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Half Yearly EC Compliance Report Submission - APSEZ, Mundra - MPT 1995 (Apr'20 to Sep'20)

Chiragsing Rajput <Chiragsing.Rajput@adani.com>

Wed 11/25/2020 12:05 PM

To: rowz.bpl-mef@nic.in <rowz.bpl-mef@nic.in>; eccompliance-guj@gov.in <eccompliance-guj@gov.in>
Cc: brnaidu.cpcb@nic.in <brnaidu.cpcb@nic.in>; westzonecpcb@yahoo.com <westzonecpcb@yahoo.com>; mefcc.ia3@gmail.com <mefcc.ia3@gmail.com>; monitoring-ec@nic.in <monitoring-ec@nic.in>; direnv@gujarat.gov.in <direnv@gujarat.gov.in>; ro-gpcb-kute@gujarat.gov.in <ro-gpcb-kute@gujarat.gov.in>; ms-gpcb@gujarat.gov.in <ms-gpcb@gujarat.gov.in>; Shalin Shah <Shalinm.Shah@adani.com>; Azharuddin Kazi <Azharuddin.Kazi@adani.com>; Bhagwat Sharma <Bhagwat.Sharma1@adani.com>; Mahendra Kumar Ghritlahre <Mahendra.Ghritlahare@adani.com>; Ashvin Kumar Patni <AshvinKumar.Patni@adani.com>; Dhanesh Tank <Dhanesh.Tank@adani.com>; Devendra Banthia <Devendra.Banthia@adani.com>; Ranjan Chaudri <Ranjan.Chaudri@adani.com>; Kaushal Singh <Kaushal.Singh@adani.com>; muruganrmudaliyar <muruganr.mudaliyar@adani.in>; Dilip Kumar Moolchandani <Dilip.Moolchandani@adani.com>; Ramesh Pant <ramesh.pant@adani.in>

1 attachments (14 MB)

1. EC Compliance Report_MPT-1995_Apr'20 to Sep'20.pdf;

एकीकृत क्षेत्रीय कार्यालय
Integrated Regional Office
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय,
Ministry of Environment, Forest & Climate Change,
भारत सरकार, भोपाल / Govt. of India, Bhopal.
26-11-20

adani

Ports and
Logistics

APSEZL/EnvCell/2020-21/091 **Date:** 25.11.2020

To
Deputy Director General of Forest (Central),
Ministry of Environment, Forest and Climate Change,
Regional Office (WZ), E-5, Kendriya
Paryavaran Bhawan, Arera Colony,
Link Road No. – 3, Bhopal – 462 016.
E-mail: rowz.bpl-mef@nic.in, eccomplinace-guj@gov.in

Sub : Half yearly Compliance report of Environment and CRZ Clearance for "Handling facility of General Cargo / LPG /Chemicals and their storage terminal at Navinal Island, Mundra taluka of Kutch district, Gujarat"

Ref : Environment and CRZ clearance granted to M/s Adani Ports & SEZ Limited vide letter dated 25th August, 1995 bearing no. J-16011/13/95-IA.III

Dear Sir,

Please refer to the above cited reference for the said subject matter. In connection to the same, it is to state that copy of the compliance report for the Environmental and CRZ Clearance for the period of April-2020 to September-2020 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**

Douglas Charles Smith
Chief Executive Officer
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) Zonal Officer, Regional Office, CPCB – Western Region, Parivesh Bhawan, Opp. VMC Ward Office No. 10, Subhanpura, Vadodara – 390 023
3) Member Secretary, GPCB – Head Office, Paryavaran Bhavan, Sector 10 A, Gandhi Nagar – 382 010
4) The Director, Forests & Environment Department, Block – 14, 8th floor, Sachivalaya, Gandhi Nagar – 382 010
5) Regional Officer, Regional Office GPCB (Kutch-East), Gandhidham, 370201

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Mundra, Kutch 370 421
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Ports and Logistics

Environmental Clearance Compliance Report

Multi-Purpose Jetty and Storage Facilities at Navinal Island, Mundra, Dist. Kutch, Gujarat

of

Adani Ports and Special Economic Zone Limited

For the Period of:

April-2020 to Sep-2020

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EC & CRZ Clearance Compliance Report

Half yearly Compliance report of Environment and CRZ Clearance for "Handling facility of General Cargo / LPG /Chemicals and their storage terminal at Navinal Island, Mundra taluka of Kutch district, Gujarat" issued vide letter no. J-16011/13/95-IA.III dated 25th Aug., 1995.

