit Gas Flow | $m^3/h$ | 12407.2 |

➢ **Test Parameter Results**

| DISCIPLINE – CHEMICAL TESTING | | | 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 | 32 | **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)
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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI074** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/074 | **Field Data Sheet No.** | URA/FDS/S-22/10/074 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 31 |
| 5. | Flue Gas Temperature | °C | 132 |
| 6. | Exit Gas Velocity | m/s | 6.41 |
| 7. | Exit Gas Flow | $m^3/h$ | 11593.3 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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 | 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)

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-04/05



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# TEST REPORT
## (STACK MONITORING)

| ULR - TC775323000002853F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/03/S-100** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/S-23/03/100 | **Field Data Sheet No.** | URA/FDS/S-23/03/100 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 33 |
| 5. | Flue Gas Temperature | °C | 140 |
| 6. | Exit Gas Velocity | m/s | 7.06 |
| 7. | Exit Gas Flow | $m^3/h$ | 14616.7 |

➢ **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 | $mg/Nm^3$ | 30 | **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 | 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 - TC775323000001561F** | | | |
| **Test Report No.** | **URA/23/02/S-049** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/S-23/02/049 | **Field Data Sheet No.** | URA/FDS/S-23/02/049 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 134 |
| 6. | Exit Gas Velocity | m/s | 6.92 |
| 7. | Exit Gas Flow | $m^3/h$ | 14326.8 |

➢ **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 | $mg/Nm^3$ | 34 | **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 | 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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/S-DKC077** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/S-23/01/077 | **Field Data Sheet No.** | URA/FDS/S-23/01/077 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/01/2023 | Date of Testing | 24/01/2023 |
| 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 | 28 |
| 5. | Flue Gas Temperature | °C | 140 |
| 6. | Exit Gas Velocity | m/s | 7.06 |
| 7. | Exit Gas Flow | $m^3/h$ | 14616.7 |

➢ **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 | $mg/Nm^3$ | 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 | 26 | **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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TC-7753

# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000013450F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/S-082** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/S-22/12/082 | **Field Data Sheet No.** | URA/FDS/S-22/12/082 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 26/12/2022 | Date of Testing | 27/12/2022 |
| 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 | 133 |
| 6. | Exit Gas Velocity | m/s | 6.52 |
| 7. | Exit Gas Flow | $m^3/h$ | 13498.7 |

➢ **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 | $mg/Nm^3$ | 35 | **150** | IS 11255 (Part 1) |
| 2. | Sulphur Dioxide as $SO_2$ | ppm | 32 | **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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-04/05

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (STACK MONITORING)

| ULR - TC775322000012435F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/S-091** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/S-22/11/091 | **Field Data Sheet No.** | URA/FDS/S-22/11/091 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 32 |
| 5. | Flue Gas Temperature | °C | 130 |
| 6. | Exit Gas Velocity | m/s | 6.38 |
| 7. | Exit Gas Flow | $m^3/h$ | 13208.8 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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 | 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)
UERL/AIR/F-04/05



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# TEST REPORT
## (STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI075** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/075 | **Field Data Sheet No.** | URA/FDS/S-22/10/075 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 31 |
| 5. | Flue Gas Temperature | °C | 132 |
| 6. | Exit Gas Velocity | m/s | 6.28 |
| 7. | Exit Gas Flow | $m^3/h$ | 13001.8 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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 | 30 | **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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-04/05

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775323000002860F** | | | |
| **Test Report No.** | **URA/23/03/PV-017** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/PV-23/03/017 | **Field Data Sheet No.** | URA/FDS/PV-23/03/017 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 11.22 |
| 5. | Exit Gas Flow | $m^3/h$ | 710.8 |
| 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 | $mg/Nm^3$ | 1.3 | **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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775323000001568F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/02/PV-010** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/PV-23/02/010 | **Field Data Sheet No.** | URA/FDS/PV-23/02/010 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 10.94 |
| 5. | Exit Gas Flow | $m^3/h$ | 693.1 |
| 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. | Hydrochloric Acid as HCL | $mg/Nm^3$ | 1.8 | **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)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/PV-DKC012** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/PV-23/01/012 | **Field Data Sheet No.** | URA/FDS/PV-23/01/012 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/01/2023 | Date of Testing | 25/01/2023 |
| 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 | 10.44 |
| 5. | Exit Gas Flow | $m^3/h$ | 661.4 |
| 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 | $mg/Nm^3$ | 1.2 | **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

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TC-7753

# TEST REPORT

## (PROCESS VENT STACK MONITORING)

| ULR - TC775322000013457F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/PV-018** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/PV-22/12/018 | **Field Data Sheet No.** | URA/FDS/PV-22/12/018 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 27/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 10.87 |
| 5. | Exit Gas Flow | $m^3/h$ | 688.7 |
| 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. | Hydrochloric Acid as HCL | $mg/Nm^3$ | 1.6 | **20** |

| **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 - TC775322000012442F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/PV-010** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/PV-22/11/010 | **Field Data Sheet No.** | URA/FDS/PV-22/11/010 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 10.14 |
| 5. | Exit Gas Flow | $m^3/h$ | 642.4 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| 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:**

**Jaivik S. Tandel**
(Manager - Operations)



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# TEST REPORT
## (STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI082** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/082 | **Field Data Sheet No.** | URA/FDS/S-22/10/082 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 9.83 |
| 5. | Exit Gas Flow | $m^3/h$ | 622.8 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| 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)



UERL/AIR/F-04/05

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775323000002856F** | | | |
| **Test Report No.** | **URA/23/03/PV-013** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/PV-23/03/013 | **Field Data Sheet No.** | URA/FDS/PV-23/03/013 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 12.04 |
| 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 $NH_3$ | $mg/Nm^3$ | 18 | **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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775323000001564F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/02/PV-006** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/PV-23/02/006 | **Field Data Sheet No.** | URA/FDS/PV-23/02/006 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 11.68 |
| 5. | Exit Gas Flow | $m^3/h$ | 740.0 |
| 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 $NH_3$ | $mg/Nm^3$ | 24 | **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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/PV-DKC008** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/PV-23/01/008 | **Field Data Sheet No.** | URA/FDS/PV-23/01/008 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/01/2023 | Date of Testing | 25/01/2023 |
| 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 | 11.23 |
| 5. | Exit Gas Flow | $m^3/h$ | 711.5 |
| 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 $NH_3$ | $mg/Nm^3$ | 20 | **175** |

| |
|---|
| **Remarks:** |
| **Opinion & Interpretation (if required):** |

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

**Checked By:**

**Nikunj D. Patel**
(Chemist)
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**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-81/01

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TC-7753

# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775322000013453F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/PV-014** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/PV-22/12/014 | **Field Data Sheet No.** | URA/FDS/PV-22/12/014 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 27/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 10.96 |
| 5. | Exit Gas Flow | $m^3/h$ | 694.4 |
| 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 $NH_3$ | $mg/Nm^3$ | 26 | **175** |

| **Remarks:** |
|---|
| **Opinion & Interpretation (if required):** |

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

**Checked By:**

**Nikunj D. Patel**
(Chemist)
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**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775322000012438F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/PV-006** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/PV-22/11/006 | **Field Data Sheet No.** | URA/FDS/PV-22/11/006 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 10.18 |
| 5. | Exit Gas Flow | $m^3/h$ | 645.0 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-81/01



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# TEST REPORT
## (STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI078** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/078 | **Field Data Sheet No.** | URA/FDS/S-22/10/078 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 9.32 |
| 5. | Exit Gas Flow | $m^3/h$ | 590.5 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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** |

| |
|---|
| **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
## (PROCESS VENT STACK MONITORING)

| ULR - TC775323000002859F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/03/PV-016** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/PV-23/03/016 | **Field Data Sheet No.** | URA/FDS/PV-23/03/016 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 12.34 |
| 5. | Exit Gas Flow | $m^3/h$ | 781.8 |
| 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 $NH_3$ | $mg/Nm^3$ | 24 | **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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775323000001567F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/02/PV-009** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/PV-23/02/009 | **Field Data Sheet No.** | URA/FDS/PV-23/02/009 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 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. | Ammonia as $NH_3$ | $mg/Nm^3$ | 19 | **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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/PV-DKC011** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/PV-23/01/011 | **Field Data Sheet No.** | URA/FDS/PV-23/01/011 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/01/2023 | Date of Testing | 25/01/2023 |
| 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 | 11.05 |
| 5. | Exit Gas Flow | $m^3/h$ | 700.1 |
| 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 $NH_3$ | $mg/Nm^3$ | 23 | **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

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TC-7753

# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775322000013456F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/PV-017** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/PV-22/12/017 | **Field Data Sheet No.** | URA/FDS/PV-22/12/017 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 27/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 10.44 |
| 5. | Exit Gas Flow | $m^3/h$ | 661.4 |
| 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** |
| 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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000012441F** | | | |
| **Test Report No.** | **URA/22/11/PV-009** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/PV-22/11/009 | **Field Data Sheet No.** | URA/FDS/PV-22/11/009 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 10.63 |
| 5. | Exit Gas Flow | $m^3/h$ | 673.5 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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
## (STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI081** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/081 | **Field Data Sheet No.** | URA/FDS/S-22/10/081 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 10.08 |
| 5. | Exit Gas Flow | $m^3/h$ | 638.6 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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)



UERL/AIR/F-04/05

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775323000002857F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/03/PV-014** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/PV-23/03/014 | **Field Data Sheet No.** | URA/FDS/PV-23/03/014 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 11.54 |
| 5. | Exit Gas Flow | $m^3/h$ | 731.1 |
| 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 $NH_3$ | $mg/Nm^3$ | 15 | **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 - TC775323000001565F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/02/PV-007** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/PV-23/02/007 | **Field Data Sheet No.** | URA/FDS/PV-23/02/007 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 11.11 |
| 5. | Exit Gas Flow | $m^3/h$ | 703.9 |
| 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 $NH_3$ | $mg/Nm^3$ | 17 | **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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/PV-DKC009** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/PV-23/01/009 | **Field Data Sheet No.** | URA/FDS/PV-23/01/009 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/01/2023 | Date of Testing | 25/01/2023 |
| 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 | 11.89 |
| 5. | Exit Gas Flow | $m^3/h$ | 753.3 |
| 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 $NH_3$ | $mg/Nm^3$ | 16 | **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

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TC-7753

# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000013454F** | | | |
| **Test Report No.** | **URA/22/12/PV-015** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/PV-22/12/015 | **Field Data Sheet No.** | URA/FDS/PV-22/12/015 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 27/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 11.51 |
| 5. | Exit Gas Flow | $m^3/h$ | 729.2 |
| 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 $NH_3$ | $mg/Nm^3$ | 18 | **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

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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775322000012439F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/PV-007** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/PV-22/11/007 | **Field Data Sheet No.** | URA/FDS/PV-22/11/007 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 12.09 |
| 5. | Exit Gas Flow | $m^3/h$ | 766.0 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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)



UERL/AIR/F-81/01

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# TEST REPORT
## (STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI079** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/079 | **Field Data Sheet No.** | URA/FDS/S-22/10/079 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 12.41 |
| 5. | Exit Gas Flow | $m^3/h$ | 786.2 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **NAME OF GROUP – ATMOSPHERIC POLLUTION** | |
|---|---|---|---|---|
| **Sr. No.** | **Test Parameter** | **Unit of measurement** | **Result** | **Permissible Limit** |
| 1. | Ammonia as $NH_3$ | $mg/Nm^3$ | 24 | **175** |

| |
|---|
| **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
## (PROCESS VENT STACK MONITORING)

| ULR - TC775323000002858F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/03/PV-015** | **Report Issue Date** | 28/03/2023 |
| **Service Request form No.** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.** | URA/ID/PV-23/03/015 | **Field Data Sheet No.** | URA/FDS/PV-23/03/015 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 23/03/2023 | Date of Testing | 24/03/2023 |
| 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 | 11.13 |
| 5. | Exit Gas Flow | $m^3/h$ | 705.1 |
| 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. | 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)



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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| ULR - TC775323000001566F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/02/PV-008** | **Report Issue Date** | 18/02/2023 |
| **Service Request form No.** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.** | URA/ID/PV-23/02/008 | **Field Data Sheet No.** | URA/FDS/PV-23/02/008 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 13/02/2023 | Date of Testing | 14/02/2023 |
| 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 | 10.54 |
| 5. | Exit Gas Flow | $m^3/h$ | 667.8 |
| 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. | 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)



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# TEST REPORT
## (PROCESS VENT STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/23/01/PV-DKC010** | **Report Issue Date** | 28/01/2023 |
| **Service Request form No.** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.** | URA/ID/PV-23/01/010 | **Field Data Sheet No.** | URA/FDS/PV-23/01/010 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/01/2023 | Date of Testing | 25/01/2023 |
| 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 | 10.67 |
| 5. | Exit Gas Flow | $m^3/h$ | 676.0 |
| 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)
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TC-7753

# TEST REPORT

## (PROCESS VENT STACK MONITORING)

| ULR - TC775322000013455F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/12/PV-016** | **Report Issue Date** | 31/12/2022 |
| **Service Request form No.** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.** | URA/ID/PV-22/12/016 | **Field Data Sheet No.** | URA/FDS/PV-22/12/016 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 27/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 11.03 |
| 5. | Exit Gas Flow | $m^3/h$ | 698.8 |
| 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. | 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 - TC775322000012440F | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/11/PV-008** | **Report Issue Date** | 29/11/2022 |
| **Service Request form No.** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.** | URA/ID/PV-22/11/008 | **Field Data Sheet No.** | URA/FDS/PV-22/11/008 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 24/11/2022 | Date of Testing | 25/11/2022 |
| 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 | 11.38 |
| 5. | Exit Gas Flow | $m^3/h$ | 721.0 |
| 6. | Flow Rate for Gas | L/min | 1 |
| 7. | Volume of Air Sample for Gas | L | 30 |

➢ **Test Parameter Results**

| **DISCIPLINE – CHEMICAL TESTING** | | | **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

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (STACK MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.** | **URA/22/10/S-DKCI080** | **Report Issue Date** | 27/10/2022 |
| **Service Request form No.** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.** | URA/ID/S-22/10/080 | **Field Data Sheet No.** | URA/FDS/S-22/10/080 |
| Name & Add. Of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist.: Kutch, Gujarat – 370421, INDIA | | |
| Date of Sampling | 19/10/2022 | Date of Testing | 20/10/2022 |
| 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 | 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 TESTING** | | | **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-04/05

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| ULR - TC775323000002848F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/03/A-063** | **Report Issue Date:** | 28/03/2023 |
| **Service Request form No.:** | URA/SRF/03/056 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.:** | URA/ID/A-23/03/063 | **Field Data Sheet No.:** | URA/FDS/A-23/03/063 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 23/03/2023 | Date of Testing | 25/03/2023 |
| 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/$m^3$ | 87 | **100** | IS - 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 33 | **60** | IS - 5182, Part - 24 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 16.9 | **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/$m^3$ | 0.17 | **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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775323000002850F** | | | |
| **Test Report No.:** | **URA/23/03/A-065** | **Report Issue Date:** | 28/03/2023 |
| **Service Request form No.:** | URA/SRF/03/045 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.:** | URA/ID/A-23/03/065 | **Field Data Sheet No.:** | URA/FDS/A-23/03/065 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 23/03/2023 | Date of Testing | 25/03/2023 |
| 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/$m^3$ | 74 | **100** | IS - 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 27 | **60** | IS - 5182, Part - 24 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 15.4 | **80** | IS - 5182, Part - 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | µg/$m^3$ | 22.9 | **80** | IS - 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | mg/$m^3$ | 0.10 | **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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775323000002849F** | | | |
| **Test Report No.:** | **URA/23/03/A-064** | **Report Issue Date:** | 28/03/2023 |
| **Service Request form No.:** | URA/SRF/03/056 | **Service Request Date** | 23/03/2023 |
| **Sample ID No.:** | URA/ID/A-23/03/064 | **Field Data Sheet No.:** | URA/FDS/A-23/03/064 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 23/03/2023 | Date of Testing | 25/03/2023 |
| 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 $PM_{10}$ | $\mu g/m^3$ | 81 | **100** | IS - 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 30 | **60** | IS - 5182, Part - 24 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 18.5 | **80** | IS - 5182, Part - 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | $\mu g/m^3$ | 25.6 | **80** | IS - 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | $mg/m^3$ | 0.21 | **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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| ULR - TC775323000001556F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/02/A-033** | **Report Issue Date:** | 18/02/2023 |
| **Service Request form No.:** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.:** | URA/ID/A-23/02/033 | **Field Data Sheet No.:** | URA/FDS/A-23/02/033 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 13/02/2023 | Date of Testing | 15/02/2023 |
| 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/$m^3$ | 82 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 30 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 15.3 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | µg/$m^3$ | 22.5 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | mg/$m^3$ | 0.12 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| ULR - TC775323000001557F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/02/A-034** | **Report Issue Date:** | 18/02/2023 |
| **Service Request form No.:** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.:** | URA/ID/A-23/02/034 | **Field Data Sheet No.:** | URA/FDS/A-23/02/034 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 13/02/2023 | Date of Testing | 15/02/2023 |
| 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 | 1.28 |
| 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 $PM_{10}$ | $\mu g/m^3$ | 77 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 28 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 17.2 | **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 | $mg/m^3$ | 0.15 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
UERL/AIR/F-05/06



**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775323000001558F** | | | |
| **Test Report No.:** | **URA/23/02/A-035** | **Report Issue Date:** | 18/02/2023 |
| **Service Request form No.:** | URA/SRF/02/022 | **Service Request Date** | 13/02/2023 |
| **Sample ID No.:** | URA/ID/A-23/02/035 | **Field Data Sheet No.:** | URA/FDS/A-23/02/035 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 13/02/2023 | Date of Testing | 15/02/2023 |
| 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 | 1.21 |
| 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 $PM_{10}$ | $\mu g/m^3$ | 70 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 25 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 14.1 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | $\mu g/m^3$ | 20.5 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | $mg/m^3$ | 0.07 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/01/A-DKC048** | **Report Issue Date:** | 28/01/2023 |
| **Service Request form No.:** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.:** | URA/ID/A-23/01/048 | **Field Data Sheet No.:** | URA/FDS/A-23/01/048 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 23/01/2023 | Date of Testing | 25/01/2023 |
| 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 | 1.25 |
| 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 $PM_{10}$ | $\mu g/m^3$ | 64 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 22 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 13.4 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | $\mu g/m^3$ | 18.4 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | $mg/m^3$ | 0.04 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/01/A-DKC047** | **Report Issue Date:** | 28/01/2023 |
| **Service Request form No.:** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.:** | URA/ID/A-23/01/047 | **Field Data Sheet No.:** | URA/FDS/A-23/01/047 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 23/01/2023 | Date of Testing | 25/01/2023 |
| 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/$m^3$ | 72 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 26 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 15.3 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | µg/$m^3$ | 21.7 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | mg/$m^3$ | 0.10 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/01/A-DKC046** | **Report Issue Date:** | 28/01/2023 |
| **Service Request form No.:** | URA/SRF/01/042 | **Service Request Date** | 23/01/2023 |
| **Sample ID No.:** | URA/ID/A-23/01/046 | **Field Data Sheet No.:** | URA/FDS/A-23/01/046 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 23/01/2023 | Date of Testing | 25/01/2023 |
| 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 | 1.29 |
| 3. | Volume of Air Sampled for $PM_{10}$ | $m^3$ | 1857 |
| 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 $PM_{10}$ | $\mu g/m^3$ | 76 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 27 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 15.2 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | $\mu g/m^3$ | 22.6 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | $mg/m^3$ | 0.07 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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TC-7753

# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000013445F** | | | |
| **Test Report No.:** | **URA/22/12/A-063** | **Report Issue Date:** | 31/12/2022 |
| **Service Request form No.:** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.:** | URA/ID/A-22/12/063 | **Field Data Sheet No.:** | URA/FDS/A-22/12/063 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 26/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 1.23 |
| 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 $PM_{10}$ | $\mu g/m^3$ | 82 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 29 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 16.3 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | $\mu g/m^3$ | 23.8 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | $mg/m^3$ | 0.12 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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TC-7753

# TEST REPORT

## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000013447F** | | | |
| **Test Report No.:** | **URA/22/12/A-065** | **Report Issue Date:** | 31/12/2022 |
| **Service Request form No.:** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.:** | URA/ID/A-22/12/065 | **Field Data Sheet No.:** | URA/FDS/A-22/12/065 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 26/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 1.25 |
| 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/$m^3$ | 69 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 24 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 12.6 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | µg/$m^3$ | 19.5 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | mg/$m^3$ | 0.03 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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TC-7753

# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000013446F** | | | |
| **Test Report No.:** | **URA/22/12/A-064** | **Report Issue Date:** | 31/12/2022 |
| **Service Request form No.:** | URA/SRF/12/040 | **Service Request Date** | 26/12/2022 |
| **Sample ID No.:** | URA/ID/A-22/12/064 | **Field Data Sheet No.:** | URA/FDS/A-22/12/064 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 26/12/2022 | Date of Testing | 28/12/2022 |
| 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 | 1.28 |
| 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/$m^3$ | 75 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 27 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 14.9 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | µg/$m^3$ | 22.5 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | mg/$m^3$ | 0.17 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000012430F** | | | |
| **Test Report No.:** | **URA/22/11/A-064** | **Report Issue Date:** | 29/11/2022 |
| **Service Request form No.:** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.:** | URA/ID/A-22/11/064 | **Field Data Sheet No.:** | URA/FDS/A-22/11/064 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 24/11/2022 | Date of Testing | 26/11/2022 |
| 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 | 1.27 |
| 3. | Volume of Air Sampled for $PM_{10}$ | $m^3$ | 1828 |
| 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 TESTING | | | 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/$m^3$ | 77 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 28 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 15.4 | **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/$m^3$ | 0.07 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000012432F** | | | |
| **Test Report No.:** | **URA/22/11/A-066** | **Report Issue Date:** | 29/11/2022 |
| **Service Request form No.:** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.:** | URA/ID/A-22/11/066 | **Field Data Sheet No.:** | URA/FDS/A-22/11/066 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 24/11/2022 | Date of Testing | 26/11/2022 |
| 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 TESTING | | | 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 $PM_{2.5}$ | $\mu g/m^3$ | 22 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 13.7 | **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:0.5) | **400** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **ULR - TC775322000012431F** | | | |
| **Test Report No.:** | **URA/22/11/A-065** | **Report Issue Date:** | 29/11/2022 |
| **Service Request form No.:** | URA/SRF/11/041 | **Service Request Date** | 24/11/2022 |
| **Sample ID No.:** | URA/ID/A-22/11/065 | **Field Data Sheet No.:** | URA/FDS/A-22/11/065 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 24/11/2022 | Date of Testing | 26/11/2022 |
| 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 TESTING | | | NAME OF GROUP – ATMOSPHERIC POLLUTION | | |
|---|---|---|---|---|---|
| **Sr. No.** | **Test Parameter** | **Unit** | **Result** | **Permissible Limit (As per NAAQS)** | **Test Method** |
| 1. | Particulate Matter as $PM_{10}$ | $\mu g/m^3$ | 69 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 26 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 16.2 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | $\mu g/m^3$ | 23.4 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | $mg/m^3$ | 0.11 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/22/10/A-DKCI048** | **Report Issue Date:** | 27/10/2022 |
| **Service Request form No.:** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.:** | URA/ID/A-22/10/048 | **Field Data Sheet No.:** | URA/FDS/A-22/10/048 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 19/10/2022 | Date of Testing | 21/10/2022 |
| 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 | 1.23 |
| 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 TESTING** | | | **NAME OF GROUP – ATMOSPHERIC POLLUTION** | | |
|---|---|---|---|---|---|
| **Sr. No.** | **Test Parameter** | **Unit** | **Result** | **Permissible Limit (As per NAAQS)** | **Test Method** |
| 1. | Particulate Matter as $PM_{10}$ | $\mu g/m^3$ | 69 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | $\mu g/m^3$ | 23 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | $\mu g/m^3$ | 13.8 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | $\mu g/m^3$ | 17.5 | **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:0.5) | **400** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/22/10/A-DKCI050** | **Report Issue Date:** | 27/10/2022 |
| **Service Request form No.:** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.:** | URA/ID/A-22/10/050 | **Field Data Sheet No.:** | URA/FDS/A-22/10/050 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 19/10/2022 | Date of Testing | 21/10/2022 |
| 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 | 1.20 |
| 3. | Volume of Air Sampled for $PM_{10}$ | $m^3$ | 1728 |
| 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 TESTING | | | 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/$m^3$ | 57 | **100** | IS – 5182, Part - 23 |
| 2. | Particulate Matter as $PM_{2.5}$ | µg/$m^3$ | 19 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 12.4 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | µg/$m^3$ | 15.3 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (AMBIENT AIR MONITORING)

| | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/22/10/A-DKCI049** | **Report Issue Date:** | 27/10/2022 |
| **Service Request form No.:** | URA/SRF/10/029 | **Service Request Date** | 19/10/2022 |
| **Sample ID No.:** | URA/ID/A-22/10/049 | **Field Data Sheet No.:** | URA/FDS/A-22/10/049 |
| Name & Add. of Customer | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>Dist: Kutch, Gujarat – 370421, INDIA | | |
| Dates of Sampling | 19/10/2022 | Date of Testing | 21/10/2022 |
| 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 TESTING** | | | **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/$m^3$ | 22 | **60** | UERL/AIR/SOP/11 |
| 3. | Sulphur Dioxide as $SO_2$ | µg/$m^3$ | 14.5 | **80** | IS – 5182, Part – 2 |
| 4. | Nitrogen Dioxide as $NO_2$ | µg/$m^3$ | 19.6 | **80** | IS – 5182, Part - 6 |
| 5. | Carbon Monoxide as CO | mg/$m^3$ | 0.06 | **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** | UERL/AIR/SOP/05 |
| 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 – 22 |
| 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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-05/06

**Note:** This report is subject to Terms and Conditions mentioned overleaf.

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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775323000002861F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/03/AN-034** | **Date Of Report:** | **28/03/2023** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 23-03-2023 at 10:45 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 | 58.2 | 63.7 | 60.95 | **<75 dB(A)** |
| | Near Ware House | 51.9 | 58.4 | 55.15 | **<75 dB(A)** |
| | Near Raw Water Tank | 63.5 | 70.3 | 66.9 | **<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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-18/03

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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775323000002862F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/03/AN-035** | Date Of Report: | **28/03/2023** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 23-03-2023 at 22:15 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 | 58.4 | 46.7 | **<70 dB(A)** |
| | Near Ware House | 35.0 | 54.9 | 44.95 | **<70 dB(A)** |
| | Near Raw Water Tank | 35.0 | 63.7 | 49.35 | **<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)



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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775323000001569F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/02/AN-017** | **Date Of Report:** | **18/02/2023** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 13-02-2023 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 | 56.5 | 62.8 | 59.65 | **<75 dB(A)** |
| | Near Ware House | 53.7 | 59.2 | 56.45 | **<75 dB(A)** |
| | Near Raw Water Tank | 62.3 | 68.8 | 65.55 | **<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)
Page No.: 1 of 1

**Authorized By:**

**Jaivik S. Tandel**
(Manager - Operations)
UERL/AIR/F-18/03

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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775323000001570F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/23/02/AN-018** | Date Of Report: | **18/02/2023** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 13-02-2023 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 | 56.5 | 45.75 | **<70 dB(A)** |
| | Near Ware House | 35.0 | 52.9 | 43.95 | **<70 dB(A)** |
| | Near Raw Water Tank | 35.0 | 59.3 | 47.15 | **<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)

| Test Report No.: | URA/23/01/AN-DKC040 | Date Of Report: | 28/01/2023 |
|---|---|---|---|
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 23-01-2023 (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 | 57.4 | 46.2 | **<70 dB(A)** |
| | Near Ware House | 35.0 | 55.1 | 45.05 | **<70 dB(A)** |
| | Near Raw Water Tank | 35.0 | 60.9 | 47.95 | **<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)



UERL/AIR/F-18/03

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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| Test Report No.: | URA/23/01/AN-DKC039 | Date Of Report: | 28/01/2023 |
|---|---|---|---|
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 23-01-2023 (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 | 57.1 | 62.3 | 59.7 | <75 dB(A) |
| | Near Ware House | 51.8 | 59.4 | 55.6 | <75 dB(A) |
| | Near Raw Water Tank | 60.5 | 66.8 | 63.65 | <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)



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TC-7753

# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775322000013458F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/22/12/AN-040** | **Date Of Report:** | **31/12/2022** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 26-12-2022 (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 | 58.5 | 65.8 | 62.2 | **<75 dB(A)** |
| | Near Ware House | 57.1 | 64.5 | 60.8 | **<75 dB(A)** |
| | Near Raw Water Tank | 62.7 | 68.3 | 65.5 | **<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

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TC-7753

# TEST REPORT

## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775322000013459F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/22/12/AN-041** | Date Of Report: | **31/12/2022** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 26-12-2022 (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 | 59.3 | 47.2 | **<70 dB(A)** |
| | Near Ware House | 35.0 | 57.8 | 46.4 | **<70 dB(A)** |
| | Near Raw Water Tank | 35.0 | 62.1 | 48.6 | **<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

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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775322000012444F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/22/11/AN-046** | Date Of Report: | **29/11/2022** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 24-11-2022 (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 | 60.7 | 47.85 | **<70 dB(A)** |
| | Near Ware House | 35.0 | 62.9 | 48.95 | **<70 dB(A)** |
| | Near Raw Water Tank | 35.0 | 64.6 | 49.8 | **<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

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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| ULR - TC775322000012443F | | | |
|---|---|---|---|
| **Test Report No.:** | **URA/22/11/AN-045** | **Date Of Report:** | **29/11/2022** |
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 24-11-2022 (Day Time: 6:00 am to 10:00 pm)

**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 | 60.4 | 67.5 | 63.95 | **<75 dB(A)** |
| | Near Ware House | 58.7 | 68.2 | 63.45 | **<75 dB(A)** |
| | Near Raw Water Tank | 64.2 | 69.5 | 66.85 | **<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

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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| Test Report No.: | URA/22/10/AN-DKCI028 | Date Of Report: | 27/10/2022 |
|---|---|---|---|
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 19-10-2022 (Day Time: 6:00 am to 10:00 pm)

**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 | 58.2 | 67.7 | 62.95 | **<75 dB(A)** |
| | Near Ware House | 55.9 | 65.6 | 60.75 | **<75 dB(A)** |
| | Near Raw Water Tank | 63.7 | 70.5 | 67.1 | **<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



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# TEST REPORT
## (AMBIENT NOISE LEVEL MONITORING)

| Test Report No.: | URA/22/10/AN-DKCI029 | Date Of Report: | 27/10/2022 |
|---|---|---|---|
| Name & Add. Of Industries | **M/s. Dorf Ketal Chemicals India Pvt. Ltd.**<br>Plot No. 2, Block – F, Sector 12N, Adani Port and Sez,<br>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 : 19-10-2022 (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 | 58.2 | 46.6 | <70 dB(A) |
| | Near Ware House | 35.0 | 60.7 | 47.85 | <70 dB(A) |
| | Near Raw Water Tank | 35.0 | 62.8 | 48.9 | <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

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# Annexure – 7

स्पीड पोस्ट
SPEED POST

भारत सरकार
Government of India
वाणिज्य और उद्योग मंत्रालय
Ministry of Commerce & Industry
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)
Petroleum & Explosives Safety Organisation (PESO)

E-mail : explosives@explosives.gov.in
Phone/Fax No : 0712 -2510248, Fax-2510577

संख्या /No. : P/HQ/GJ/15/2050 (P12369)

दिनांक /Dated : 20/02/2019

सेवा में /To,

M/s. M/s. Adani Ports & Special Economic Zone Limited,
Adani House, Post Bag No. 1,
Mundra - 370 021,
Mundra,
Taluka: Mundra,
District: KUTCH,
State: Gujarat
PIN: 370021

21 FEB 2019

विषय /Sub : Plot No, -, MUNDRA, Mundra, Taluka: Mundra, District: KUTCH, State: Gujarat, PIN: 370421 में स्थित पेट्रोलियम वर्ग A,B,C अधिष्ठापन - पेट्रोलियम नियम 2002 के अंतर्गत प्ररूप XV में जारी अनुज्ञप्ति सं P/HQ/GJ/15/2050 (P12369) – संशोधन के संदर्भ में।

Existing Petroleum Class A,B,C Installation at Plot No, -, MUNDRA, Mundra, Taluka: Mundra, District: KUTCH, State: Gujarat, PIN: 370421- Licence No. P/HQ/GJ/15/2050 (P12369) - granted in form XV under Petroleum Rules 2002 - Amendment regarding

महोदय /Sir(s),

कृपया आपके उपर्युक्त विषय से संबंधित पत्र संख्या apsez/tankfarm/05 दिनांक 17/02/2019 का संदर्भ ग्रहण करें।

Reference to your letter No. apsez/tankfarm/05 dated 17/02/2019 on the above subject.

दिनांक 31/12/2024 तक वैध अनुज्ञप्ति संख्या P/HQ/GJ/15/2050 (P12369) दिनांक 20/02/2019 निम्नलिखित वर्ग एवं मात्राओं में पेट्रोलियम भंडारण के लिए यथा संशोधित कर इस पत्र के साथ लौटाई जा रही है।

Licence No. P/HQ/GJ/15/2050 (P12369) dated 20/02/2019 valid upto 31/12/2024 is returned herewith duly amended with respect to Capacity Amendment,

| पेट्रोलियम का विवरण /Description of Petroleum | किलोलीटरों में अनुज्ञप्ति क्षमता /Quantity licenced in KL |
|---|---|
| वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A, in bulk | 277661.00 KL |
| वर्ग क प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk | NIL |
| वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B, in bulk | 29021.00 KL |
| वर्ग ख प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk | NIL |
| वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C, in bulk | 14510.00 KL |
| वर्ग ग प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class C,otherwise than in bulk | NIL |
| कुल क्षमता /Total | 321192.00 KL |

कृपया पावती दें

Please acknowledge the receipt.

भवदीय /Yours faithfully,

(Dr D Jeevarathinam)

Dy. Controller of Explosives
कृते मुख्य विस्फोटक नियंत्रक
For Chief Controller of Explosives
/Nagpur

**Copy forwarded to :-**

1. The D.M. KUTCH , KUTCH(Gujarat) with reference to his NOC No F NO 9 Dated 10/11/1998
2. Jt. Chief Controller of Explosives, West Circle, MUMBAI. A Copy of the licence along with approved plan is enclosed.
3. The Dy. Chief Controller of Explosives, Vadodara. A Copy of the licence along with approved plan is enclosed.

For Chief Controller of Explosives
Nagpur

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : http://peso.gov.in देखें)
(For more information regarding status,fees and other details please visit our website: http://peso.gov.in)

प्ररूप XV
(प्रथम अनुसूची का अनुच्छेद 6 देखिए)

**FORM XV**
**(see Article 6 of the First Schedule)**

अधिष्ठापनों में पेट्रोलियम के आयात और भंडारकरण के लिए अनुज्ञप्ति

## LICENCE TO IMPORT AND STORE PETROLEUM IN AN INSTALLATION

अनुज्ञप्ति सं. (Licence No.) : **P/HQ/GJ/15/2050(P12369)**

फीस रुपए (Fee Rs.) **150000/-** per year

**M/s. M/s. Adani Ports & Special Economic Zone Limited, Adani House, Post Bag No. 1, Mundra - 370 021, Mundra, Taluka: Mundra, District: KUTCH, State: Gujarat, PIN: 370021** को केवल इसमें यथा विनिर्दिष्ट वर्ग और मात्राओं में पेट्रोलियम **321192.00 KL** आयात करने के लिए और उसका, नीचे वर्णित और अनुमोदित नक्शा संख्या **P/HQ/GJ/15/2050 (P12369)** तारीख **17/11/1998** जो कि इससे उपाबद्ध हैं, में दिखाए गए स्थान पर भण्डारकरण के लिए पेट्रोलियम अधिनियम, 1934 के उपबंधों या उसके अधीन बनाए गए नियमों तथा इस अनुज्ञप्ति की अतिरिक्त शर्तों के अधीन रहते हुए, यह अनुज्ञप्ति अनुदत्त की जाती हैं।

Licence is hereby granted to **M/s. M/s. Adani Ports & Special Economic Zone Limited, Adani House, Post Bag No. 1, Mundra - 370 021, Mundra, Taluka: Mundra, District: KUTCH, State: Gujarat, PIN: 370021** valid only for the importation and storage of **321192.00 KL** Petroleum of the class and quantities as herein specified and storage thereof in the place described below and shown on the approved plan No **P/HQ/GJ/15/2050(P12369)** dated **17/11/1998** attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुज्ञप्ति 31st day of December **2024** तक प्रवृत रहेगी।
The Licence shall remain in force till the 31st day of December **2024**

| पेट्रोलियम का विवरण /Description of Petroleum | अनुज्ञप्त मात्रा (किलोलीटरों में) /Quantity licenced in KL |
|---|---|
| वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A in bulk | **277661.00 KL** |
| वर्ग क प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk | **NIL** |
| वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B in bulk | **29021.00 KL** |
| वर्ग ख प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk | **NIL** |
| वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C in bulk | **14510.00 KL** |
| वर्ग ग प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class C,otherwise than in bulk | **NIL** |
| कुल क्षमता /Total Capacity | **321192.00 KL** |

**November 17, 1998**

for Chief Controller of Explosives

1). Amendment dated - 23/01/2006
2). Amendment dated - 13/04/2007
3). Amendment dated - 19/10/2010
4). Amendment dated - 03/10/2011
5). Amendment dated - 26/11/2013
6). Amendment dated - 13/03/2015
7). Amendment dated - 18/07/2016
8). Amendment dated - 06/10/2017
9). Amendment dated - 11/10/2018
10). Amendment dated - 20/02/2019

अनुज्ञप्त परिसरों का विवरण और अवस्थान

## DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुज्ञप्त परिसर जिसकी विन्यास सीमाएं अन्य विशिष्टयां संलग्न अनुमोदित नक्शों में दिखाई गई हैं **Plot No: -, MUNDRA, Mundra, Taluka: Mundra, District:** KUTCH, **State: Gujarat, PIN:** 370421 स्थान पर अवस्थित है तथा उसमें निम्नलिखित **71 Above Ground tank(s) for CLASS A , 6 Above Ground tank(s) for CLASS B , 3 Above Ground tank(s) for CLASS C ,** सम्मिलित हैं |

The licensed premises, the layout , boundaries and other particulars of which are shown in the attached approved plan are situated at **Plot No: -, MUNDRA, Mundra, Taluka: Mundra, District: KUTCH, State: Gujarat, PIN: 370421** and consists of **71 Above Ground tank(s) for CLASS A , 6 Above Ground tank(s) for CLASS B , 3 Above Ground tank(s) for CLASS C ,** together with connected facilities.

अनुज्ञप्ति संख्या-(Licence No.) P/HQ/GJ/15/2050 (P12369)

नवीनीकरण के पृष्ठांकन के लिए स्थान

## SPACE FOR ENDORSEMENT OF RENEWALS

| पेट्रोलियम अधिनियम, १९३४ के उपबन्धों या उनके अधीन बनाए गए नियमों या इस अनुज्ञप्ति की शर्तों का उल्लंघन न होने की दशा में यह अनुज्ञप्ति फ़िस में बिना किसी छूट के दस वर्ष तक नवीकृत की जा सकेगी \| This licence shall be renewable without any concession in fee for ten years in the absence of contravention of any provisions of the Petroleum Act, 1934 or of the rules framed thereunder or of any of the conditions of this licence. | नवीकरण की तारीख Date of Renewal | समाप्ति की तारीख Date of Expiry of license | अनुज्ञापन प्राधिकारी के हस्ताक्षर और स्टाम्प Signature and office stamp of the licencing authority. |
|---|---|---|---|
| 1). | 17/11/2005 | 31/12/2008 | Sd/-<br>PESO ADMIN |
| 2). | 01/12/2008 | 31/12/2011 | Sd/-<br>R. Rawat |
| 3). | 29/11/2011 | 31/12/2014 | Sd/-<br>Dr S. Kamal |
| 4). | 18/09/2014 | 31/12/2017 | Sd/-<br>T R Thomas<br>Chief Controller of Explosives<br>Nagpur |
| 5). | 22/09/2014 | 31/12/2024 | Sd/-<br>T R Thomas<br>Chief Controller of Explosives<br>Nagpur |

यदि अनुज्ञप्ति परिसर इसमें उपाबद्ध विवरण और शर्तों के अनुरुप नहीं पाए जाते है और जिन नियमों और शर्तों के अधीन यह अनुज्ञप्ति मंजूर की गई है उनमे से किसी का उल्लंघन होने की दशा में यह अनुज्ञप्ति रद्द की जा सकती है और अनुज्ञप्तिधारी प्रथम अपराध के लिए साधारण कारावास से, जो एक मास तक हो सकता है, या जुर्माने से, जो एक हजार रुपये तक हो सकता है, या दोनों से, और प्रत्येक पश्चातवर्ती अपराध के लिए साधारण कारावास से जो तीन मास तक हो सकता है, या जुर्माने से, जो पांच हजार रुपये तक हो सकता है, या दोनों से, दण्डनीय होगा \|

This licence is liable to be cancelled if the licensed premises are not found conforming to the description given on the approved plan attached hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for the first offence with simple imprisonment which may be extend to one month, or with fine which may extend to one thousand rupees, or with both and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand rupees or with both.