Sr. No.	Conditions	Compliance Status as on 30-09-2020
2(i)	All construction designs / drawings relating to various project activities should have the approval of the concerned State Government departments / Agencies.	Complied All construction and operation activities are being carried out in line with the CRZ recommendation and permissions granted. All construction and operation activities are being carried out in line with the CRZ recommendation and permissions granted.
2(ii)	To prevent discharge of bilge wastes, sewage and other liquid wastes from the oil tankers / ships into marine environment, adequate system for collection, treatment and disposal of liquid wastes including shore line installation and special hose connections for ships to allow for discharge of sewage must be provided.	Complied Ships berthing at Mundra Port comply with MARPOL regulations. No discharge such as bilge wastes, sewage or any other liquid wastewater is allowed into marine environment inside port limits. APSEZL does not receive sewage/liquid waste from ship. As a general practice APSEZ provide facility for receiving slop oil from vessels through hose connection with oil tankers. These tankers divert slop oil to Oil water separator system where water and oil particles are separated. Separated oil is being sold to authorized recycler /re-processor. However, no slope oil was received during the compliance period.
2(iii)	The quality of treated effluents, solid wastes, emissions and noise levels etc. must confirm to the standards laid down by the competent authorities including the central and State Pollution Control Boards under the Environment (Protection) act, 1986	Complied. ETP is provided to treat the wastewater/wash water. Also the sewage generated from port is being treated in designated ETP. Treated water is used for horticultural purposes. Quality of treated water confirm to the standard laid down by Gujarat Pollution Control Board.

Location	Capacity	Quantity of Wastewater (Avg. from Apr'20 to Sep'20)	Type of ETP / STP

Sr. No.	Conditions	Compliance Status as on 30-09-2020
	whichever are more stringent.	

LT	265 KLD	82 KLD	Activated Sludge

However there is some minor modification work is going on in ETP for biological treatment from Dec'19. During this time entire effluent + sewage is being sent to CETP operated by MPSEZ Utilities Pvt. Ltd. (MUPL) for treatment and final disposal on land for horticulture purpose within APSEZ premises. The same has already been informed to the state pollution control board. The details of the same is attached as **Annexure – 1**.

The treated water from CETP is being utilized on land for horticulture purpose within APSEZ premises after achieving permissible norms prescribed in Consent order. Summary of CETP treated water analysis results during compliance period as mentioned below.

Parameter	Unit	Min	Max	Perm. Limit[$]
pH	--	7.68	7.88	6.0 – 9.0
SS	mg/L	41	59	100
TDS	mg/L	1730	2078	2100
COD	mg/L	165	249	250
BOD	mg/L	32	68	100
Ammonical Nitrogen	mg/L	23.1	45.18	50

The quality of marine water, treated effluents, air emissions and noise levels are being regularly analyzed by NABL accredited and MoEF&CC approved agency. Please refer **Annexure – 2** for detailed analysis reports. Approx. INR 8.46 Lakh is spent for all environmental monitoring activities during the FY 2020-21 (Till Sep'20).

The environmental monitoring within Adani Ports & SEZ Limited has been stopped considering COVID-19 Pandemic lockdown from 23rd March, 2020 and restarted on 12th May, 2020 and the same has already been intimated to the regulatory authorities vide our e-mail dated 06.04.2020 & 13.05.2020 respectively. The details of the same is attached as **Annexure – 3**.

Waste Management – APSEZ has adopted 5R concept for

Sr. No.	Conditions	Compliance Status as on 30-09-2020
		environmentally sound management of different types of solid & liquid wastes. Please refer below details about management of each type of waste. **Municipal 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. Sanghi Industries Ltd., Kutch and/or M/s. Ambuja Cement Ltd., Kodinar) for Co-processing as RDF (Refused Derived Fuel). **Hazardous Waste**: • E – Waste & Used Batteries are being sold to GPCB registered recyclers namely M/s. e-Processing House and Sabnam Enterprise respectively. • Solid Hazardous Waste is being disposed through co-processing through common facility i.e. M/s. Saurshtra Enviro Projects Pvt. Ltd., Bhachau and/or cement industries of Sanghi Industries Ltd., Kutch and/or Ambuja Cement Ltd., Kodinar. Used/Waste Oil is being sold to GPCB authorized recyclers / re-processors namely M/s. Western India Petrochem Industry, Bhavnagar. • Solid hazardous waste i.e. Tank bottom sludge is being disposed through co-processing through common facility i.e. M/s. Saurshtra Enviro Projects Pvt. Ltd., Bhachau and/or cement industries of Ambuja Cement Ltd., Kodinar and/or being sold to authorized recycler namely M/s. Mundra Oil, Mundra. • Downgrade chemicals generated from cleaning of storage tanks / pipelines are being sold to authorized solvent recovery facilities namely M/s. Acquire Chemicals, Ankleshwar however during the compliance period, there was no disposal of downgrade chemicals. • Slop Oil received from vessels is treated to separate

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30-09-2020</th></tr>
<tr><td></td><td></td><td>
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 Petrochem Industry, Bhavnagar and water is sent to ETP for further treatment. However during the compliance period, there was no disposal of Slope Oil.

Details of permissions / agreements of hazardous waste authorized vendors were submitted along with half yearly EC Compliance Report for the period Apr'18 to Sep'18.

The following table summarizes the waste management practice (from Apr'20 to Sep'20) for different types of wastes at APSEZ:
<table>
<tr><th>Type of Waste</th><th>Quantity in MT</th><th>Disposal method</th></tr>
<tr><td colspan="3">Hazardous Waste</td></tr>
<tr><td>Pig Waste</td><td>3.90</td><td rowspan="3">Co-processing at cement industries</td></tr>
<tr><td>Oily Cotton waste</td><td>24.82</td></tr>
<tr><td>ETP Sludge</td><td>Nil</td></tr>
<tr><td>Tank Bottom Sludge</td><td>Nil</td><td>Co-processing at cement industries and/or Sell to registered recycler</td></tr>
<tr><td>Used / Spent Oil</td><td>30.935</td><td rowspan="3">Sell to registered recycler</td></tr>
<tr><td>Discarded Containers</td><td>3.135</td></tr>
<tr><td>Battery Waste</td><td>Nil</td></tr>
<tr><td>Bio Medical Waste</td><td>2.224</td><td>To approved CBWTF Site</td></tr>
<tr><td colspan="3">Municipal Solid Waste</td></tr>
<tr><td>Recyclables</td><td>487.642</td><td>After recovery sent for recycling / Reuse within premises</td></tr>
<tr><td>Refuse Derived Fuel</td><td>61.86</td><td>Co-processing at Cement Industries</td></tr>
<tr><td>Wet Waste (Food waste + Organic waste)</td><td>458.565</td><td>Converted to Manure for Horticulture use / Biogas for cooking purpose</td></tr>
</table>

<u>Ambient Air Quality</u> (twice in a week) and <u>Noise</u> (once in a month) monitoring are being carried out by NABL accredited and MoEF&CC approved agency namely M/s. Pollucon Laboratories Pvt. Ltd. Quality of Ambient Air and Noise level confirm to the standard laid down by Gujarat Pollution Control Board. Summary of the same for duration from Apr'20 to Sep'20 is mentioned below.
</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30-09-2020</th></tr>
<tr><td></td><td></td><td>Total Ambient Air & Noise Sampling Locations: 4 Nos.
<table>
<tr><th>Parameter</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit$</th></tr>
<tr><td>PM_{10}</td><td>$\mu g/m^3$</td><td>92.46</td><td>43.54</td><td>100</td></tr>
<tr><td>$PM_{2.5}$</td><td>$\mu g/m^3$</td><td>53.6</td><td>16.7</td><td>60</td></tr>
<tr><td>SO_2</td><td>$\mu g/m^3$</td><td>32.54</td><td>6.18</td><td>80</td></tr>
<tr><td>NO_2</td><td>$\mu g/m^3$</td><td>42.67</td><td>13.47</td><td>80</td></tr>
<tr><th>Noise</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit</th></tr>
<tr><td>Day Time</td><td>dB(A)</td><td>74.1</td><td>58.3</td><td>75</td></tr>
<tr><td>Night Time</td><td>dB(A)</td><td>69.8</td><td>58.7</td><td>70</td></tr>
</table>
$ as per NAAQ standards, 2009
Values recorded confirms to the stipulated standards.</td></tr>
<tr><td>2(iv)</td><td>Adequate provision for infrastructure facilities such as water supply, roads, sanitation etc. should be ensured so as to avoid environmental degradation in the surrounding areas. These facilities should be brought into existence during the construction phase and will remain in existence thereafter as part of the infrastructure build up in the area for local developmental purposes.</td><td>Complied.
Construction activity is already completed. Adequate infrastructure facility was provided to labours during construction phase and those are in existence.