# Annexure – 8

# Cost of Environmental Protection Measures

| Sr. No. | Activity | Cost incurred (INR in Lacs) | | | Budgeted Cost (INR in Lacs) |
|---|---|---|---|---|---|
| | | 2020 – 21 | 2021 – 22 | 2022 – 23 | 2022 – 23 |
| 1. | Environmental Study / Audit and Consultancy | 6.2 | 6.82 | 7.32 | 11.05 |
| 2. | Legal & Statutory Expenses | 10.58 | 10.52 | 12.32 | 12 |
| 3. | Environmental Monitoring Services | 19.17 | 14.31 | 15.32 | 33 |
| 4. | Hazardous / Non-Hazardous Waste Management & Disposal | 83.55 | 107.09 | 104.035 | 127.72 |
| 5. | Environment Days Celebration and Advertisement / Business development | 5.3 | 4.04 | 2.53 | 8.00 |
| 6. | Treatment and Disposal of Bio-Medical Waste | 2.09 | 2.14 | 2.29 | 2.04 |
| 7. | Mangrove Plantation, Monitoring & Conservation | 32.59 | 53.6 | 35.0 | 35.0 |
| 8. | Other Horticulture Expenses | 689 | 921 | 956 | 979 |
| 9. | O&M of Sewage Treatment Plant and Effluent Treatment Plant (including STP, ETP of Port & SEZ & Common Effluent Treatment Plant) | 148.49 | 252.27 | 141.33 | 164.46 |
| 10. | Expenditure of Environment Dept. (Apart from above head) | 89.11 | 149.8 | 90.136 | 75.79 |
| | **Total** | **1086.08** | **1371.79** | **1366.28** | **1448.06** |

# Annexure – 9

## Bhagwat Swaroop Sharma

**From:** Bhagwat Swaroop Sharma
**Sent:** Saturday, April 29, 2023 1:37 PM
**To:** rdwcr-cgwb@nic.in
**Cc:** Chiragsing Rajput
**Subject:** Intimation regarding monitoring of ground water level & quality through bore hole
**Attachments:** Submission of Ground water report-combined.pdf

APSEZL/EnvCell/2023-24/002 Date: 29/04/2023

To,
**Regional Director**
**Central Ground Water Board West Central Region**
Swami Narayan College Building,
Shah Alam Tolnaka,
Ahmadabad,
Gujarat – 380022.

**Sub: Intimation regarding monitoring of ground water level & quality through bore hole.**

Dear Sir,

With reference to above stated subject, Adani Ports and Special Economic Zone Limited (APSEZ) located at Village: Mundra, Tal. Mundra, Dist. Kutch – 370421 would like to clarify you as below.

APSEZ has constructed 04 nos. of bore holes within multi-product SEZ for regularly monitoring of ground water level and its quality. Locations of bore holes are as below.

| Sr. No. | Location | Latitude | Longitude |
|---|---|---|---|
| 1. | Nr. Common Effluent Treatment Plant (CETP) | 22°48'64.0"N | 69°42'39.0"E |
| 2. | Nr. PUB Building | 22°77'92.58"N | 69°68'34.4"E |
| 3. | Nr. Flyover Bridge (ROB) | 22°79'82.1"N | 69°68'26.12"E |
| 4. | Nr. Opp. Dhrub Railway Station | 22°48'07.3"N | 69°39'85.6"E |

Ground water monitoring is being carried out at every six month by NABL accredited and MoEF&CC recognized agency namely M/s. Unistar Environment and Research Pvt. Ltd., Vapi. Latest ground water monitoring reports are enclosed here as **Annexure – A** for you reference.

APSEZ is requesting you to kindly consider above mentioned facts and provide your opinion regarding the same.

Thank you
Yours Faithfully,

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

**Adani Ports & Special Economic Zone Ltd.**

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

# Annexure – 10

| Expense Details for Fisherfolk Amenitites work in different core areas | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sr. No. | Details | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2021-22 | 2022-23 | 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 | 4,457,638 | 44.58 |
| 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 | 29,418,379 | 294.18 |
| 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 | 11,533,780 | 115.34 |
| 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 | 13,684,122 | 136.84 |
| 9 | Machhimar Shudhh Jal Yojana | 2,236,050 | 2,700,000 | 2,038,000 | 1,773,000 | 2,348,300 | 1,936,575 | 2,096,050 | 15,127,975 | 151.28 |
| 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 trening Centor & Maintenance work | | | | | | 6,022,000 | 2,051,000 | 8,073,000 | 80.73 |
| | **TOTAL** | **24,063,638** | **20,785,119** | **15,541,000** | **20,949,883** | **12,889,964** | **21,051,941** | **18,537,489** | **133,819,034** | **1,338.19** |

# Annexure – 11

# 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.<br><br>New settlements near the SEZ area might create slums.<br><br>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 2045 households and associated infrastructure facilities. Accommodation is made available for all interested employees working within Adani group & SEZ industries. Out of which 96.87% Occupancies are accommodated within the townships and rest are available for employees working within APSEZ.<br><br>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.<br><br>Most of the employees working in SEZ industries are residing in Mundra township having all basic requirements and associated facilities.<br><br>The existing social infrastructure facilities are adequate for present development at APSEZ. The existing townships with associated facilities will be |

| 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 |
|---|---|---|---|---|---|---|---|
| | of vectors and disease. | | | | | | expanded as per requirement.<br><br>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,<br><br>At present all existing coal yards are designed with drain, for collection of water during water sprinkling and rainfall, which is carried away to dump pond. Supernatant water from dump pond is being collected and used for dust suppression activities or after sedimentation, discharged to sea. Details of drain and dump pond has been submitted in along with EC compliance report (Oct 19 to March 20). Analysis of said water discharging into sea during monsoon season is being carried out (twice in a year during monsoon) through NABL / MoEF&CC accredited laboratory. Analysis report of the same shows there is |

| S. No. | Identified environmental and social impacts for the fully developed scenario (year 2030) | Type of Impact & 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 |
|---|---|---|---|---|---|---|---|
| | | | 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 was submitted in the last compliance period Apr'22 to Sep'22.<br><br>During compliance period FY 2022-23, total recorded rain fall was **1025 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.<br><br>No further mangrove afforestation is pending w.r.t. commitment made with concerned regulatory authority for APSEZ, Mundra project.<br><br>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 |

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<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>overall growth of 246 ha. The cost for said study was INR 3.15 Cr.<br><br>Recently study was carried out in the year 2019 and based on that there is an increase of mangrove cover between March 2017 (Total 2340) and September 2019 with an extent of 256 Ha (Total 2596 Ha Area) which is about 10.94% rise in growth rate, also It reveals that the mangrove and the tidal system in the creeks remained undisturbed over this period.<br><br>Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019.<br><br>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.<br><br>As a part of GCZMA recommendations and NCSCM mangrove conservation action plan, APSEZ has undertaken following activities.
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<tr><th>Sr. N</th><th>Recommendations</th><th>Compliance</th></tr>
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| | | | | | | | **o.** | | |
| | | | | | | | 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.<br>• As a part of this study, overall growth of mangroves in the creeks in and around APSEZ was assessed comparing Google earth images of 2017 & 2019 and it is observed that there was increase in mangrove cover between March 2017 and September 2019 to the extent of 256 Ha, which is about 10.7%.<br>• This suggests that the mangroves and the tidal system in the creeks remain undisturbed over this period. Analysis of data between categories indicated that |

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| | | | | | | | | | 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.<br>• Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019.<br>• The cost of the said study was INR 23.56 Lacs incurred by APSEZ. |
| | | | | | | | 2. | Tidal observation in creeks in and around APSEZ | • APSEZ carried out the tidal observations at locations similar to 2017 in Kotdi, Baradimata, Navinal, Bocha and Khari creeks under the guidance of NCSCM.<br>• The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves. |

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| | | | | | | | | | • 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.<br>• 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 is attached as **Annexure –1**. |
| | | | | | | | 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.<br>• Adani Foundation provides good Quality dry and green fodder to 24 Villages. Project is covering total 14116 |

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| | | | | | | | Cattels / 3008 farmers and hence enhancing cattle productivity during last FY 2022-23.<br>• Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 200.89 Lacs during FY 2022-23 which was incurred by APSEZ.<br>• **Individual Fodder Cultivation:** Farmers were Aware, Convince and trained to cultivate super Napier Grass as on farm projects to reduce their Fodder Dependency and expense. With that effort 192 farmers have Adopted and Cultivated Super NAPIER Grass in 190-acre area and produce 3800 Fodder Tons Yield annually, |

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| | | | | | | | lead to save Approx Rs 52 Lacs of farmers.<br>• **Grass Land development**: AF converted 205 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara and siracha village to transform into Fodder Sustain village with Community participation and responsibility for maintain and Monitoring.<br>• Among that 18 Acre of Guchar land is fenced and sowed with Multispecies Green Fodder with Having Good nutritive value More than 2250 Cattle will sustain with Improving quality and Quantity of Milk.<br>• Other than this dedicated security guard with gate system deployed by APSEZ |

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| | | | | | | | across the coastal area and no unauthorized persons allowed within coastal as well as mangrove areas.<br>• APSEZ has celebrated the International Day for the Conservation of the Mangrove Ecosystem on July 26th to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The photographs of celebration were submitted in previous compliance period Apr'22 to Sep'22.<br>• Refer CSR report attached as **Annexure – 2**.<br>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 |

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| | | | | | | | proper response from NCSCM side regarding resolution, the work order has been revoked.<br><br>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..<br><br>Other than this Adani Foundation – CSR Arm of Adani Group at Mundra-Kutch has initiated multi-species plantation of mangroves in Luni village in association with GUIDE, Gujarat. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE, |
| 1.4 | Development activities along the coast might cause | | Detailed hydro-dynamic modelling and | It is recommended to map the coastal morphology (Shoreline) at | APSEZ | Continual Process | Shore line change study was carried out by M/s. Chola MS, Chennai (NABET accredited consultant) as a part of Waterfront Development Project – Expansion EIA study. The summary of the said study is as below. |

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| | certain changes in hydro-dynamic characteristics along the shoreline. Shoreline of any area also can be influenced by storm surges and other natural processes. | | shoreline change prediction for a fully developed APSEZ facility has 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 | least once in three years | | | To estimate the shoreline change due to the earlier approved waterfront development plan, a historical shoreline change assessment has been undertaken using the satellite imagery for a period of 2008 to 2018. In order to avoid any major errors in estimating the shoreline, the satellite data for similar tidal condition was considered for 2008, 2013 and 2018. AMBUR Methodology was used to study the historical analysis<br>10km 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.<br><br>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.<br><br>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. |

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| | | | pose insignificant impact on the Mundra shoreline. | | | | APSEZ had also 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.<br><br>Shore line change study was carried out by M/s. Gujarat Institute of Desert Ecology, Bhuj as a part of the Environmental Management Plan (EMP) compliance with the CIA study.<br><br>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.<br><br>As a part of the NGT direction, the shoreline change analysis has been carried out out for the years 2015-2022 to study the immediate changes after the commissioning of the port and initiation of the activities (September 2015) for short-term variation for the year 2015-2022 using EPR method has been carried out.<br><br>The details of the rate of shoreline changes (Short interval time) recorded from 2015 to 2022 are |

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<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>summarized in below table.<br><table><tr><th rowspan="2">Period</th><th rowspan="2">Name of the block</th><th rowspan="2">Average Shoreline Change(M /Year)</th><th colspan="2">Shoreline Change(M)</th></tr><tr><th>Maximum Accretion</th><th>Maximum Erosion</th></tr><tr><td rowspan="2">2015-2022</td><td>West Port</td><td>-11.43</td><td>39.86</td><td>-78.68</td></tr><tr><td>Eastern side</td><td>-26.60</td><td>191.32</td><td>-165.19</td></tr></table><br>The Shoreline Change Assessment Study report of GUIDE is attached as Annexure- 12.</td></tr>
<tr><td>2</td><td colspan="7">Regional Traffic Management Plan</td></tr>
<tr><td>2.1</td><td>The projected traffic data as per the EIA Report of Multi-Product Special Economic Zone, the peak vehicular traffic from the port and SEZ</td><td>Level-1</td><td>As per the master plan of APSEZ, eight artillery roads will be connected to either state highway or national highway for evacuating the goods from APSEZ. None of these roads</td><td>Additional road as per master plan will be built in future based on the overall progress of the project.<br>Currently about 25% of cargo from APSEZ is transported by Rail and the same will be enhanced to 40% when the facility</td><td>APSEZ</td><td>As and When Required</td><td>Presently, ~ 51.7 % of the total SEZ is developed. Based on technical studies,<br><br>Existing road/rail/conveyer infrastructure facilities are adequate to evacuate the existing cargo. Further, APSEZ's cargo evacuation through rail / conveyer / pipeline has increased to ~34.28%, thereby reducing the usage of road.<br><br>Additional road facilities will be built as per master plan considering future development.<br><br>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.</td></tr>
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| | operations (including supporting facilities and colony) could be in the order of 18,300 and 10,400 vehicles per day respectively.<br><br>There could be a possible increase in traffic congestions on village-highway intersections and road accidents. | | 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 against the envisaged peak traffic volume of 4,500 PCU/hr. | is fully developed in future. This will further reduce the traffic volumes on the regional road network. | | | |

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| | | | 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 on road safety. | APSEZ can undertake technical feasibility of implementing Intelligent Transport System (ITS) for the freight carriers associated with their development activities. | APSEZ & GSRDC* | Long Term | 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:<br>✓<br>✓ Basic induction Training for drivers<br>✓ ITV Driver Training<br>✓ ITV Driver Induction for Supervisor<br>✓ Defensive Driving for LMV & HMV<br>✓ Defensive Driving & BBS<br>✓ Driver Assessment<br>✓ Road accident & rescue<br>✓ Traffic Management & Road Signage<br>✓ Driving safety training<br>✓ RORO Driver training<br>✓ Road Safety |

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| | | | | | | | ✓ Defensive Driving & Emergency Action Plan<br>✓ Drivers Responsibilities & Safe driving<br>✓ Emergency Rescue (Vehicle) Training<br><br>Approx. 9307 Participants (On roll and contractual manpower) were benefitted from above trainings in compliance period Oct'22 to Mar'22. The same will be continued in future also.<br><br>APSEZ has also implemented the Remote traffic management system (RTMS) to manage the traffic movements and capturing the violations to further improve the system.<br><br>Following steps were taken by APSEZ to reduce the accidents.<br>✓ Handling and escorting of the ODC for ensuring the smooth movement on the roads.<br>✓ Traffic Awareness programs for the drivers and regular briefing of the drivers in the parking areas.<br>✓ Incident handling and root cause analysis for taking necessary action in order to avoid such incidents.<br>✓ BAC checks for the drivers in order to identify the intoxicated drivers and necessary action is being taken against them.<br>✓ Water spray drive at gates are being conducted on regular basis during night hours to avoid doziness by the driver while driving. |

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| | | | | | | | ✓ RTMS devices are being installed at 08 critical locations in order to capture speed violations and enforcing road safety regulations.<br>✓ 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.<br>✓ 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.<br>✓ 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.<br>✓ 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. |
| **3** | **Water resources Management and sewage treatment & disposal Plan** | | | | | | |
| 3.1 | For a fully developed APSEZ facility, water demand will be in the | No-Impact | APSEZ is meeting the current water demand through Narmada | As per the master plan and permissions granted under EC, APSEZ will be developing progressively | APSEZ | As and When Required | Presently there are two fresh water sources available with APSEZ.<br>**Desalination Plant** – 47 MLD<br>**Narmada water through GWIL** – 9 MLD (sanctioned capacity).<br><br>Current water demand for APSEZ along with SEZ |

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| | 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 developed in progressive manner. | | water supply scheme and 47 MLD captive desalination plant at site. Necessary water allocation from concerned authorities was obtained and the same will be renewed from time to time as per the directions of state government. | 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. | | | industries including Adani Power Plant is an avg. of 23.86MLD.<br><br>So presently, these sources are adequate to fulfill the current freshwater requirement of entire APSEZ including member units.<br><br>The desalination plant of additional capacities will be installed on modular basis considering future requirement of APSEZ. |
| 3.2 | Existing water demand in the Mundra taluk is estimated | Level-2 | Adani Foundation has been contributing to various watershed | Adani Foundation is planning to implement the various water resource | 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.<br><br>However various works are being carried out by Adani |

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| | as 8500 m3/day (@55 lpcd) and the potable and sanitation water needs would increase to 37,000 m3/day (@125 lpcd) in future when the area is fully grown into larger municipality due to induced economic growth. Water demand of the local communities is met through | | development projects in the Mundra region to enhance ground water resources in the area. Adani Foundation has contributed about Rs. 300 Lakhs so far for the development of 18 check dams. | conservation programs in next ten years under various schemes. | | | 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.<br>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.<br><br>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.<br><br>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.<br><br>**Our water conservation work is as below.**<br><br>• Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams<br>• Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under |

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| | Narmada water supply system to some extent, but largely depending on the ground water in the study area. Mundra block is reported to be a safe ground block as on date. Due to influx of people and rapid urbanization due to the economic development, there could be | | | | | | Sujlam Suflam Jal Abhiyan were built leading to a significant increase in water table and higher returns to the farmers<br>• New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum.<br>• 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.<br>• Recharge Bore well 208 Nos which is best ever option to direct recharge the soil.<br>• Drip Irrigation approx. 1506 Farmers benefitted in coordination with Gujrat Green Revolution Company till date<br>• 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.<br>• Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.<br>• Pond Pipe line work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.<br><br>With the objective of to preserve the rainwater to reduce the impact of salinity and recharge the ground |

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| | some stress on the ground water resources in future. | | | | | | water (the main source of water) to facilitate the Agricultural activities as well as for drinking water.<br><br>Adani foundation has spent approx. INR 7574.54 lakhs from April – 2018 to Mar– 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 project is fully developed. | No Impact | Seven sewage treatment plants with an aggregate capacity of 3.1 MLD have already built at APSEZ. Treated sewage is utilized for greenbelt development and sewage is not discharged into either seasonal natural streams or | APSEZ is permitted to develop decentralized sewage treatment plants of total 62 MLD capacities. Existing sewage treatment facilities will be augmented progressively based on the development at APSEZ in future. Similar to existing practices, treated sewage will be utilized | 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.<br>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 as per specific permission granted by SPCB.<br><br>APSEZ also granted permission to treat 2.5 MLD of sewage generated from Mundra village through CETP and STP.<br><br>Presently avg. 2.13 MLD of wastewater (in to ETP, STPs & CETP) is treated and being utilized on land for |

| 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 |
|---|---|---|---|---|---|---|---|
| | | | marine environment. | for greenbelt development. | | | horticulture purpose within APSEZ premises during Oct'22 to Mar'23. Existing wastewater treatment plants are adequate to treat and handle the total effluent / sewage load considering current development.<br><br>Existing wastewater treatment facilities will be augmented, or new plants will be developed on modular basis considering future requirement. |
| **4** | **Air quality management Plan** | | | | | | |
| 4.1 | Although all the regulated activities in the study area will be adopting promulgated emission norms, total air emission mass discharge from the study area would increase. | Level-2 | APSEZ and other thermal power plants have obtained valid consent to operate and have been operating the facilities as per the emission norms stipulated in respective consent | All existing and new industrial establishments will obtain requisite consents from GPCB and adhere to the stipulated emission norms regulations and guidelines issued by authorities from time to time. | APSEZ And Other Industries | Continual Process | APSEZ has been granted requisite permissions from the concerned authorities with stipulated norms for air emission (flue gas as well as ambient air).<br><br>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.<br><br>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.<br><br>The AAQM summary for last six months (Oct'22 to |

<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>orders.<br>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 power plants located within the study area have installed continuous</td><td></td><td></td><td></td><td>Mar'23) are as below.<br><br>Locations: 16 Nos. (APSEZ – 13 + APL – 3 including 4 villages)<br>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}$</td><td>µg/m$^3$</td><td>41.79</td><td>89.86</td><td>75.53</td><td>100</td></tr>
<tr><td>$PM_{2.5}$</td><td>µg/m$^3$</td><td>14.19</td><td>49.12</td><td>33.05</td><td>60</td></tr>
<tr><td>$SO_2$</td><td>µg/m$^3$</td><td>8.80</td><td>36.63</td><td>22.40</td><td>80</td></tr>
<tr><td>$NO_2$</td><td>µg/m$^3$</td><td>11.30</td><td>43.65</td><td>29.48</td><td>80</td></tr>
</table>
[$] as per NAAQ standards, 2009<br>Values recorded confirms to the stipulated standards.<br><br>Approx. INR 15.32 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2022-23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.<br><br>Other industries located within the SEZ have obtained requisite permissions from the competent authorities for their respective plant and they also carried out environmental monitoring within their premises to comply with the permission granted. The same has been ensured by APSEZ as well as SPCB during their regular visits. APSEZ carries out regular</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 |
|---|---|---|---|---|---|---|---|
| | | | emission and air quality monitoring instruments as per CPCB directive. | | | | visits/inspections of member industries within SEZ and last visit was conducted during February to March, 20223 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.<br><br>The monitoring reports of industries within SEZ are also being submitted to the regulatory authorities as a part of half yearly Compliance report of EC for Multi-Product SEZ. |
| | | | | A common air quality management committee may be framed under the guidance of the State Pollution Control Board and district administration to manage regional level emission inventory data that can help to manage regional | 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:<br><br>• Identification of sources of air & noise emission and its dispersion in surrounding villages<br>• Remedial measures to eliminate, control, reduce or capture air & noise emission<br>• Identify available resource to abate the air and noise emission<br>• Required additional resources for control of air and noise emission |