The facility for drinking water, toilet and rest shelter are provided for the dignity of operation labours. Photographs of the same were submitted along with the compliance report submission for the period Oct'16 to Mar'17.</td></tr>
<tr><td>2(v)</td><td>Adequate noise control measures should be ensured in various project activities and due to increase in the traffic which is likely to take place during construction and operational phases.</td><td>Complied.
Construction phase is completed.
For operation phase, following noise control measures are taken:
All DG sets are installed with acoustic enclosure.
Proper maintenance of equipments / plant machineries are being done on regular basis.
Green Belt has been developed at road sides.
Traffic control measures such as signage, speed regulation, traffic guides etc. are in place to reduce the unnecessary honking by cargo vehicles.</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30-09-2020</th></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td>2(vi)</td><td>The water quality parameters such as dissolved oxygen, ammonical nitrogen and other nutrients etc. should be measured at regular intervals to ensure adherence to the prescribed standards of water qualities. Suitable ground water monitoring should also be undertaken around the sludge lagoons and regular reports to be submitted to the Ministry for evaluation.</td><td>Complied.
ETP having 265 KLD capacity is provided for treatment of wastewater. Treated water is used for horticulture purpose. The watery sludge is transferred to sludge drying bed, where the excess wastewater is recirculated to ETP. During compliance period ETP was under modification. Please refer condition no. 2 (iii) for further details.

Third party analysis of the treated water is being carried out twice in a month by NABL accredited and MoEF&CC approved agency namely M/s. Pollucon Laboratories Pvt. Ltd. Summary of the same for duration of Apr'20 to Sep'20 is mentioned in compliance condition no. 2(iii) above.

<u>Marine Monitoring:</u>
Marine monitoring is being carried out once in a month by NABL accredited and MoEF&CC approved agency namely M/s. Pollucon Laboratory Pvt. Ltd. Summary of the same for duration from Apr'20 to Sep'20 is mentioned below. Monitoring Reports are attached as Annexure – 2 for the same.

Total Sampling Locations: 09 Nos.
<table>
<tr><th rowspan="2">Parameter</th><th rowspan="2">Unit</th><th colspan="2">Surface</th><th colspan="2">Bottom</th></tr>
<tr><th>Max</th><th>Min</th><th>Max</th><th>Min</th></tr>
<tr><td>pH</td><td>--</td><td>8.29</td><td>8.25</td><td>8.25</td><td>8.19</td></tr>
<tr><td>TSS</td><td>mg/L</td><td>245</td><td>212</td><td>270</td><td>216</td></tr>
<tr><td>BOD (3 Days @ 27 °C)</td><td>mg/L</td><td>4.1</td><td>3.2</td><td>ND*</td><td>ND*</td></tr>
<tr><td>DO</td><td>mg/L</td><td>6.1</td><td>5.9</td><td>5.9</td><td>5.7</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>36.8</td><td>35.5</td><td>37.1</td><td>35.7</td></tr>
<tr><td>TDS</td><td>mg/L</td><td>38280</td><td>36570</td><td>38554</td><td>36724</td></tr>
</table>
*ND = Not Detectable

<u>Ground Water Monitoring:</u>
There are no sludge lagoons however, to monitor the ground water quality, bore wells are provided at various location in the port and SEZ areas. Third party analysis of the ground water is being carried out twice a year by NABL accredited and MoEF&CC approved agency namely M/s. Pollucon Laboratories Pvt. Ltd. Summary of the same for duration of Apr'20 to Sep'20 is mentioned below.</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30-09-2020</th></tr>
<tr><td></td><td></td><td>Sampling Locations: 5 Nos.
<table>
<tr><th>Parameter</th><th>Unit</th><th>Minimum</th><th>Maximum</th></tr>
<tr><td>pH</td><td>-</td><td>8.31</td><td>7.10</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>21.00</td><td>2.10</td></tr>
<tr><td>Oil & Grease</td><td>mg/L</td><td>ND*</td><td>ND*</td></tr>
<tr><td>Hydrocarbon</td><td>mg/L</td><td>ND*</td><td>ND*</td></tr>
<tr><td>Lead as Pb</td><td>mg/L</td><td>0.36</td><td>ND*</td></tr>
<tr><td>Arsenic as As</td><td>mg/L</td><td>ND*</td><td>ND*</td></tr>
<tr><td>Nickel as Ni</td><td>mg/L</td><td>ND*</td><td>ND*</td></tr>
<tr><td>Total Chromium as Cr</td><td>mg/L</td><td>0.06</td><td>ND*</td></tr>
<tr><td>Cadmium as Cd</td><td>mg/L</td><td>0.03</td><td>ND*</td></tr>
<tr><td>Mercury as Hg</td><td>mg/L</td><td>ND*</td><td>ND*</td></tr>
<tr><td>Zinc as Zn</td><td>mg/L</td><td>0.65</td><td>0.09</td></tr>
<tr><td>Copper as Cu</td><td>mg/L</td><td>ND*</td><td>ND*</td></tr>
<tr><td>Iron as Fe</td><td>mg/L</td><td>4.85</td><td>0.11</td></tr>
<tr><td>Insecticides/Pesticides</td><td>--</td><td>Absent</td><td>Absent</td></tr>
<tr><td>Depth of Water Level from GL</td><td>meter</td><td>2.50</td><td>1.75</td></tr>
</table>
*ND = Not Detectable

Please refer Annexure – 2 for detailed analysis reports. Approx. INR 8.46 Lakh is spent for all environmental monitoring activities during the FY 2020-21 (Till Sep'20).</td></tr>
<tr><td>2(vii)</td><td>Adequate culverts should be provided for smaller creeks so that breeding grounds for crabs, mud snappers and other marine organisms are not cut off by road construction activities.</td><td>Complied.

Adequate culverts are provided on prominent creek system named as (1) Kotdi (2) Baradimata (3) Navinal (4) Bocha (5) Mundra (Oldest port (Juna Bandar) leading to Bhukhi river)

All above creeks are in existence allowing free flow of water and there is no filling or reclamation of any creek area. APSEZL has so far constructed 19 culverts having total length of approx. 1100 m with total cost of INR 20 Crores. Apart from that three RCC Bridges have been constructed over Kotdi creek with total length of 230 m and cost of INR 10 Crores. Photographs of the same were submitted as part of compliance report submission for the duration of Apr'17 to Sep'17.</td></tr>
<tr><td>2(viii)</td><td>A hundred meter wide mangrove belt should be created all along the west of Navinal Creek till its junction up to new road. Green belt of 50 M width should also be provided</td><td>Complied.

24 hectare of Mangrove afforestation was carried out with a cost of INR 25.00 Lac at west of Navinal creek. All Mangrove plantations were done in consultation with Dr. Maity, Mangrove consultant of India.</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 30-09-2020
	all along the periphery of the plant site and along the roads, storage tanks etc. at 1500 trees per hectare. All details regarding the Mangrove belt and other afforestation work must be worked out in consultation with the State Forest Department, and details sent to the Ministry.	Green belt was developed 58.26 ha. Total 118792 trees were planted with the density of 2039 trees per hectare within the port area. To enhance the marine biodiversity, till date APSEZ has carried out mangrove afforestation in 2890 ha. area across the coast of Gujarat. Total expenditure for the same till date is INR 832 lakh. So, far APSEZ has developed 469 ha. area as greenbelt with plantation of more than 8.82 Lacs saplings within the APSEZ area. Details on mangroves afforestation & Green belt development carried out by APSEZ till date is annexed as **Annexure – 4**.
2(ix)	Arrangements should be made for ensuring fresh water availability for various project related activities. Special water harvesting programs should be undertaken in the project impact area. Details of these activities should be reported to the Ministry.	Complied. During the project phase, GWIL was the source of water to ensure fresh water availability. Present source of water for various project activities is desalination plant of APSEZ and/or Narmada water through Gujarat Water Infrastructure Limited. Average water consumption for entire APSEZ area is 4.3 MLD during compliance period i.e. Apr'20 to Sep'20. Groundwater recharge cannot be done at the project site since the entire project is in the intertidal / sub tidal areas. Rain water within project area is managed through storm water drainage. We have installed Rain water recharge bore well (4 Nos.) within our township to recharge ground water. Details of the same were submitted along with half yearly EC compliance report for the period Apr'19 to Sep'19. During last compliance period Approx. 6.5 ML of rain water has been recharged to increase the ground water table. We have also connected roof top rain water duct of operational building (Tug berth building within MPT) with u/g water tank for utilization of collected rain water for gardening / horticulture purpose. Details of the same were submitted along with EC Compliance report for the period Oct'18 to Mar'19.