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|---|---|---|---|---|---|---|---|
| | | | | level air quality management goals. | | | • Drinking water and its testing of all the available fresh water sources in surrounding villages<br>• Identify any surrounding villages affected by organization's improper waste disposal mechanism.<br><br>Last committee meeting was conducted on dated 11/04/2023 and below was the point of discussion for way forward.<br><br>• Brief introduction about the Environment Management Plan (EMP)<br>• All members conveyed his environment management practices, issue & suggestions<br>• Discussed about the various ways to improve existing practice to control the emission in terms of Air, Water and Noise.<br>• Discussed about the proper management of the canteen waste.<br>• Discussed about the cleaning of outside of the SEZ units.<br>• Discussed about the management of rain water & proper cleaning of the common storm water drainage system.<br>• Discussed about proper segregation & disposal of solid waste material.<br>• Discussed about to increase more green belt area inside plant premises of SEZ units |

| 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 |
|---|---|---|---|---|---|---|---|
| | | | | | | | APSEZ and all the industries within SEZ are complying to NAAQS and same is being ensured by APSEZ. The monitoring reports of industries within SEZ are being submitted to the regulatory authorities as part of half yearly Compliance report of EC for Multi-Product SEZ. |
| 4.2 | Release of particulate emissions from handling and storage of coal at the port and power plants would influence PM10 and PM2.5 concentration in the background air. This could pose some health impacts such as asthma and | Health Impact | APSEZ has been implementing the following management plan to control emissions as per the applicable regulations and similar practices will be adopted in future: Entire bulk material handling facilities are mechanized. Regular water | All industries located in the APSEZ shall adhere to the emissions norms and minimum stack height guidelines issued by CPCB and consent to operate issued by Gujarat Pollution Control Board from time to time. | APSEZ and Other Industries | Continual Process | Following safeguard measures are taken by APSEZ for abatement of dust emissions.<br>• Adequate stack heights to the Boilers, D.G. Sets, TFHs & HWGs for proper dispersion of pollutants within APSEZ<br>• Using of liquid & Gaseous fuels instead of solid fuels in Boilers, Thermic fluid heaters and hot water generators.<br>• Regular sprinkling on road and other open area<br>• Regular cleaning of roads<br>• Dry fog Dust Suppression System (DSS) in hopper, transfer towers and conveyor belts<br>• Use of water mist canon<br>• Closed type conveyor belts<br>• Regular sprinkling on coal heaps<br>• Covering other types of dry bulk cargo heaps<br>• Installation of wind breaking wall<br>• Development of greenbelt along the periphery of the storage yards/back up area<br>• Mechanized handling system for coal and other dry bulk cargo<br>• Wagon loading and truck loading through closed |

<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>COPD etc. among the local communities.</td><td></td><td>sprinkling on road and other open areas, regular cleaning of roads, dry fog dust suppression systems (DSS) in hoppers, transfer towers and conveyor belts, use of water mist canon, covered conveyor belts, regular sprinkling on coal heaps,</td><td></td><td></td><td></td><td>silo<br><br>Adequate air pollution control measures like ESPs, FGDs, Bag Filters, etc. and adequate stack heights provisions are implemented within the thermal power plant.<br><br>The stack monitoring summary for last six months (Oct'22 to Mar'23) are as below.<br><br>Total Nos. of Stacks: 23 Nos.<br>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>13.49</td><td>26.68</td><td>21.35</td></tr>
<tr><td>$SO_2$</td><td>Ppm</td><td>100</td><td>6.18</td><td>17.36</td><td>8.52</td></tr>
<tr><td>$NO_x$</td><td>ppm</td><td>50</td><td>15.24</td><td>28.58</td><td>21.93</td></tr>
</table>
Values recorded confirms to the stipulated standards.<br><br>Approx. INR 15.32 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2022-23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.<br><br>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</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 |
|---|---|---|---|---|---|---|---|
| | | | | | | | is being inspected and ensured by APSEZ as well as SPCB officials on regular basis. |
| | | | covering of other types of dry bulk cargo heaps by protective materials, installation of wind breaking wall, development of greenbelt along the periphery of the storage yards/back up area and mechanized handling system for coal and other dry bulk cargo and Wagon loading and | An internal Coal Dust Management Working Group shall be formed by APSEZ to effectively co-ordinate the approach to coal dust management and monitoring | APSEZ and Other Industries, Concerned Stake holders, District Administration* | Long Term | 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.<br><br>The dry cargo is being handled by mechanized system and transported by covered conveyer system, trucks and rail wagons.<br>Wind breaking wall is provided around the coal storage yards of APSEZ as well as Adani Power Plant.<br><br>Adequate air pollution control measures like ESPs, FGDs, Bag Filters, etc. and adequate stack heights provisions within the thermal power plant for proper dispersion of pollutants.<br><br>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.<br><br>Last committee meeting was conducted on dated 11/04/2023 and below were the point of discussion for way forward. |

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|---|---|---|---|---|---|---|---|
| | | | truck loading through closed silo. Both thermal power plants in the study area have installed electrostatic precipitators on the boilers and are meeting the emission norms as per the respective ECs granted. Due to installation of tall stacks as per CPCB guidelines and EC conditions, the relative air pollution impacts due | | | | • Brief introduction about the Environment Management Plan (EMP)<br>• All members conveyed his environment management practices, issue & suggestions<br>• Discussed about the various ways to improve existing practice to control the emission in terms of Air, Water and Noise.<br>• Discussed about the proper management of the canteen waste.<br>• Discussed about the cleaning of outside of the SEZ units.<br>• Discussed about the management of rain water & proper cleaning of the common storm water drainage system.<br>• Discussed about proper segregation & disposal of solid waste material.<br>• Discussed about to increase more green belt area inside plant premises of SEZ units |

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|---|---|---|---|---|---|---|---|
| | | | to release of emissions from two power plants is insignificant. | | | | |
| 4.3 | Ships are one of the significant sources of SO2 and NOX emissions in the study area. Marine diesel engines on the ships often utilize fuel oils that might contain higher sulphur content. As per the international best | Level-2 | A Standard Operating Procedure (SOP) has be developed to be included as a part of APSEZ environment management plan to verify that all ships anchored at the port are adopting the MARPOL4 regulations. | The current global limit for Sulphur content of ships fuel oil is 3.5 % m/m (mass by mass). According to MARPOL, the new global cap on sulphur in the marine vessel fuels will be 0.50% m/m by the 1st January 2025.<br>APSEZ should explore the possibility of providing shore power to the ships at the port | APSEZ and Ship Owners | Long Term | The ships coming to the APSEZ is complying with MARPOL and other shipping rules and regulations.<br><br>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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|---|---|---|---|---|---|---|---|
| | practices, these marine diesel engines are designed to meet MARPOL regulations with NOX emissions less than 14.4 gram/Kwhr of engine. Due to lower stack heights of the marine diesel engine, ship emissions often gets dispersed in the local environment and might pose risk of | | | to reduce idling stage ship emissions. | | | |

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|---|---|---|---|---|---|---|---|
| | fumigation during the early morning and evening hours due to atmospheric inversion break-up periods. | | | | | | |
| 4.4 | Road vehicle emissions will be other major contributors to the air pollution in the region when the facility is fully developed. | Level-2 | Not Applicable | Due to implementation of Bharat VI fuels (MoEF&CC)6 in near future the vehicular and diesel engine emissions will be reduced by about 50% from the current national levels. APSEZ should develop a robust contractor environmental policy to ensure that Bharat | APSEZ and All Industries | Short Term | Presently, cargo evacuation through rail / conveyer / pipeline has increased to ~34.28 %, thereby reducing the usage of road.<br><br>Vehicles having valid PUC certificate are only being allowed to enter within APSEZ area.<br><br>In future, APSEZ will also explore the feasibility of using Electric Vehicles for internal cargo movement.<br><br>APSEZ, has procured 183 nos. of Electrical Vehicle for internal cargo movement and will increase more nos. of E-ITVs in phase wise as per business requirement.<br><br>As well as procured 05 nos. LMV E-Vehicles for manpower movement and proceed for 10 nos. of more E-Vehicle procurement. |

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|---|---|---|---|---|---|---|---|
| | | | | Stage VI emission norms are adopted by all their contractors and sub-contractors. | | | Electrification of Rail Corridor from Dhrub Railway Station to Adipur Railway Station is going on and approx. 85% work has completed & balance work will be completed at earliest. Electric Locomotive will help to reduce the gaseous emission and increase efficiency of transportation by rail. |
| **5** | **Noise emissions** | | | | | | |
| 5.1 | Noise emissions are envisaged from port operations, industrial operations and power plants in the study area. Any increase in noise levels beyond three | Level-1 | Due to adoption of various mechanized operations at the waterfront development, the noise emissions from the port cargo handling will be minimal. An adequate greenbelt is being developed by | APSEZ, all the tenant industries and facilities within APSEZ are required to undertake noise monitoring at their facilities to demonstrate the compliance with the Noise level standards. Continuous noise recording units can be installed by APSEZ at facility boundary to address the | APSEZ | Continual Process | Below Safeguard measures are already taken for abatement of noise emissions.<br>• Development of greenbelt along the periphery of the operational area.<br>• D.G. Sets having Acoustic enclosures.<br>• Maintenance of plant machineries and equipment's on regular frequency.<br><br>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.<br><br>The noise monitoring summary for last six months (Oct'22 to Mar'23) 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>decibels from the background levels would be perceived as noise nuisance (USEPA)7.</td><td></td><td>APSEZ to further reduce any residual impacts due to noise emissions from the facility. Periodic noise level monitoring programs were adopted by APSEZ. Predicted noise levels were found to be well within the designated noise standards for Industrial facilities.</td><td>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>Locations: 13 Nos.<br>Frequency: Once in a month (24 hourly)
<table>
<tr><th>Noise</th><th>Unit</th><th>Leq Max</th><th>Leq Min</th><th>Leq Avr.</th><th>Leq Perm. Limit$</th></tr>
<tr><td>Day Time</td><td>dB(A)</td><td>69.9</td><td>57.9</td><td>64.59</td><td>75</td></tr>
<tr><td>Night Time</td><td>dB(A)</td><td>64.8</td><td>52.6</td><td>59.43</td><td>70</td></tr>
</table>
$ as per GPCB standards<br><br>Approx. INR 15.32 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2022-23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.<br><br>All the results are well within the standards. From this it can be inferred that there no impacts on the surrounding community.<br><br>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.<br><br>Further, till date APSEZ has not received any grievances/notice for noise issues from any of the stakeholders.</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 |
|---|---|---|---|---|---|---|---|
| | | | | In order to address the public grievances related to noise from the facility, an internal Noise Management Committee can be formed by APSEZ to investigate the root cause and to develop and implement noise mitigation plans in the specific zones. | APSEZ | Continual Process | As mentioned above, 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.<br><br>Last committee meeting was conducted on dated 11/04/2023 and below were the point of discussion for way forward.<br><br>• Brief introduction about the Environment Management Plan (EMP)<br>• All members conveyed his environment management practices, issue & suggestions<br>• Discussed about the various ways to improve existing practice to control the emission in terms of Air, Water and Noise.<br>• Discussed about the proper management of the canteen waste.<br>• Discussed about the cleaning of outside of the SEZ units.<br>• Discussed about the management of rain water & proper cleaning of the common storm water drainage system.<br>• Discussed about proper segregation & disposal of solid waste material.<br>• Discussed about to increase more green belt area inside plant premises of SEZ units |

| 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 |
|---|---|---|---|---|---|---|---|
| | | | | | | | 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 streams, estuaries and marine water bodies. | Level -1 | As per the master plan of APSEZ, 67 MLD of wastewater is expected to be generated from the fully developed project scenario, for which necessary permissions to set up decentralized CETPs of various capacities are already obtained. Presently a CETP | As per the master plan of APSEZ, the existing CETP shall be augmented to 67 MLD in progressive manner based on the future demand. The facility should limit the marine discharge of treated industrial wastewater to 16 MLD as per the permits. Remaining treated wastewater shall be utilized for horticulture purpose. | 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.<br><br>Currently, CETP receives 914.24KLD (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.<br><br>Out of 54 only 4 industries within SEZ are sending their partially treated industrial as well as domestic effluent to the CETP confirming CETP inlet norms for further treatment and final disposal. Other industries within SEZ have their own STPs / ETPs for treatment of wastewater generated from their industrial operation and discharging the treated water on land for horticulture purpose within their premises as per permission granted by SPCB.<br><br>The capacities of CETP will be enhanced on modular basis as per future requirement. |

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|---|---|---|---|---|---|---|---|
| | | | capacity of 2.5 MLD is in place. Presently member units treat their effluents to meet the CETP inlet norms and then send it to CETP. Treated wastewater from CETP meets the stipulated discharge norms for utilization for greenbelt development within the APSEZ areas. | | | | Presently avg. 2.13 MLD (from CETP, ETP & STPs) of treated water is being utilized on land for horticulture purpose within APSEZ premises during period Oct'22 to Mar'23 and no discharge is made to any other source. |
| | | | Online wastewater quality | Efforts shall be made to recycle complete treated | 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 |

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|---|---|---|---|---|---|---|---|
| | | | monitoring systems are installed at CETP to ensure quality of treated effluent meets the requisite discharge norms. No wastewater from CETP is discharged into natural bodies as on date.. | wastewater for port operations and industrial operations of APSEZ in future based on a detailed techno-economic feasibility study. | | | connected with CPCB/GPCB server & data is continuous transferring in both servers.<br><br>Presently entire quantity of treated water from CETP is used for gardening / horticulture purpose within APSEZ premises. |
| | | | Runoff during monsoon from coal storage yards is collected in sedimentation ponds (dump pond) | 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 | APSEZ | Continual | There are provision of drains around coal stack yard to carry to runoff water to dump ponds. This water is either used for dust suppression or after sedimentation (to remove residual dust), is allowed disposal to sea.<br><br>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 |

<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>to remove any residual dust particulates for further disposal into sea</td><td>adopt corrective and preventive actions to protect the marine water quality.<br>All red and hazard category industry within APSEZ shall adopt spill prevention and control program and no effluents shall be discharged into storm water-drains.</td><td></td><td></td><td>concerned authorities on regular basis.<br><br>The marine water quality monitoring summary for last six months (Oct'22 to Mar'23) is as per below.<br><br>Locations: 14 Nos. (APSEZ – 9 + APL – 5)<br>Frequency: Once in a Month / Half Yearly
<table>
<tr><th rowspan="2">TEST PARAMETERS</th><th rowspan="2">UNIT</th><th colspan="3">Cumulative Surface</th><th colspan="3">Cumulative Bottom</th></tr>
<tr><th>Min</th><th>Max</th><th>Average</th><th>Min</th><th>Max</th><th>Average</th></tr>
<tr><td>pH</td><td>--</td><td>7.68</td><td>8.14</td><td>7.99</td><td>7.92</td><td>8.28</td><td>8.12</td></tr>
<tr><td>BOD</td><td>mg/L</td><td>BDL(MDL:1.0)</td><td>4.2</td><td>3.66</td><td>2.4</td><td>3.9</td><td>3.21</td></tr>
<tr><td>TSS</td><td>mg/L</td><td>62</td><td>148</td><td>98.44</td><td>54</td><td>162</td><td>101.07</td></tr>
<tr><td>DO</td><td>mg/L</td><td>4.1</td><td>6.22</td><td>5.31</td><td>4.6</td><td>6.32</td><td>5.52</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>35.56</td><td>37.9</td><td>36.88</td><td>35.02</td><td>37.6</td><td>36.28</td></tr>
<tr><td>TDS</td><td>mg/L</td><td>35108</td><td>3721</td><td>35914</td><td>35614</td><td>3784</td><td>36437</td></tr>
<tr><td>Temperature</td><td>oC</td><td>28</td><td>30.2</td><td>29.04</td><td>28.2</td><td>30.3</td><td>29.3</td></tr>
</table>
BDL – Below Detection Limit<br>MDL – Minimum Detection Limit<br><br>Approx. INR 15.32 Lakhs is spent by APSEZ for</td></tr>
</table>

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|---|---|---|---|---|---|---|---|
| | | | | | | | environmental monitoring activities during the FY 2022-23, which also includes ambient air quality monitoring for overall APSEZ, Mundra. |
| | | | Detailed marine hydrodynamic modelling studies revealed that the current and proposed dredged soil disposal practices, sea water intake and outfall facilities and desalination plant outfall etc have shown insignificant impact on the marine eco-system. As part of | Good dredging practices shall be adopted by APSEZ: (i).Improving the dredging accuracy (ii).Improving onboard automation and monitoring, (iii). Reduce spill and loss, (iv). evaluating the need for installing silt screens near mangrove areas during the dredging phase operations, (v). Environment friendly dredging activities can be undertaken in such a way that | APSEZ | Long Term | 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.<br><br>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.<br><br>Marine monitoring is being carried out once in a month by NABL and MoEF&CC accredited agency namely M/s. Unistar Environment and Research Labs Pvt. Ltd., Vapi. The analysis reports of the same are being submitted to the concerned authorities on regular basis. Summary of marine water for the last six months is as mentioned above.<br><br>The same practice will be continued in future also as per direction by MoEF&CC as well as GPCB.<br><br>Monitoring will be focused near ecological sensitive area in case of need to carryout capital dragging near such areas. |

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| | | | the comprehensive environmental monitoring program, APSEZ has been adopting marine water and sediment quality monitoring on monthly basis. | the overall turbidity levels near the mangrove and ecologically sensitive zones shall not exceed 100 NTU or 200 mg/l of TSS (10% lethal level of fish) Existing marine monitoring program shall be continued as per the directions of MoEF&CC and GPCB. | | | |
| **7** | **Groundwater quality and salinity ingress** | | | | | | |
| 7.1 | While Mundra block is enjoying safe ground water status as on date (based on the data | Level-2 | APSEZ is not utilizing ground water for any type of use. APSEZ is meeting the current water | A dedicated desalination plant of capacity 4,50,000 m3/day (450 MLD) will be developed in progressive manner to meet the APSEZ | 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.<br><br>APSEZ does not draw any ground water.<br><br>The desalination plant of additional capacities will be installed on modular basis considering future |

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| | published by CGWB), due to induced economic and population growth, use of ground water resources by the local people might increase in Mundra region. This might increase the TDS and chloride levels in the ground water in future. | | demand through Narmada water supply scheme and 47 MLD captive desalination plant at site. | requirements. | | | development and requirement. |
| 7.2 | Due to induced growth in | Level-2 | Ground water is not drawn by | The Govt. of Gujarat, Narmada, Water | District Administratio | Long Term | APSEZ will co-operate and comply with the directions from concerned regulatory authorities. |

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| | the region, pressure on the available ground water source would increase and this could pose some threat to salinity ingress. | | APSEZ for its operations. Natural streams (seasonal rivers) passing through the APSEZ area will not be disturbed, the micro-watershed in the area will not be disturbed. Due to the above reasons, the possibility of salinity ingress due to APSEZ development is not envisaged. Mundra and Anjar blocks | Resources, Water Supply & Kalpsar Dept.,(WRD)12 has been implementing various salinity ingress prevention projects | n* | | APSEZ does not draw any ground water for the fresh water requirement.<br><br>However, Adani Foundation – CSR arm of Adani Group has carried out rainwater harvesting activities in the nearby villages for benefit of the locals.<br><br>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.<br><br>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.<br>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.<br><br>**Our water conservation work is as below.**<br><br>• Large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) and Augmentation of 3 check dams |

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| | | | fall under fresh water to medium salinity zones. It can be observed that little variation was observed in the ground water salinity levels from year 2013 to 2016 across the Mundra and Anjar blocks. This aspect confirms that the overall salinity ingress from the shore into the land due to existing APSEZ | | | | • 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<br>• New Pond Deepening Under Ajadi ka Amrut Mahotsav done in Goyarsama village Approx Deepening Capacity is 12000 Cum.<br>• 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.<br>• Recharge Bore well 208 Nos which is best ever option to direct recharge the soil.<br>• Drip Irrigation approx. 1506 Farmers benefitted in coordination with Gujrat Green Revolution Company till date<br>• 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.<br>• 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.<br>• . |

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| | | | facilities and power plant outfalls are less significant. | | | | 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.<br><br>Narmada Water Resources, Water Supply & Kalpsar Dept., (WRD)1 has been implementing various salinity ingress prevention projects. Under Sardar Sarovar canal project, Govt. of Gujarat has proposed to implement about 8200 Km stretch of water canal and the project is at various stages of implementation. Under this project about 112,000 ha of land in about 180 villages will be benefitted with irrigation needs. This will significantly reduce the pressure on the ground water resources in the region. |
| | | | | While the individual industries in the study area will continue to undertake ground water quality | All Concerned Stakeholders, District Administration and CGWB* | Continual Process | APSEZ (9 Locations – half yearly) & Adani Power Ltd. (5 Locations – quarterly) is carrying out ground water sampling and reports of the same are being submitted to the regulatory authorities on regular basis.<br><br>The summary of APSEZ ground water quality monitoring for last six months (Oct'22 to Mar'23) are as below. |

<table>
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<tr><td></td><td></td><td></td><td></td><td>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></td><td></td><td>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>7.06</td><td>8.44</td><td>7.78</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>0.79</td><td>21.38</td><td>6.12</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>0.03</td><td>0.07</td><td>0.05</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>0.04</td><td>0.37</td><td>0.13</td></tr>
<tr><td>Total Chromium as Cr</td><td>mg/L</td><td>0.01</td><td>0.06</td><td>0.04</td></tr>
<tr><td>Cadmium as Cd</td><td>mg/L</td><td>0.05</td><td>0.19</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>0.12</td><td>0.27</td><td>0.18</td></tr>
<tr><td>Copper as Cu</td><td>mg/L</td><td>0.07</td><td>0.07</td><td>0.07</td></tr>
<tr><td>Iron as Fe</td><td>mg/L</td><td>0.12</td><td>1.12</td><td>0.64</td></tr>
<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>2.30</td><td>2.11</td></tr>
</table>
BDL – Below Detection Limit<br>MDL – Minimum Detection Limit</td></tr>
</table>

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| | | | | | | | Approx. INR 15.32 Lakhs is spent by APSEZ for environmental monitoring activities during the FY 2022-23, which also includes ambient air quality monitoring for overall APSEZ, Mundra.<br><br>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.<br><br>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.<br><br>APSEZ will co-operate and comply with the directions from concerned regulatory authorities for ground water management. |
| **8** | **Waste Management** | | | | | | |
| 8.1 | Solid waste will be generated from industrial activities of APSEZ and other | Level-2 | APSEZ has been adopting Zero waste Initiatives and the entire waste generated | APSEZ will continue to adopt Zero Waste Initiative and wastes will be segregated at source and disposed to | APSEZ | Continual Process | Presently APSEZ has implemented Zero waste Initiatives as per 5R (Reduce, Reuse, Recycle, Recover & Reprocess) principles of waste management. At present, APSEZ has developed material recovery facility for 6.0 TPD capacities. A well-established system for segregation of dry & wet waste is in place. All wet waste (Organic waste) is being segregated & utilized for compost manufacturing and/or biogas |

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| | 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 organized source segregation programs and material recycling strategies | | from existing operations is segregated and disposed to recycling vendors, thereby APSEZ has achieved zero landfill status as on date. | 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. | | | 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.<br><br>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.<br><br>APSEZ is being done proper solid waste management in his operational area with 5R principale as per Waste Management Plan. |

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| | and infrastructure facilities, these wastes will enter into environment and would pose long term health impacts. | | | | | | |
| 8.2 | Considering an average solid waste generation of 0.25 Kg/person/day, the estimated solid waste from facilities within APSEZ will be in the order of 100 | Level-2 | APSEZ has made a provision for central waste management facilities within the existing site based on the future needs. As part of the Zero Waste Initiatives, no landfill facilities will | The existing waste segregation and material recycling facilities will be augmented to dispose safely the wastes generated from APSEZ areas. Solid Waste Management Program shall be adopted and implemented as per Municipal | 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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| | TPD (36,500 TPA). | | be installed at APSEZ. | 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 and non-recyclable waste shall be disposed to landfill sites. | 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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| **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 of changes in the biodiversity in the study area. | 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 the shrub forests that are applied for land diversion. It is also noted that | 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 afforestation program through a scientific manner, the overall ecological footprint in the district will be increased. | APSEZ/State Forest Department* | Long Term | ToR accorded by MoEF&CC on 30.11.2021<br>Additional studies as a part of ToR compliance completed by GUIDE and final report received.<br>Draft EIA is being prepared by NABET Accredited consultant L&T Infrastructure PVT LTD.<br>Draft CRZ maps received from NCESS, Kerala and the same is under review. |

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| | | | 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 designated forest land parcel. Hence there will not be any change in | 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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| | | | 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 pose certain ecological risk. | 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 2800 ha at various locations across the coast of Gujarat state in | 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.<br><br>Recently study was carried out in the year 2019 and based on that there is an increase of mangrove cover between **March 2017 (Total 2340) and September 2019** with an extent of **256 Ha (Total 2596 Ha Area)** which is about **10.94%** rise in growth rate, also It reveals that the mangrove and the tidal system in the creeks remained undisturbed over this period.<br><br>Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is **502 Ha** between 2011 and 2019.<br><br>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. |

<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>consultation with various organizations<br>The Adani Foundation introduced 'Mangrove Nursery Development and Plantation' scheme in the area as an alternative income generating activity for the people of the region.</td><td></td><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.<br>• 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</td></tr>
</table></td></tr>
</table>

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| | | | | | | | 2019 to the extent of 256 Ha, which is about 10.7%.<br>• 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.<br>• Hence, there is an overall growth of mangroves in creeks in and around APSEZ, Mundra is 502 Ha between 2011 and 2019.<br>• The cost of the said study was INR 23.56 Lacs incurred by APSEZ. |

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| | | | | | | | 2. | Tidal observation in creeks in and around APSEZ | • APSEZ carried out the tidal observations at locations similar to 2017 in Kotdi, Baradimata, Navinal, Bocha and Khari creeks under the guidance of NCSCM.<br>• The observed tidal ranges indicate that the creeks experience normal tidal ranges, adequate for the growth of mangroves.<br>• 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.<br>• The cost of the said activity was INR 2.35 Lacs during the FY 2022-23. The details of algal & |

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|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | prosopis removal is attached as **Annexure – 1.** |
| | | | | | | | 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.<br>• Adani Foundation provides good Quality dry and green fodder to 24 Villages. Project is covering total 14116 Cattels / 3008 farmers and hence enhancing cattle productivity during last FY 2022-23.<br>• Awareness of mangroves importance in surrounding communities & Fodder support - The expenditure for fodder supporting activities was approx. 200.89 Lacs |

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| | | | | | | | during FY 2022-23 which was incurred by APSEZ.<br>• **Individual Fodder Cultivation:** Farmers were Aware, Convince and trained to cultivate super Napier Grass as on farm projects to reduce their Fodder Dependency and expense. With that effort 192 farmers have Adopted and Cultivated Super NAPIER Grass in 190-acre area and produce 3800 Fodder Tons Yield annually, lead to save Approx Rs 52 Lacs of farmers.<br>• **Grass Land development**: AF converted 205 acres of denuded village common pastureland gauchar into fertile and productive grassland in Zarpara and siracha village to transform into |

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| | | | | | | | Fodder Sustain village with Community participation and responsibility for maintain and Monitoring.<br>• Among that 18 Acre of Guchar land is fenced and sowed with Multispecies Green Fodder with Having Good nutritive value More than 2250 Cattle will sustain with Improving quality and Quantity Of Milk..<br>• 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.<br>• APSEZ has celebrated the International Day for the Conservation of the |

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| | | | | | | | Mangrove Ecosystem on July 26th to raise awareness of the importance of mangrove ecosystems as "a unique, special and vulnerable ecosystem". The photographs of celebration were submitted in previous compliance period Apr'22 to Sep'22.<br>• Refer CSR report attached as **Annexure – 2**.<br><br>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.<br><br>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 |

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| | | | | | | | 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.<br><br>Other than this Adani Foundation – CSR Arm of Adani Group at Mundra-Kutch has initiated multi-species plantation of mangroves in Luni village in association with GUIDE, Gujarat. During 2018-2019 (Phase-I) multi-species mangrove plantation was carried out in 10 ha, during Phase-II (2019-2020) it was 02 ha and during Phase III (2020-2021) it is 01 ha. During FY 2021-22, 03 ha area coastal stretches have been planted with species. During current FY 2022-23, 04 Hector plantation has been planted with various species. Total 20 Ha. multi-species mangrove plantation has been carried out till March-23 association with M/s. GUIDE,<br><br>Mangrove plantation done at Luni sea coast with fisher folk community during World Environment Day Celebration. Web talk show was organized on the occasion of "World Mangrove days On Multi species Mangrove bio diversity with Joint effort of 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 Juna Bandar, Luni Bandar and Bavadi Bandar. |

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<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>Mangroves nursery is developed in a Khari creek behind IOCL & 125000 Nos. of new saplings were planted in creek area by APSEZ.</td></tr>
<tr><td>9.3</td><td>Outfall from the thermal power plants desalination and CETP would pose certain level of impact on the marine environment.</td><td>Level-1</td><td>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 located far away. APSEZ and</td><td>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.</td><td>APSEZ and Concerned Industry</td><td>Continual Process</td><td>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.<br><br>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.<br><br>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.<br><br>The comparison of marine water results between CIA and current monitoring data are as below.<br><br>
<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>30.2</td><td>30</td><td>28</td><td>29</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>41.8</td><td>36.6</td><td>34.9</td><td>35.2</td></tr>
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| | | | 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. | | | | 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. |
| 9.4 | **Terrestrial Ecology:** Study area doesn't have any notified national parks or ecological sanctuaries. Since the | Level-1 | APSEZ has developed greenbelt in an area of 550ha as against the committed area of 430ha. A dedicatenursery is set up to promote | The compensatory afforestation area to be monitored annually to check the survival rate of the plantation. | APSEZ | Continual Process | APSEZ has developed its own "Dept. of Horticulture" which is taking measures/ steps for terrestrial plantation/greenbelt development. APSEZ, Individual SEZ Industries and Adani Power Plant has developed approx. 700 Ha. area as greenbelt within the APSEZ area including SEZ industries & Adani Power Plant.<br><br>Dedicated horticulture department is maintaining and monitoring the terrestrial green belt development on regular basis to check the survival rate of plantation.<br><br>Total expenditures of the horticulture dept. of APSEZ |

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| | 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. | | plantation. APSEZ have undertaken a plantation with about 9.6 Lakh fully grown trees. | | | | during the FY 2022-23 within APSEZ is INR 956 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). Further expansion of the urban | Level-1 | Dedicated townships are developed within APSEZ area with necessary community infrastructures such as hospital, school, recreational facilities, | 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 2045 households and associated infrastructure facilities. Accommodation is made available for all interested employees working within Adani group & SEZ industries. Out of which 96.87% Occupancies are accommodated within the townships and rest are available for employees working within APSEZ.<br><br>At present 54 nos. of industries (processing & non-processing) are operating within the SEZ. Township facilities are also made by SEZ industries within |

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| | 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. | | 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 region since 2010. Similar community | | | | 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.<br>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.<br>• Multi-Specialty Hospital<br>• School<br>• Commercial complex<br>• Religious place<br><br>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.<br>• Community Health<br>• Sustainability Livelihood – Fisher Folk<br>• Education<br>• Rural Infrastructures |

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| | | | development programs (based on need based assessment) will be continued in future as well with allocation of appropriate budget. | | | | Adani foundation has spent approx. INR 7574.54 lakhs from April – 2018 to March – 2023 for CSR activities which also includes cost of rural infrastructure projects.<br><br>Major works carried out since April 2018 as a part of CSR activities are as below.<br><br>**<u>Current FY 2022-23 infrastructure development activities:</u>**<br>• 40 RRWHS structure have been completed<br>• 208 Bore-well recharging activity is completed.<br>• Percolation well Recharging work at Bhadiya & Mota Kandgra village.<br>• Sluice gate Construction to Control Flood during Flooding at Khoydivadi Vistar Bhujpur.<br>• Pond Beatification and Bund Strengthening at Bhujpur village.<br>• Check dam gate valve construction at Bhujpur which controlled more than 350 MCFT water to go into sea and get recharged current year.<br>• commissioning of Community Training Centre at Shekhadiya.<br>• Two Pond Deepening at Zarpara under Amrut Sarovar Yojna.<br>• Ground recharge activities (pond deepening work for 61 ponds) individually and 26 ponds under Sujlam Suflam Jal Abhiyan. |

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| | | | | | | | • Pond Pipeline work at Prasla Vistar Zarpara which increase recharge capacity more than 25% in 100 hector area.<br>• JCB & Hitachi Machine Support for Pre-Moonson activities. Repairing and Maintenance work of Approach at Luni, Bavdi and Navinal Fishermen Bandar.<br>• 3 Re-strengthening of Approach Road.<br>• Renovate Blood storage Lab CHC Mundra Renovation Blood storage Lab CHC Mundra.<br>• Constructed 2 nos. of CC Road of 700 mtr.<br>• Constructed Community Training center Shekadiya.<br>• Constructed 2 nos. Disable Widow Toilet Block<br>• Installed R.O. Plant at Mokha with capacity 1000ltr /HR.<br>• Constructed 4 nos. Common gathering Open Shed<br>• Constructed 03 nos. of Water Tank at Luni Bandar.<br>• Developed of Cricket Ground at Hatdi Village<br>• Pond Deepening work at Vadala & Mota Bhadiya<br>• Artificial recharge borewell in Borana, Mangara & Dhrub village.<br>• 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.<br><br>**<u>Past years infrastructure development activities:</u>** |

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| | | | | | | | • Construction of 45 Toilet block and proper bathing place for labours.<br>• RO Plant – Samaghogha, Siracha village & Vallabh Vidyalaya at Mundra<br>• Basic sanitation facility (18 Nos) at Balvadi, medical centre and retiring places at labour settlements<br>• Ground recharge activities (pond deepening work for more than 56 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.<br>• Roof Top Rainwater Harvesting 145 Nos which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family.<br>• Recharge Borewell 201 Nos which is best option to<br>• Drip Irrigation 1158 Farmers (180 formers are supported with 15% of amount of total cost for maximum 4.0 lac. during FY 2021-22)<br>• Participatory Ground Water Management in ten villages with holistic approach for Kankavati Sandstone Aquifer Programme.<br>• 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 |

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| | | | | | | | decreased by 50-100 Ft in Zarpara, Bhujpur and Navinal Vadi Vistar.<br>• Development of Prisha Park at Mundra.<br>• Pond Bund strengthening at Zarpara Village<br>• Approach Road Restoration at all Fisher folk vasahat.<br>• Garden Development at Primary School Rampar village<br>• Shed Development at Shukhpurvah Mundra<br>• Under Gram Utthan Project, Adani Foundation is supporting home biogas to farmers to Uthhan Villages phase wise. till the date supported 225 home biogas in Dhrub, Zarpara and Navinal Villages.<br>• Adani Foundation at Mundra-Kachchh has initiated multi-species plantation of mangroves in Kachchh in 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 with M/s. GUIDE, Gujarat. Current year 4 Hector plantation is in progress which will be resulted in 20 Hector.<br>• Sea Weed Culture - A pilot cultivation facility (5 KL tanks in 6 nos) for the farming of different economically important seaweeds in the tanks on the onshore has been established and commenced the cultivation trials with red sea weeds |

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| | | | | | | | Kappaphycus alvarezii, Gracilaria dura and green sea weed Ulva. The initial trials have given very promising results and harvested 6-7 times the seeded material in a 40-45 days cultivation period.<br>• Development Approach Road Prasala vadi vistar Gogan Pachim at Zarpara.<br>• Earthen bund Repairing work at Pond, Luni.<br>• Pre-monsoon activity Approach repairing, Village Pond Lake strengthen, and river cleaning (babul cutting) work is ongoing in Various Villages<br>• Approach Road repairing at Various Fishermen Vasahat (ARC).<br><br>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 attributed to increase in | Level-2 | Adani foundation is taking up several girl child education programs as part of CSR activities to create awareness | Suitable regional level awareness programs on the girl child protection and encouragement programs in line with state and national policies shall be adopted under Corporate Social Responsibility | 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.<br><br>• The Adani Foundation provided scholarship support to motivation and encouragement of fishermen boys and girls for higher education under this program. APSEZ provide 100% fees support to girls as a scholarship.<br>• Under Projects Uthhan More than 9106 Students are Getting benefit Of Education through 51 Government school Of Mundra Block. |

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| | 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. | | about girl child protection. | programs in association with district authorities. | | | • 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.<br>• 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.<br>• Separate sanitation facilities for girl child in schools.<br>• 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. We have facilitated 560 daughters with Kit (Small Bed sheet, Mosquito net, Soap and Cream with nutritious food for mother) To create awareness about health, personal hygiene, child education and nutritional diet in fishermen community, various awareness programs have been organized.<br>• During the year various activity like, Covid-19 awareness in village & Slum Area, Menstrual Hygiene Day, Breastfeeding Week, National |

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| | | | | | | | Deworming Day, National Nutrition Month had been celebrated.<br>• 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.<br>Curb malnutrition amongst Children, Adolescent girls and Women in our CSR villages.<br>✓ 100 beneficiaries covered in Menstrual Hygiene Day - with slogan called "RED-ACHHA HAI"<br>✓ 204 beneficiaries covered in Breastfeeding Week<br>✓ 320 beneficiaries covered in National Deworming Day<br>✓ 20 villages covered in celebration of NATIONAL NUTRITION MONTH<br>✓ 42 FAMILY COUNSELLING<br>✓ 2059 Women participated in celebration of Women's Day week.<br>• To reduce malnutrition and anemia amongst Children 95 % & adolescent girls and pregnant & lactating women by 70 % in three years<br>• Reduction IMR and MMR<br>• Support Awareness & Cover 100 % Vaccination taken by Child & women.<br>• SuPoshan Thanksgiving program was organized. In this webinar DDO, CDPO Mundra and other |

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| | | | | | | | dignitiaries remained present and appreciated the efforts to overcome malnourishment in Mundra and Bitta.<br>• 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.<br>• 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.<br><br>About INR 7574.54 lakhs has been spent on various CSR activities in the Mundra region since April 2018 to till March 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 | Level-2 | Adani hospitals, Mundra is setup by Adani group near Samudra township with a goal to provide | APSEZ will explore other possibilities to augment the primary and secondary healthcare facilities in future depending on the growth scenario at | APSEZ | Long Term | Adani hospitals (Multi-specialty), Mundra is having 110 bed facility and same is setup by Adani group near Samudra township.<br><br>Primary health center and community health center are in place within the Mundra taluka. |

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| | need for healthcare facilities in the region. For an influx of 6 lakh people from APSEZ operations and additional 3 Lakh from induced growth by the year by 2030 (fully developed scenario), total hospitals facilities with about 540 beds would be required. | | primary and secondary health care services to Adani group employees and the local populace of Mundra. The existing 100 bed Adani hospital at Mundra has been catering the services ranging from wellness and preventative care. | APSEZ development. | | | Other than this Adani foundation is doing various activities as part of community health. The details of last year are as below.<br><br>• Mobile Heath Care Units and Rural Clinics<br>• 09 Rural Clinics<br>• 06 villages of Mundra, 02 villages of Anjar & 01 village Mandvi block has benefited by rural clinic service.<br>• Total Patients Benefitted FY 22-23:-25088 (direct & indirect).<br>• 5 financially challenged patients has been supported with Dialysis treatment at 97 Times which added day in their Life.<br><br>**Health camp:**<br>• 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.<br>• Specialty health (Gynec , Pediatric eye specialty health camp) :- 1527 Patients.<br>• General health camp :- 3379 Patients Awareness Session<br>• Cattle health camp: Total 17299 cattle of 19 Villages had benefitted with different kind of medicines and vaccines. |

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| | | | | | | | • Women's Health: Provided health services to over 1150 women through 102 + Menstrual Hygiene workshops.<br>• Dialysis Support: During this year, 4 patients were supported for regular dialysis (twice a week) with partial support<br>• Total 590800 CC quantity of Blood had been donated by 1710 Employees.<br>• Medical Supports: 2460 beneficiary in 63 village.<br>• TB screening & Awareness session: benefited 1795.<br>• 25 villages and 07 fishermen settlements covered, with 90 types of general and lifesaving medicines through Mobile healthcare unit<br>• 1491 –Economically Challenged patients have been supported for operation, OPD, IPD, Medicines and lab-test.<br>• For Preventive health care General and multispecialty camps Pediatric camp, General Health camps in 9 villages and Super specialist camp which benefitted more than 4906 patients of Mundra Taluka.<br>• Cattle Health Camp: Adani Foundation and Animal Husbandry department Veterinary Jointly organizing cattle health Awareness and vaccination programs in 24 Villages of our periphery villages. Total 17299 cattle of 19 Villages had benefitted with different kind of medicines and vaccines. |

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| | | | | | | | • Lumpy Disease Vaccination Drive: Total 40 000 cattle were covered through therapeutic and ayurvedic treatment and Nutritive Cattle feed Support with association District Animal Husbandry department through vaccination and awareness drive.<br><br>• 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.<br><br>APSEZ will explore other possibilities to augment the primary and secondary healthcare facilities in future depending on the future development at APSEZ. |
| | Due to rapid economic development in the region, several employment opportunities can be | | APSEZ has been giving preferences to people from Gujarat for providing employment opportunities | APSEZ is committed to provide support for fishermen livelihood | APSEZ | Short Term | **Current FY 2022-23 fishermen livelihood activities development activities:**<br><br>• 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. |

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| 10.5 | generated to the local people.<br><br>When the area is fully developed by the end of 2030, the working population of the Mundra taluk would increase from current level of 55,000 to as high as 4,00,000, which will be 45% of the total envisaged population in Mundra Taluk by the end of 2030. | | based on eligibility and skills.<br>In Mundra, special programmes have been conducted by Adani Foundation to enhance the employability of youth from fisherfolk communities. Based on the need assessment results, several livelihood options have been introduced by the Adani Skill Development Centre, Mundra. In these centres, youth can join and get | activities and has submitted a detailed 5 years plan to MoEF&CC with a total budget of Rs.13.5 Cr. | | | • Mangrove plantation and Nursery development work has created a two facet impact by providing Livelihood to Fisherfolk during two months Fishing during Off season and developing 162 hector dense mangrove afforestation.<br>• 5200 Men days work provide to 285 Fisherfolk of Luni, Sekhdiya and Bhadreshwar Villages in coordination with Horticulture Det.<br>• Formed **Sagar Saheli SHG** of Navinal Fisherfolk Women and Linked with DRDA after completion of Stitching Training, received first order of Rs 80 000 to prepare Cotton Bags. Total 12 Women are engaged and planning to expand with more Women and Order.<br>• During FY2022-23 Approx. INR 185.37 lakh were spent for Fisherfolk Amenitites work in different core areas.<br>• Till FY 2022-23, Adani Foundation has done total expenditure of INR 1338.19 lakh for Fisherfolk Amenitites work in different core areas.<br>• 507 underprivileged students of Fisherman & Maldhari communities underprivileged from 8 villages taking education at the Adani Vidya Mandir school.<br>• JCB & Hitachi Machine Support for Pre-Moonson activities. Repairing and Maintenance work of Approach at Luni, Bavdi and Navinal Fishermen Bandar.<br>• **Youth Employment: -** Adani Foundation is committed for youth employment with imparting technical and Non-Technical Training for Fisherfolk Youth and started Electrical, Welder ad Masson work training under Adani Skill Development Centre.<br>• Total 217 Fisherfolk are Employed and earning on Monthly Base. Average Monthly Income Rs.14500/ Individual. |

| 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 |
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| | | | vocational training for a number of technical and non-technical skills.<br>An industrial Training Institute is set up at APSEZ, Mundra, to enhance the skill levels of the local youth to maximum possible extent. | | | | APSEZ is carrying out various initiatives specific to the Fisherfolk community which includes:<br><br>• Vidya Deep Yojana<br>• Vidya Sahay Yojana – Scholarship Support<br>• Adani Vidya Mandir<br>• Fisherman Approach in SEZ<br>• Machhimar Arogya Yojana<br>• Machhimar Kaushalya Vardhan Yojana<br>• Machhimar Sadhan Sahay Yojana<br>• Machhimar Awas Yojana<br>• Machhimar Shudhh Jal Yojana<br>• Sughad Yojana<br>• Machhimar Akshay kiran Yojana<br>• Machhimar Suraksha Yojana<br>• Machhimar Ajivika Uparjan Yojana<br>• Bandar Svachhata Yojana<br><br>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",<br><br>Till, FY 2022-23 approx. 13.38 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 – 10**. |

# Annexure – 12

Final Report

# Shoreline Change Assessment Studies Using Satellite Imageries at Adani Ports and SEZ Limited, Mundra

*Submitted to: -*

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

*Submitted by: -*

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August 2022

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# 1. INTRODUCTION

The shoreline is the zone where large bodies like an ocean or lake meet the land. The coastal shoreline is a dynamic interface between the land and the sea water which gets altered due to various coastal processes that govern it such as wave characteristics, near-shore circulation, sediment characteristics, beach forms, etc. Shoreline changes are the result of a process called littoral transport, which is responsible for moving eroded materials along the coasts utilizing waves and currents in the nearshore zone (Misra and Ramakrishnan, 2015). The developmental and maintenance activities such as the construction of the port, mining of beach sand, industrialization, garbage dump, urbanization, recreational activities, discharge of domestic sewage and industrial effluent, and reduction in sediment supply from rivers have amplified the processes of modifications, including changes in the shoreline (Kannan and Malarvannan, 2016).