Sr. No.	Conditions	Compliance Status as on 30-09-2020
		However, APSEZ has carried out rainwater harvesting activities in the nearby villages for benefit of the locals. Following measures are taken for the same during the year 2011 – 13 and the same have benefited to the local farmers. 1. Pond deepening activities at villages 2. 18 check dams were constructed under the 'Sardar Patel Sahbhagi Jalsanchay Yojna' Total cost of these efforts was approx. INR 320 lakh. 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 Government Figures. **Our water conservation work is as Below.** • A large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department) • Ground recharge activities (pond deepening work for more than 52 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 • Roof Top Rain Water Harvesting 54 Nos. which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family. • Recharge Bore well 75 Nos which is best ever option to conserve ground water • Drip Irrigation 823 Farmers benefitted in coordination with Gujrat Green Revolution Company • Participatory Ground Water Management in ten villages with holistic approach for Kankavati Sandstone Aquifer Programme • As per Average Calculation more than 450 hac. area benefitted with increased in 109 MCFT water Quantity. With the objective of to preserve the rain water 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. Under UTHHAN MODEL VILLAGE PROJECT, Salinity ingress issue is well taken with pond deepening, recharge bore well

Sr. No.	Conditions	Compliance Status as on 30-09-2020
		technique and roof top rain water harvesting. Total ground water recharged due to this project 1878 ML. Please refer **Annexure – 5** for full details of CSR activities carried out by Adani Foundation in the Mundra region. Budget for CSR Activity for the FY 2020-21 is to the tune of INR 1429.3 lakh. Out of which, Approx. INR 416.7 lakh are spent during the year FY 2020-21 (Till Sep'20).
2(x)	While filling the storage tanks, compatibility of the chemicals should be ensured for chemical safety. Since 5000 MT capacity is proposed to be created for cryogenic conditions, necessary HAZOP study should be initiated and submitted to the Ministry within three months. Calculations carried out on the basis of EFFECT MODEL for this storage should be rechecked for various accident scenarios. Keeping in view the safety aspects, Horton spheres of 1250 MT capacity each should be preferred.	Complied. Risk assessment study was carried out by M/s. Comet Consultancy Services in January 1995 as a part of EIA for storage of various chemicals in tanks for chemical safety and the same was submitted to MoEF&CC while processing EC application. Risk assessment study was carried out by iFluids Engineering for handling and storage of LPG in three parts as mentioned below. 1. QRA for LPG Jetty Area 2. QRA for LPG Pipeline 3. QRA for LPG Tank farm A copy of the same was submitted as part of compliance report for the duration of Apr'17 to Sep'17. Recommendations of the risk assessment have been implemented as part of the construction activity and details of the same were submitted along with half yearly compliance report for the period Oct'18 to Mar'19. Implementation report of risk assessment recommendations during operational activity was submitted along with last half yearly compliance report for the period Oct'19 to Mar'20.
2(xi)	The measures suggested by the Gujarat State Pollution Control Board in February, 1995 while according "No Objection Certificate" should be strictly followed and authorization certificate	Complied. Consent to operate (CC&A) has been renewed from GPCB vide consent no. AWH-88317 valid till 20th November, 2021. The same was submitted along with compliance submission for the period of Oct'16 to Mar'17. Consent to Establish (CtE) and Consent to Operate (CtO) are

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30-09-2020</th></tr>
<tr><td></td><td>required for converting NOC into "consent to operate" should be submitted within three months.</td><td>obtained from GPCB and renewed/amended from time to time as per the progress of the project activity. The present in-force CtE / CtO are mentioned below.

<table>
<tr><th>Sr. No.</th><th>Permission</th><th>Project</th><th>Ref. No. / Order No.</th><th>Valid till</th></tr>
<tr><td>1</td><td>CtO – Renewal</td><td>Mundra Port Terminal</td><td>AWH-83561</td><td>20.11.2021</td></tr>
<tr><td>2</td><td>CtO - Amendment</td><td>Mundra Port Terminal</td><td>WH-88317</td><td>20.11.2021</td></tr>
<tr><td>3</td><td>CtO - Amendment</td><td>Mundra Port Terminal</td><td>GPCB/CCA-Kutch -39(5)/ ID-17739/473575</td><td>20.11.2021</td></tr>
<tr><td>4</td><td>CtO - Amendment</td><td>Mundra Port Terminal</td><td>H-98086</td><td>20.11.2021</td></tr>
<tr><td>5</td><td>CtO - Amendment</td><td>Mundra Port Terminal</td><td>H-105708</td><td>20.11.2021</td></tr>
<tr><td>6</td><td>CtE – Amendment</td><td>WFDP</td><td>17739 / 15618</td><td>18.05.2027</td></tr>
</table>

The permissions (Sr. No. 1 to 5) were submitted along with half yearly compliance report for the period Oct'18 to Mar'19 & Oct'19 to Mar'20 and the copy of updated CtE-Amendment (Sr. No. 6) is attached as Annexure – 6.</td></tr>
<tr><td>2(xii)</td><td>For ensuring the acceptance of the project by the local people, a Resolution of the Official Panchayat of the Region should be obtained offering their concurrence in writing by the project proponents and submitted to the Ministry by 31st October, 1995.</td><td>Complied.