An important aspect of the shoreline is the sustainable development and protection of the coastal environment. Therefore, monitoring coastline areas is a crucial subject since shorelines are the most important and dynamic natural phenomenon (Tamassoki *et al.*, 2014), where changes in one part subsequently affect the other parts, which will be a chain of reactions.

## 1.1. Gujarat

Gujarat is situated on the western coast of India, in the Arabian Sea. Among the maritime states of India, Gujarat has the longest coastline of around 1650 km, which supports a wide diversity of marine flora and fauna. The state has two gulfs, the Gulf of Khambat and the Gulf of Kachchh, and the coast is differentiated between high rainfall area (2500 mm in south Gujarat) and low rainfall area (250 mm in the northwest part of Kachchh). The coast experiences a different range of tides, waves, cyclones, and currents in the sea, affecting the physical as well as the biological conditions of the whole marine ecosystem.

### 1.1.1. Gulf of Kachchh

The Gulf of Kachchh is situated along the west coast of Gujarat in India. It is about 170 Km in length. The coastal stretch of Kachchh district constitutes the entire northern coast of the Gulf of Kachchh (GoK) which is one of the three major Gulf systems of India endowed with very high biological richness and physical and chemical peculiarities. Despite its high aridity (4 on a scale of 1- 4) and poor mean rainfall (340 mm), the 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 natural resources.

In the late 1990s, industrial development was promoted aggressively because of its very rich mineral deposits, the short sea routes to Gulf countries, and easy availability of land which were considered best than the other coastal regions of the state. The announcement of tax holidays during the post-earthquake in 2001 by the state government provided further impetus for coastal industrial development. Many of these developments are beginning to have implications for ecological, social, and economic spheres. Kachchh coast faces threats from climate change, pollution, and habitat changes which are crucial for understanding the impacts on the shoreline.

Morphological change is responsible for the change in coastal structure or shape. Morphological change occurs due to tidal patterns. It can be estimated by different methods like Aerial photography, Field survey using GPS, Satellite remote sensing, LIDAR, etc.

The shoreline changes occurring due to processes like accumulation and erosion of substratum can be analysed in a Geographic Information System (GIS) by examining differences between the shoreline of different years. Shoreline proxies include the high-water line, vegetation line and dunes among many others. (Jodhani *et al.,* 2020)

## 1.2. 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 in 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. In addition to these, port-based special economic zone and two thermal power plants exist which form a major industrial cluster of this coast.

## 1.3. Origin of the Study

APSEZ has obtained Environmental and CRZ Clearance for a waterfront development project at Mundra District, Kachchh, Gujarat, and as a part of EC/CRZ Clearance condition, APSEZ shall undertake "The shoreline changes in the area shall be monitored periodically and the reports to be submitted every 6 months to RO, Bhopal".

Also, APSEZ had undertaken a Cumulative Impact Assessment (CIA) through NABET accredited consultant namely M/s. Chola MS Risk Services Limited, Chennai in the year 2015-16 in line with the MoEF&CC Order dated 18th September, 2015 for the projects already granted Environmental Clearance and CRZ Clearance in the region so that future developments can be assessed for providing necessary approvals at a later stage. As a part of the Environmental Management Plan (EMP) compliance with the CIA study, APSEZ shall undertake a study "To map the coastal morphology (Shoreline) at least once in three years". Therefore, Adani Ports and Special Economic Zone Ltd. (APSEZL) has approached M/s. Gujarat Institute of Desert Ecology (GUIDE) to study the intensive monitoring of shoreline changes through high-resolution satellite imageries (LISS-IV). The present report compiles the results of shoreline change analysis by using satellite imageries and beach profile analysis of a 55 km coastline stretch of Adani Ports and Special Economic

Zone Ltd. (APSEZL). Due to the dynamic nature of shoreline boundary, it is essential to understand the long and short-term rate of shoreline changes from a coastal vulnerabilities point of view.

## 1.4. Objectives of the Study

1. To map and monitor shoreline behavior (changes) of 13 km (16 km on west side and 27 km on east side of Adani main port) coastline stretch of Adani Ports and Special Economic Zone Ltd. (APSEZL) using LISS-IV high-resolution satellite imageries during the years 2015 and 2022 after construction of port activities.
2. To identify the zones of high erosion and accretion using LISS-IV, high-resolution satellite imageries.
3. Collection of shoreline information and cross-sectional profiles using DGPS, at 20.00-meter interval along the route & offset between high tide line to low tide line, along the 10km stretch around the project site.
4. Shoreline change analysis by superimposing DGPS Survey data with satellite data.
5. Superimposing current shoreline changes data on approved CZMP in line with CRZ Notification, 2011 prepared by National Centre for Coastal Management (NCSCM).

# 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 coastal stretch of the Mundra is dissected by extensive mudflats and creek systems. Major creek systems in the area are Navinal, Bocha, Baradi mata, and Kotadi creek. These creeks are again divided into minor creek complexes. The present study is about the shoreline changes on the coastal stretch of Mundra between the western side of Modhva to the eastern side of Luni which forms the study area (Fig.1.1) earmarked on the map.

The study site is 43 km long coastline stretch (16 km on the western side and 27 km on the eastern of Adani main port) of Adani Ports and Special Economic Zone Ltd. (APSEZL), located on the western coordinates of site 22°47'37.289"N, 69°25'18.078"E to eastern coordinates of site 22°50'56.604"N, 69°54'8.115"E, which is given in Figure 2.1.

## 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 $36^0$C. The dry bulb temperature goes up to $47.8^0$C, 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 poor, ranging from 250-350 mm which is often irregular. However, the mean annual rainfall during 1932 to 2021 was higher at Mundra (478 mm) comparing to other coastal talukas of Kachchh district. 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).

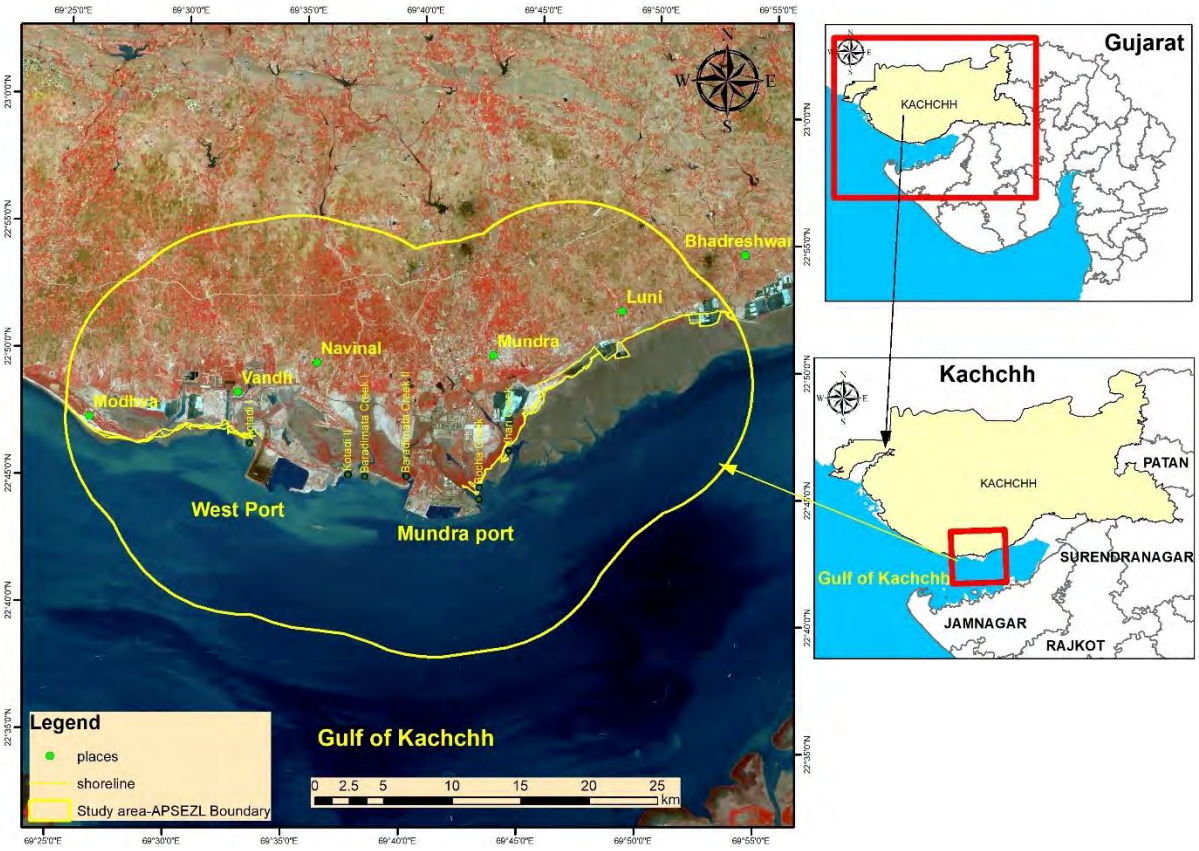


**Figure 2.1: Location Map of The Study Area**

### 2.2.1. Tidal Regime

Tides at Mundra are the mixed type, predominantly semidiurnal 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 high density. In the absence of freshwater inflow, the salinity varies from 35.9 to 38.0 ppt.

# 3. METHODOLOGY AND DATA USED

The shoreline change analysis has been carried out using multi-date satellite images to estimate the rate of change in terms of distance of the shore eroded or accreted using a cross-shore profile in terms of area and volume. From the satellite images, the shoreline has been extracted after rectification and co-registration. The rate of shoreline changes from 2015 to 2022 has been analysed and compared with the DGPS survey and ground truthing data for which Digital shoreline change analysis system (DSAS) software that works within the Geographic Information System (ArcGIS) software was applied. DSAS computes rate-of-change statistics for a time series of shoreline vector data. It is also useful for computing rates of change for other boundary change conditions that incorporate a clearly-identified feature position at discrete times (Himmelstoss *et al.,* 2018). The methodology flowchart of the present study on the shoreline change is shown in (Figure 3.1)

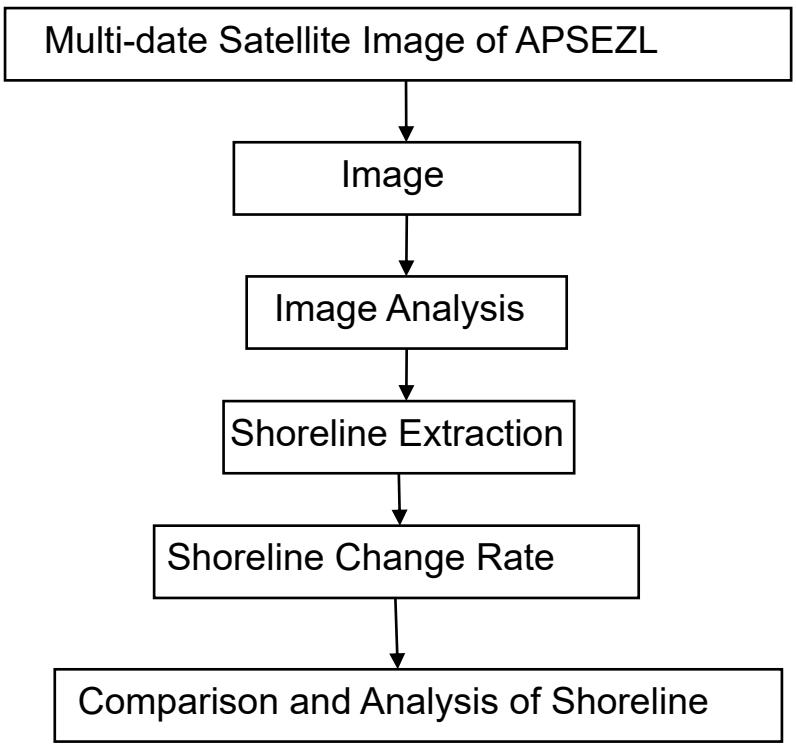


**Figure 3.1: Flowchart of the Methodology Adopted**

## 3.1. Short Term Shoreline Change Analysis

The end point rate (EPR) is calculated by dividing the distance of shoreline movement by the time elapsed between the oldest and the most recent shoreline (Figure 3.2). The major advantages of the EPR are the ease of computation and the minimal requirement of only two shoreline dates. The major disadvantage is that in cases where more data are available, the additional information is ignored.

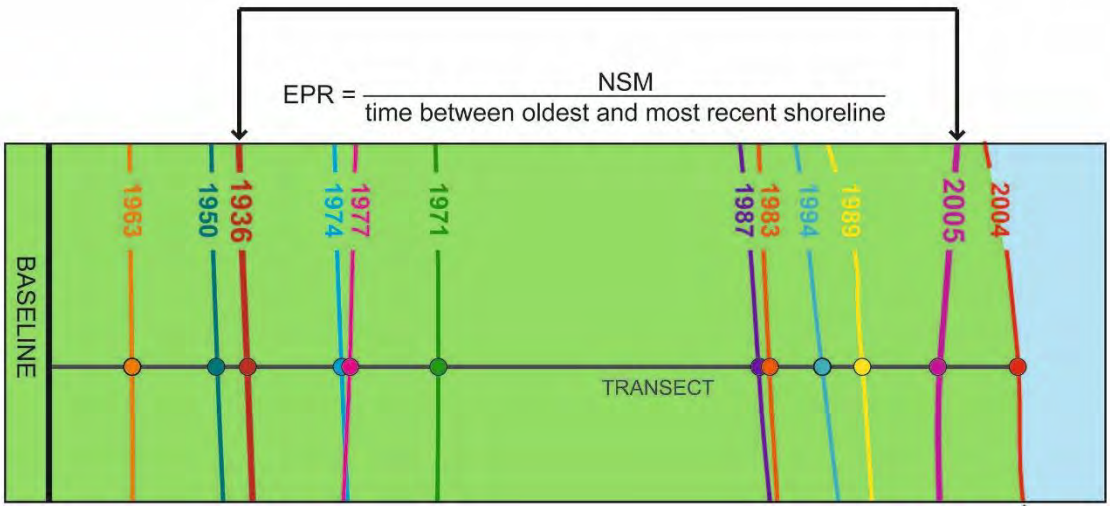


**Figure 3.2:Calculation of Short-Term Shoreline change analysis**

**(Sample image source:(Sweet *et al.* 2017))**

## 3.2. Long Term Shoreline Change Analysis

A linear regression rate-of-change (LRR) statistic is determined by fitting a least-squares regression line to all shoreline points for a particular transect (Figure **3.3**). The regression line is placed so that the sum of the squared residuals (determined by squaring the offset distance of each data point from the regression line and adding the squared residuals together) is minimized. The linear regression rate is the slope of the line. However, the linear regression method is susceptible to outlier effects and also tends to underestimate the rate of change relative to other statistics (Sutikno *et al.*, 2017).

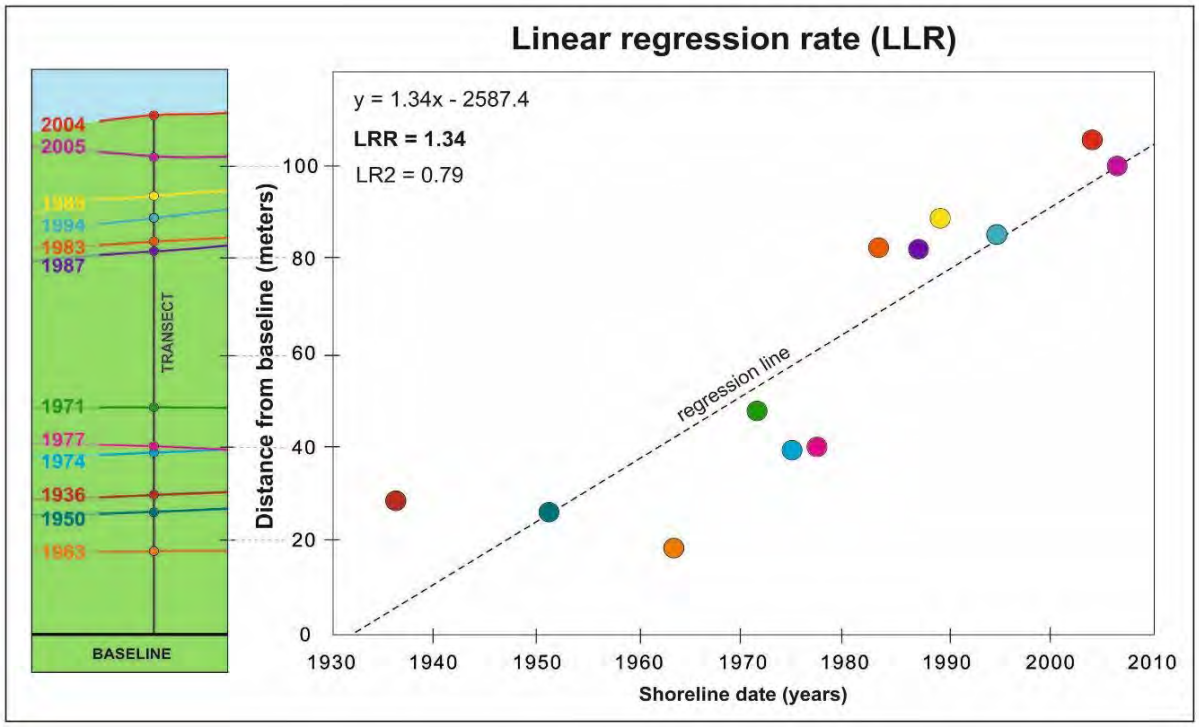


**Figure 3.3: Calculation of Long Term (LRR) Shoreline Change Analysis**

**(Sample image source:(Sweet *et al.* 2017))**

## 3.3. Data Used

The Multi-date satellite imageries, LISS-III and LISS-IV were procured from NRSC, Hyderabad was used for the analysis of the present study. The details of the satellite imagery used for the present study are given below (Figure 4.8, Figure 4.9 and Table 3.1).

**Table 3.1: High-resolution Satellite Data for Shoreline Procured From NRSC**

| Satellite | Date | Sensor | Resolution (m) |
|---|---|---|---|
| IRS-R2 | 03th March 2015 | LISS-III | 23.5 |
| IRS-R2 | 12th April 2022 and 24th April 2022 | LISS -IV | 5.8 |

### 3.3.1. 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 faithful representation of the original scene. It typically involves the initial processing of raw image data to correct geometric distortions.

**Radiometric Correction:** 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:** Geometric correction addresses errors in the relative positions of pixels. These errors are induced by sensor viewing 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.

**Shoreline Extraction:** Continuous shoreline positions were extracted automatically and digitized manually for two different periods i.e., 2015 and 2022. Digital Shoreline Analysis System (DSAS) version 5.1, an extension of ESRI ArcGIS software was used to calculate shoreline rate of change statistics from a time series of multiple shoreline positions. The shoreline positions were compiled in ArcGIS with 5 attribute fields that included Object ID (a unique number assigned to each transect), shape, shape length, ID, date (original survey year), and uncertainty values. All different shoreline features were then merged within a single line on the attribute table, which enabled the multiple coastline files to be appended together into a single shape file. The Shoreline change rate was calculated by Endpoint rate (EPR) for the short term and Linear Regression Rate (LRR) for the long-term period. DSAS is purely a statistical approach. A baseline was digitized onshore by closely digitizing the direction and shape of the outer shoreline, which was used as the starting point for all transects.

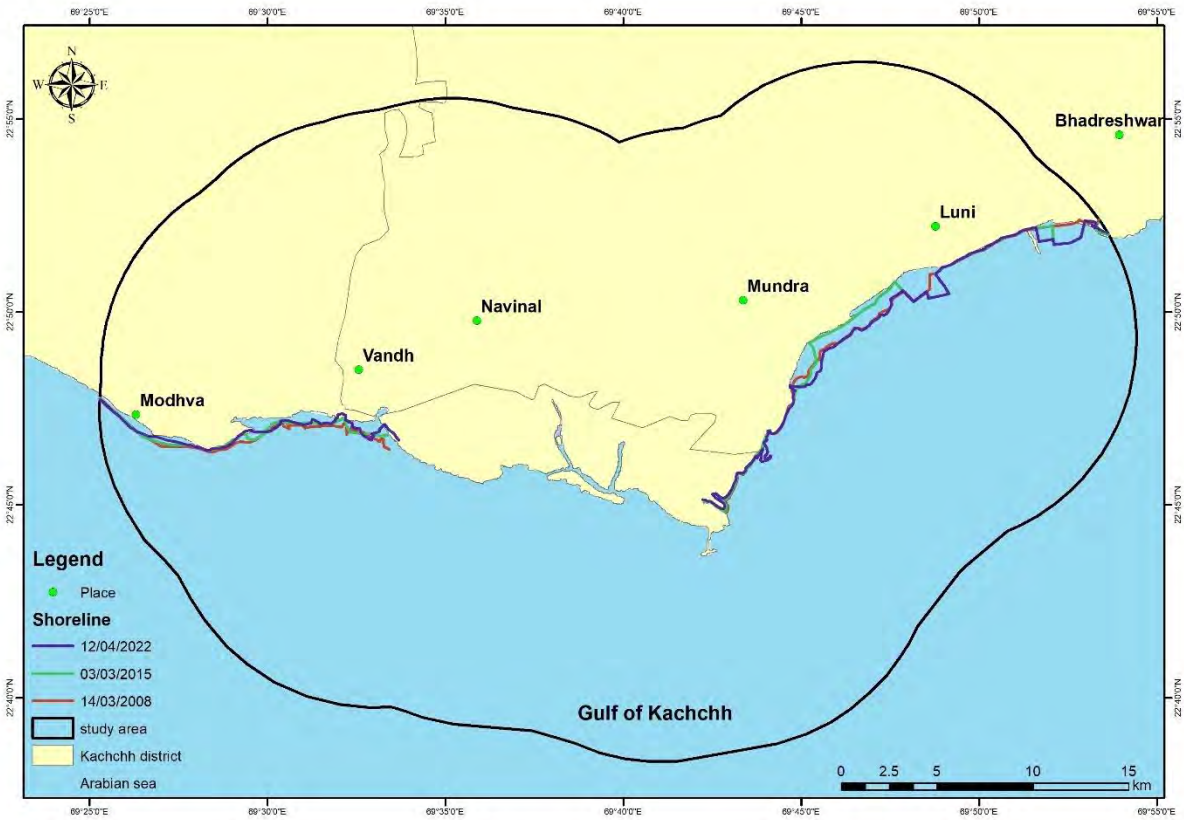


**Figure 3.4: Shoreline Digitization for Different Years Using Multi Date Satellite Imageries.**

## 3.4. Field Work

Field investigation is a vital part of the project. Fieldwork helps to check and collect most of the ground information required for shoreline mapping. The fieldwork was conducted during the period between 26th to 30th April 2022 and 21st to 23rd June 2022 for the DGPS survey and collecting ground truthing data.


**Figure 3.5: Establishing DGPS Base Station (A) And Collecting Survey and Ground Truthing Data(B), (C), (D) Using Rover.**

# 4. RESULTS AND ANALYSIS

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 in to account for the calculation by using satellite images. A total of 4254 transects were generated with 10m spacing along the shoreline. The length of each transect (Cross shore) was between 500 to 3000m. The variations in the rate of shoreline change were re-coded as N – S coast configuration. The shoreline change analysis was carried out for 2015-2022, the short-term shoreline change analysis method EPR was carried out using medium resolution (LISS III) and high-resolution images such as LISS-IV.

As a part of the NGT direction, the shoreline change analysis has been carried out out for the years 2015-2022 to study the immediate changes after the commissioning of the port and initiation of the activities (September 2015) for short-term variation for the year 2015-2022 using EPR method has been carried out.

Based on the rate of change over the period, shoreline change has been categorized into seven classes National shoreline Assessment system (N-SAS, 2022). They are; high accretion (>5m/year), moderate accretion (3.0 to 5.0 m/year), low accretion (0.5 to 3.0 m/year), stable coast (0.5 to -0.5m/year), low accretion (-3.0 to -0.5 m/year), moderate erosion (-3.0 to -5 m/year) and high erosion (>-5m/year).

## 4.1. Results For Shoreline Change Analysis From Satellite Images

The erosion and accretion are highlighted with red and green colour respectively for better understanding. The study area is divided into two major blocks (1) West port and (2) Eastern side block for accurate analysis as shown in Figure 4.1.

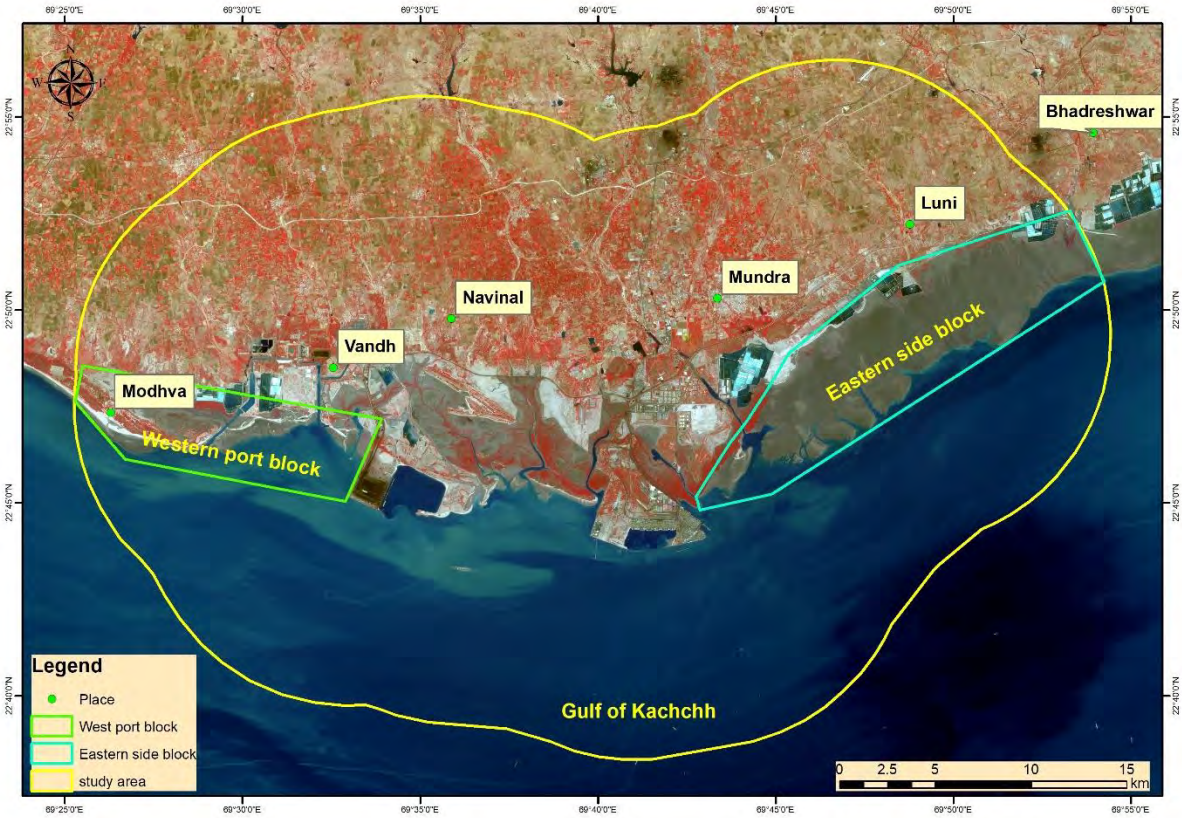


**Figure 4.1: Study area in two blocks.**

### 4.1.1. Results for Overall Shoreline Change From 2015 to 2022

The results of the imagery data analysed before the port activity using medium to high resolution of (LISS-III (23.5m) and LISS-IV (5.8m)) satellite images, processed for the period 2015 to 2022 have shown a high rate of accretion (5 to 191 m/year) to stable coast along the eastern side block except for a few pockets where there was low to moderate erosion on the shore has seen. In contrast on the western side of the port, most of the area are highly eroded (Figure 4.2) at has been observed. The details of the instantaneous rate of shoreline changes (Short interval time) recorded from 2015 to 2022 are summarised in Table 4.1. The data indicated that shoreline changes were very much dynamic and no regular pattern was evident at all in the study sites. However, the rate of change was comparatively high on the eastern side of the port during the last 7 years.

**Table 4.1: Details of Average and Maximum Short term Shoreline Changes**

| Period | Name of the block | Average Shoreline Change(M/Year) | Shoreline Change(M) | |
|---|---|---|---|---|
| | | | Maximum Accretion | Maximum Erosion |
| 2015-2022 | West Port | -11.43 | 39.86 | -78.68 |
| | Eastern | -26.60 | 191.32 | -165.19 |

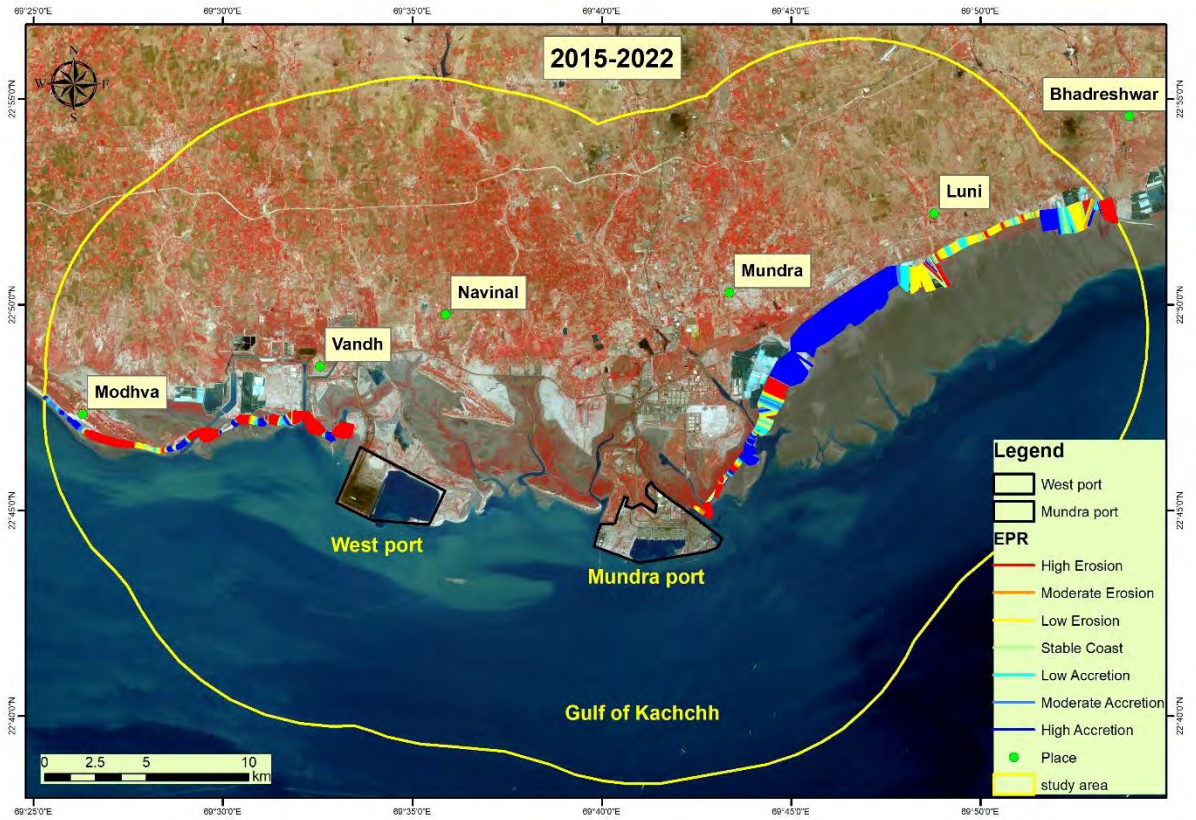


**Figure 4.2: Shoreline Changes During March 2015 to April 2022**

### 4.1.2. Zones of High Erosion and High Accretion

For the present study on shoreline changes evaluation, one sets of data were considered. They are the moderate to high resolution (23.5m and 5.8m) images for 2015-2022 and overall shoreline changes delineate in high erosion and high accretion zone, and the results are presented in Figure 4.3.

Based on the analysis of the imageries it is possible to delineate the study areas into zones for the ease of classification into high erosion and high accretion within the study limits. The images have indicated that a total distance of 23.6 km showed

high accretion zone, around 1.9 km high erosion zone near Bocha island on the eastern side of Mundra port, however on the western side of west port 11 km identified as a zone of high erosion whereas approximately 5 km patches between west port to Modhva comes under the high accretion zones (Figure 4.3).

Shoreline change analysis for the present study has been carried out over 7 years ranging from 2015 to 2022. Change detection analysis of the study area indicated that the shoreline has undergone both accretion and erosion processes in the last 7 years. Transects demarcated for accretion and erosion rates indicate that almost 51.4% of the area has undergone accretion for the entire study period (2015 to 2022). Even though it was observed that 48.6% of the area had experienced erosion, the rate of removal of the substratum was relatively lower than the rate of accretion.


**Figure 4.3: Zones of High Erosion and High Accretion**

Validation of the shoreline data of the 43 km (16 km on west side and 27 km on east side of Adani main port) stretch of Adani Ports and Special Economic Zone Ltd

(APSEZL), using Differential GPS (DGPS)has been carried out for the period 26th to 30th April 2022 and 21st to 23rd June 2022 (Figure 4.4). The results obtained with the higher resolution satellite images of the field match the shoreline details derived from the satellite images.

The shoreline data derived from high-resolution satellite imagery obtained during 2018 has been compared with NCSCM (National Centre for Coastal Management) approved CRZ map (Figure 4.5) is quite similar to the shoreline configuration derived from the NCSCM (National Centre for Coastal Management) approved CRZ map of 2017-18.

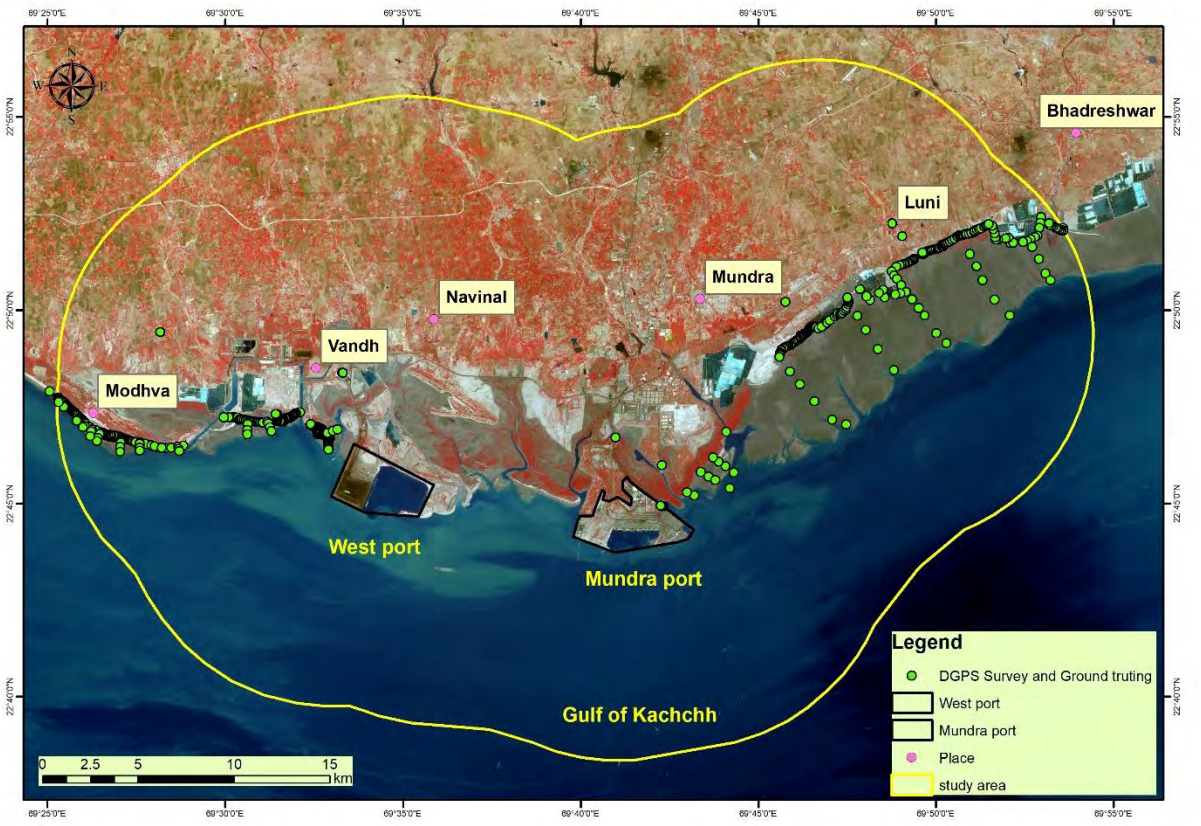


**Figure 4.4: Shoreline Data of the Study Sites Using DGPS**

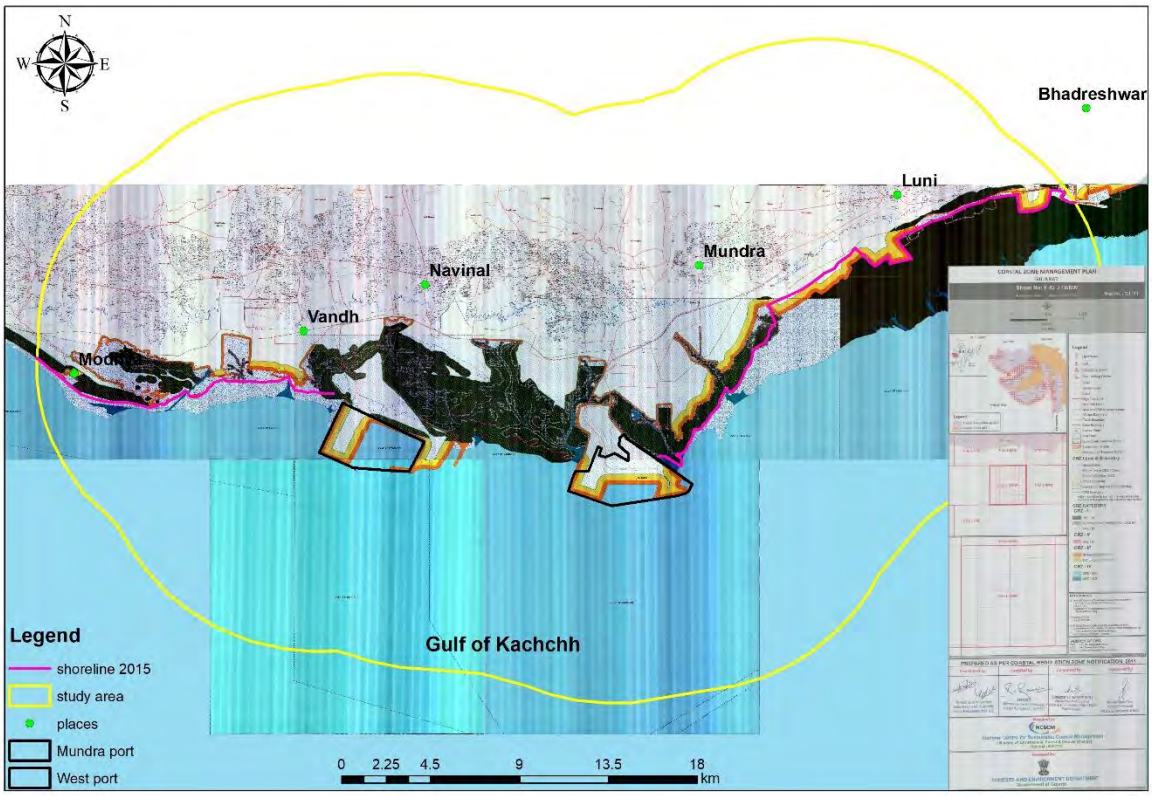


**Figure 4.5: Approved CZMP in line with CRZ Notification, 2011 prepared by National Centre for Coastal Management (NCSCM)**

### 4.1.3. Beach Profile

Shoreline Change analysis using Cross Section Profile (CSP) has been carried out using DGPS Survey. CSP data has been collected from 20 different locations along the Mundra Coast. The total profile line stretches of 50 km covering the area of approximately 30 km west and 25 km east of the existing port site was conducted during the period 26th to 30th April 2022 and 21st to 23rd June 2022 (Figure 4.6).