Resolution from the Panchayat has been obtained and submitted to the Ministry of Environment, Forest & Climate Change on 31st July, 2012.</td></tr>
<tr><td>2(xiii)</td><td>A permanent staff structure should be created with latest R&D facilities and suitable equipments for environmental and forestry activities through creation of Environmental cell. Adequate funds should</td><td>Complied.

APSEZL has a well structured Environment Management Cell, staffed with qualified manpower for implementation of the Environment Management Plan at site. Site team report to General Manager (Environment) at Corporate, who heads the Environment Management Cell who directly reports to the top management. Details of the same were submitted along with last Half Yearly compliance report for the period Oct'19 to Mar'20. And there is no further change.</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 30-09-2020
	be earmarked for this cell.	Budget for environmental management measures (including horticulture) for the FY 2020-21 is to the tune of INR 1401 lakh. Out of which, Approx. INR 679 lakh are spent during this compliance period. Detailed breakup of the expenditures for the past 3 years is attached as **Annexure – 7**.
2(xiv)	Landsat imagery should be obtained on a continuous basis covering various seasons to study the change in the land use pattern due to the project and project related activities.	Complied. Project is in operation phase since many years and there is no change in the land use pattern during the period from Oct'17 to Mar'18.
2(xv)	With a view to providing adequate job opportunities to local people, facilities for technical training and development of skills should be made available in consultation with the state Harbour Department, and to this end it must be ensured that there is allocation of adequate funds. The local people should be involved in the afforestation program proposed for the scheme to ensure public participation and success of vegetation programmes.	Complied. • Adani Skill Development Center (ASDC), Mundra & Bhuj is providing skill development training to the locals for Soft Skill, Technical Training and Carrier Guidance & knowledge based training. • Adani Skill Development Centre (ASDC) is playing a pivotal role in implementing sustainable development in the state. The objective of this Centre is to impart different kinds of training to the students of 10th, 12th, college or ITI from surrounding areas. • During this year Total 440 people trained in various trainings to enhance socio economic development. • 324 students Enrolled in Online Training. • The students of DDU-GKY (GDA) creating awareness regarding COVID-19 in their own village through various activity. 27students get placement in GAIMS (sodexo), Alilance Hospital, Shreeji Hospital, Bhuj Fire Academy, Divine Hospital etc. 3 students are working in COVID-19 Hospital. • Preference is given to local people for employment based on their qualification and experience. • All Mangrove plantations are done in consultation with GUIDE and Local forest dept. • 24 hectare of mangrove afforestation at Mundra was done through active participation of local fishermen at the cost of INR 25.0 Lac. • 4830 Man-days work was provided over 236 Fishermen family during this six months. The Foundation has also supported Pagadiya fishermen as painting laborers by

Sr. No.	Conditions	Compliance Status as on 30-09-2020
		providing them with employment and job in various field. Details on skill development training imparted during financial year of 2020-21 by Adani Foundation are enclosed as **Annexure – 5**.
2(xvi)	Prior clearance must be taken under the Hazardous Chemicals (manufacture, import and storage) Rules 1989, as amended up to date, from the competent authority. Such clearance will have to be taken prior to the commissioning of the project.	Complied. Permissions for storage of Hazardous Chemicals were obtained from MSIHC against the application made on 01.05.1999 through letter reference no. Kutch-HAZ/CHEM-23(2)/9713 while chemical storage permission against application made on 18.09.1999 was provided through letter reference no. Kutch-HAZ/CHEM-23(2)/9711. Approval from the PESO is taken for import of hazardous chemicals as per License No. P/HQ/GJ/15/2050 (P12369) dated 18/07/2016 which is valid up to 31/12/2024 for Class A & Class C petroleum. A copy of the same was submitted along with the compliance report submission for the period of Oct'16 to Mar'17 and there is no further change. Please refer point no. 2 (xi) regarding GPCB permissions. License under Factories Act is taken dated 07.10.1998 and last renewed vide license no. 0102 on 20.04.2017 (Sr. No. 70707) is valid up to 31.12.2020. Copy of valid factory license is attached as **Annexure – 8**.

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 30-09-2020</th></tr>
<tr><td>2(xvii)</td><td>A detailed progress report should be submitted to the Ministry on each of the conditions stipulated above in respect of the follow-up action taken every six months. The first of these two reports should be sent in by 31.3.1996.</td><td>Complied.