This analysis was done to create a baseline data for comparison in the future with beach profile data from the same location for different seasons. Beach profiles were plotted location-wise. The trends of beach profiles were assessed qualitatively (Figure 4.6). The difference, if any, shall be investigated further to understand the impact due to port activities on the shoreline evolution.

A beach profile is defined as a set of beach levels taken at a uniform distance in a straight line (Figure 4.7). Beach profiles can only be meaningful if surveys are undertaken over a stipulated period at the same place and the same directions.

Further, the beach profile also suggests that there are regions of high-rate accretion and erosion on an average of 3.05 m (Figure 4.7), and also there are vertical changes as seen along the eastern of Mundra coast which could be the reason for the high rate of sediment deposition along the Luni and Bhadreshwar coast in the recent times. The rate of shoreline changes may be also depended on the inflow of fresh water into the estuarine.

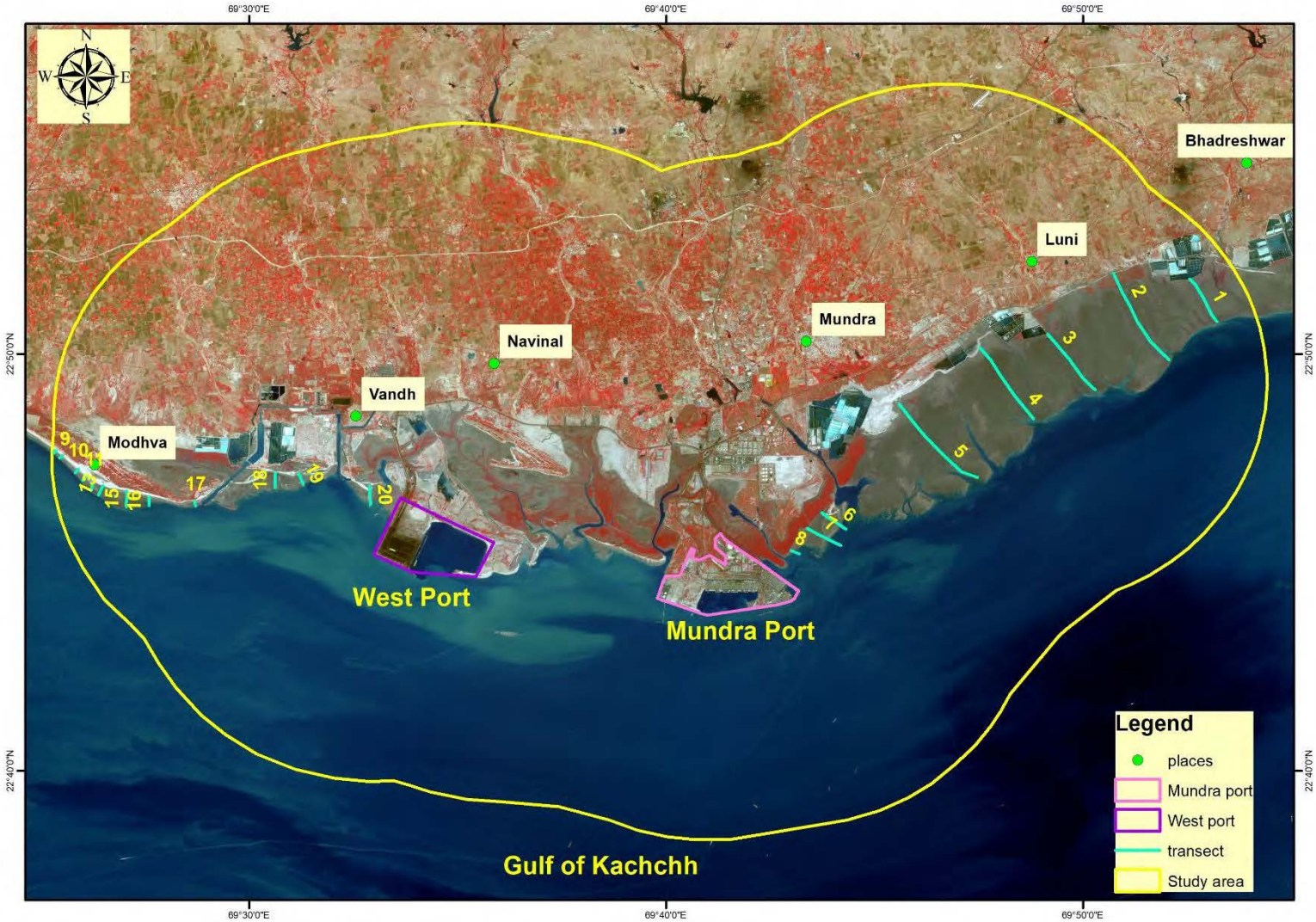


**Figure 4.6: Beach Profile of the study area**

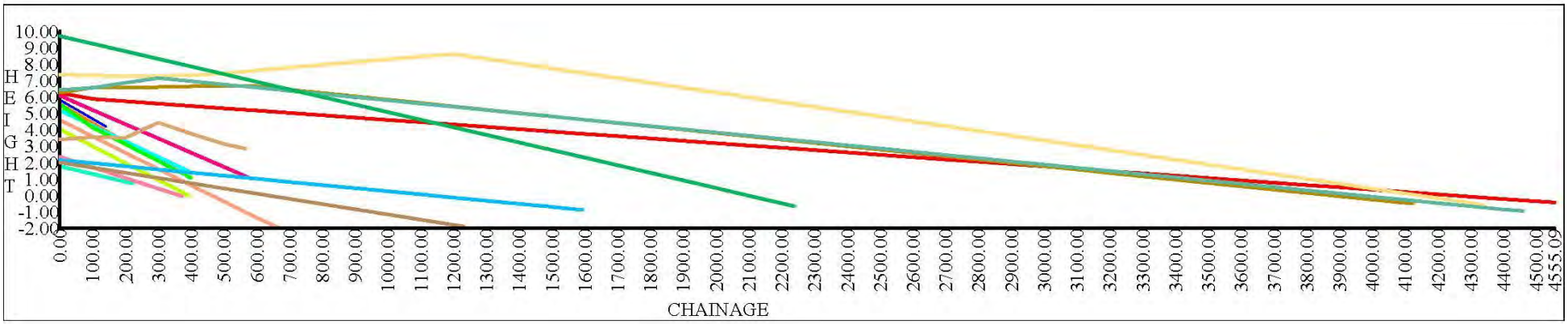


**Figure 4.7: Beach Profile at Different Locations**

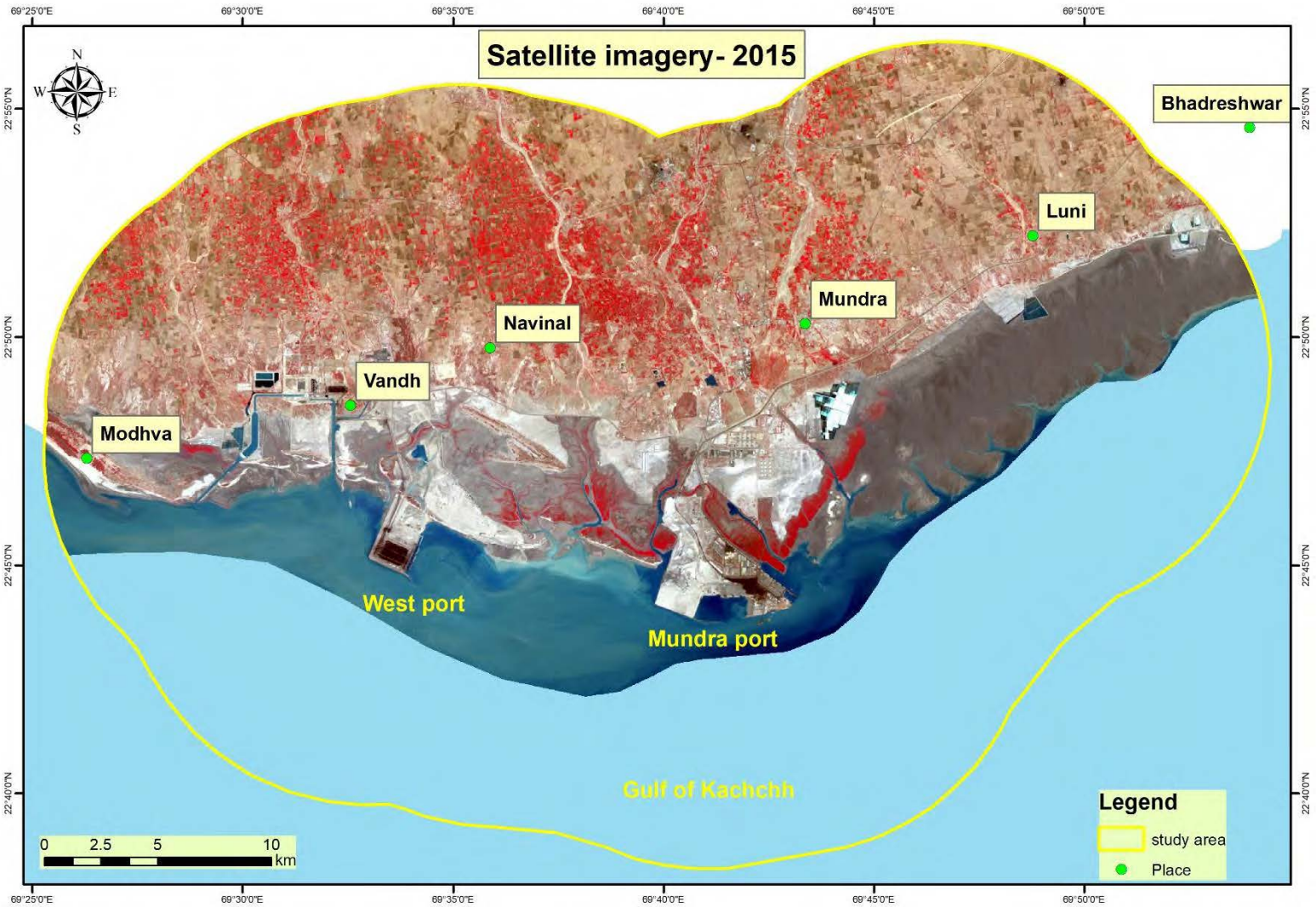


**Figure 4.8: Satellite image of the Study area during May 2015**

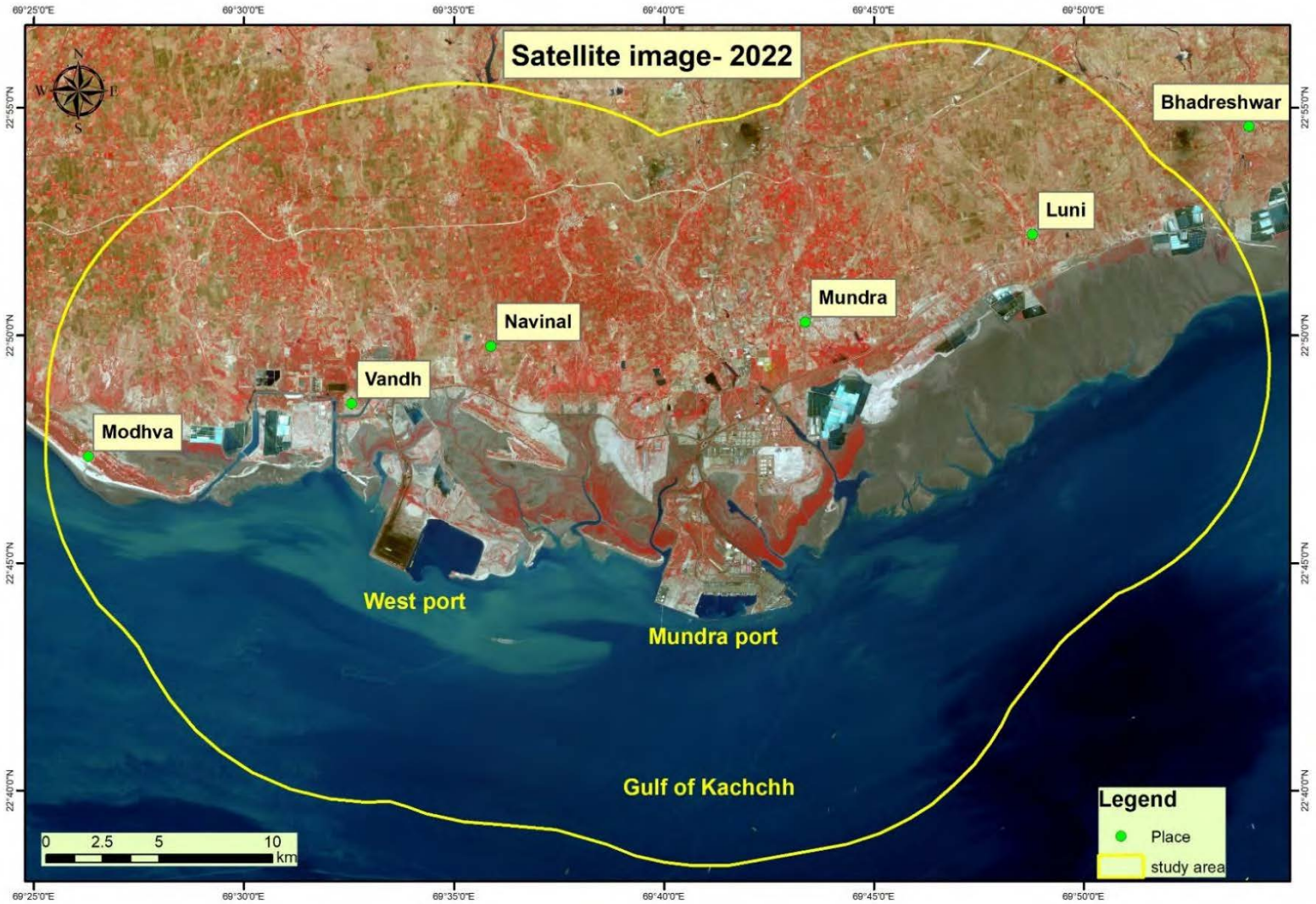


**Figure 4.9: Satelliteimage of the Study area during May 2022**


**Figure 4.10: :(a) Modhava Coast, (b) and (c) and (d) Western Coast (e) & (f) Eastern Coast of Adani Port.**

# 5. CONCLUSION

## 5.1. Shoreline Changes

The present study confirms the expediency of the image processing techniques and GIS tools applied on multi-temporal and multi-spectral images of different satellite sensors for assessment of the changes along the shoreline. As deduced from the results of both short-term and long-term shoreline assessment that the results are in conformity with that of the data obtained through in-situ measurements, DGPS survey and ground truthing for the shore profile along the Mundra coast. The Mundra coast has been subjected to several significant changes during the last one and half decades (2015–2022) within this 43-km coastal strip particularly from Modhva (west) to Luni (east), ranging from high accretion of 191.32 m/year to severe erosion of up to -165.19 m/year, at few parts of the coast, however, remained stable. Above value for both erosion and accretion may vary ±5m depending upon the time of the satellite imageries taken during high tide and low tide time.

The present study concludes that the shoreline at Mundra coastal region is under the impact of shoreline change with processes of accretion and erosion varying from time to time (Hitesh Patel, 2018). Process of erosion increased which includes some patches at Modhva coastal stretches, near the west port and some patches near mouth of Bocha Island on eastern side of Mundra port area whereas rest of the area observed accretion.

The predominant causes of shoreline changes are both natural as well as anthropogenic. Natural processes include wind and wave forces whereas man-made effects or artificial processes include the construction of marine structures and water control structures. It is revealed from the study that the setting of shorelines and the supply of sediments determines how the shoreline changes at a particular location (Jodhani *et. al.,* 2020). The conservation and management plan is indicated below:

## 5.2. Recommendations

- The process of erosion is highest along the edges (close to the waterfront) it could be controlled only by physical means by constructing appropriate civil engineering structures. Erosion control structures or constructing embankments of stones or any suitable material along the erosion site is strongly recommended if the problem is too heavy. The proposed embankment should be an eco-engineering design with a gentle slope of appropriate angle to the tidal action that will allow natural flushing while controlling erosion.

- Erosion, either man-made or natural is a major threat to intertidal habitats in the Gulf environment due to altered hydrological regimes and other natural causes. Observations carried out during the field surveys revealed those estuarine environments as well as many coastal stretches are facing erosion mainly due to high tidal amplitude. Hence, extensive surveys should be carried out to recommend suitable mitigation measures and to update the status of the biodiversity as well in order to estimate the level of physiographical impacts on the shoreline.

- Artificial coastal structures help in controlling coastal erosion and thereby enhance intertidal and sub-tidal biodiversity as they accelerate the reef-building process. Artificial reefs tend to last for decades supporting faunal components. Since such structures are built using natural materials (for example dead gastropods and bivalves) they are environment-friendly and in due course become natural. They attract diverse marine fauna within a short period with a high potential to enhance biodiversity. The same could be implemented in Adani Ports and Special Economic Zone Ltd (APSEZL) jurisdiction in consultation with the experts.

- 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 two or three years.

- Periodical monitoring, preferably once in 3 years, and comparison of results with baseline data to underline changes will pave way for the formulation of mitigation and conservation efforts. Periodical monitoring of shoreline configuration and mudflats will help to assess their health and detect shoreline changes. Assessment and earlier generated data could be used to check shoreline configuration in terms of short and long-term changes and its succession patterns.

- 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.

## References:

G.A.Thivakaran, Pranav J. Pandya, G.Thirumaran, and Devi Velusamy. 2015. "CONSERVATION AND MONITORING FOR NATURAL MANGROVE STANDS AT MUNDRA."

Himmelstoss, Emily A., Rachel E. Henderson, Meredith G. Kratzmann, and Amy S. Farris. 2018. "Digital Shoreline Analysis System (DSAS) Version 5.0 User Guide." Report 2018–1179. Open-File Report. Reston, VA. USGS Publications Warehouse. https://doi.org/10.3133/ofr20181179.

Hitesh B Patel, Subhash Bhandari. 2018. "Shoreline Change Analysis along Eastern Part of Kachchh Coast, Western India." *International Journal of Creative Research Thoughts(IJCRT))* 6 (1). https://doi.org/January 2018.

ICMAM. 2004. "Model Integrated Coastal and Marine Area Management Plan for Gulf of Kachchh." Department of Ocean Development, Ministry of Earth Sciences,ICMAM Project Directorate, Chennai, Government of India.

Jodhani, Keval, Pulkit Bansal, and Priyadarshna Jain. 2020. "Shoreline Change Observations in Gulf of Khambhat Using Satellite Images." *Available at SSRN 3552461*.

Kannan, Jayakumar, and S. Malarvannan. 2016. "Assessment of Shoreline Changes over the Northern Tamil Nadu Coast, South India Using WebGIS Techniques." *Journal of Coastal Conservation* 20 (December). https://doi.org/10.1007/s11852-016-0461-9.

Misra, Ankita, and Balaji Ramakrishnan. 2015. "A Study on the Shoreline Changes and LAND-Use/ Land-Cover along the South Gujarat Coastline." *Procedia Engineering* 116 (December): 381–89. https://doi.org/10.1016/j.proeng.2015.08.311.

NIO. 2009. "Marine Environmental Impact Assessment for Discharge Channel of 4000 MW Ultra Mega Power Project Near Mundra, Gulf of Kachchh." National Institute of Oceanography.

Sutikno, Sigit, Ari Sandhyavitri, Muhammad Haidar, and Koichi Yamamoto. 2017. "Shoreline Change Analysis of Peat Soil Beach in Bengkalis Island Based on GIS and RS." *International Journal of Engineering and Technology* 9 (January): 233–38. https://doi.org/10.7763/IJET.2017.V9.976.

Sweet, William (William VanderVeer), Robert Kopp E., Christopher P. Weaver, J. T. B. Obeysekera, Radley M. Horton, E. Robert (Edward Robert) Thieler 1965-, and Chris Eugene Zervas 1957-. 2017. "Global and Regional Sea Level Rise Scenarios for the United States." Edited by Center for Operational Oceanographic Products and Services (U.S.), NOAA technical report NOS CO-OPS ; 83, . https://doi.org/10.7289/v5/tr-nos-coops-083.

Tamassoki, E, H Amiri, and Z Soleymani. 2014. "Monitoring of Shoreline Changes Using Remote Sensing (Case Study: Coastal City of Bandar Abbas)." *IOP Conference Series: Earth and Environmental Science* 20 (June): 012023. https://doi.org/10.1088/1755-1315/20/1/012023.