Compliance report of EC conditions is uploaded regularly. Last compliance report including results of monitoring data for the period of Oct'19 to Mar'20 was submitted to Regional Office of MoEF&CC @ Bhopal, Zonal Office of CPCB @ Baroda, GPCB @ Gandhinagar & Gandhidham and Dept. of Forests & Env., Gandhinagar vide our letter dated 19.05.2020. Copy of the same is also available on our web site https://www.adaniports.com/ports-downloads. A soft copy of the same was also submitted through e-mail on 19.05.2020 to all the concern authorities. Please refer below for the details regarding past six compliance submissions.

<table>
<tr><th>Sr. No.</th><th>Compliance period</th><th>Date of submission</th></tr>
<tr><td>1</td><td>Apr'17 to Sep'17</td><td>01.12.2017</td></tr>
<tr><td>2</td><td>Oct'17 to Mar'18</td><td>29.05.2018</td></tr>
<tr><td>3</td><td>Apr'18 to Sep'18</td><td>30.11.2018</td></tr>
<tr><td>4</td><td>Oct'18 to Mar'19</td><td>31.05.2019</td></tr>
<tr><td>5</td><td>Apr'19 to Sep'19</td><td>28.11.2019</td></tr>
<tr><td>6</td><td>Oct'19 to Mar'20</td><td>20.05.2020</td></tr>
</table>
</td></tr>
<tr><td>2(xviii)</td><td>Financial requirements for implementation of the above indicated environmental mitigative measures should be worked out and included in the total cost of the project. Provision for enhancing this allocation in future should also be made.</td><td>Complied.

Separate budget for the Environment protection measures is earmarked every year. All the expenses are recorded in advanced accounting system of the organization. Details regarding environmental expenditures are as per compliance condition no. 2(xiii) above.</td></tr>
</table>

Annexure – 1

O/C

adani
Ports and Logistics

PCB ID: 17739

APSEZL/EnvCell/2020-21/073

Date: 14.09.2020

To,
Regional Officer
Gujarat Pollution Control Board (East – Kutch),
Gandhidham,
Kutch – 370201.

Subject: Intimation regarding revised time line for completion of Effluent Treatment Plant modification work

Reference:

1. **CC&A Order No. AWH – 83561, dated 09.01.2017, Valid till 20.11.2021**
2. **Our letter dated 10.06.2020 (Annexure – 1)**

Dear Sir,

With reference to above stated subject and references, we have submitted tentative time bound action plan for completion of ETP modification work till 15th Sep, 2020 considering ease of lock down and availability of manpower to complete the work vide our letter dated 10th June, 2020.

However due to heavy incessant rainfall in Mundra region during last one month and non-availability of adequate labour strength, the modification work could not be completed as per given time line. Hence the revised time line for completion of ETP modification work considering all the aspects is to be considered as 15th November 2020.

Till the completion of above said work, kindly allow us to discharge industrial effluent + domestic sewage generated from APSEZ, Mundra (PCB ID: 17739) in to CETP operated by M/s. MPSEZ Utilities Ltd. (PCB ID: 10605) for treatment and disposal.

However, we shall try to complete the work on top priority and same shall be intimated to your good office as and when this activity is completed and ETP is re-commissioned.

Thanking you,
For, Adani Ports and Special Economic Zone Limited

Shalin Shah
(Head – Environment)

CC To:
Unit Head (Kutch), Gujarat Pollution Control Board, Gandhinagar – 382010.

15-09-2020

Received
Gujarat Pollution Control Board
Regional Office
Kutch (East)

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

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

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

Annexure – 2

"HALF YEARLY ENVIRONMENTAL MONITORING REPORT"

FOR

ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED
TAL: MUNDRA, KUTCH, MUNDRA – 370 421

MONITORING PERIOD: APRIL 2020 TO SEPTEMBER 2020

PREPARED BY:

POLLUCON LABORATORIES PVT.LTD.

**PLOT NO.5/6 "POLLUCON HOUSE", OPP. BALAJI INDUSTRIAL SOCIETY,
OLD SHANTINATH SILK MILL LANE, NEAR GAYTRI FARSAN MART,
NAVJIVAN CIRCLE, UDHANA MAGDALLA ROAD, SURAT-395007.
PHONE/FAX – (+91 261) 2455 751, 2601 106, 2601 224.
E-mail: pollucon@gmail.comweb: www.polluconlab.com**

TC - 5945 **ISO 9001:2015** **ISO 14001:2015** **OHSAS 18001:2007**

MARINE WATER MONITORING SUMMARY REPORT

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.25	8.20	8.27	8.21	8.26	8.19	8.27	8.21	8.25	8.19	IS3025(P11)83Re.02
2	Temperature	oC	30.9	30.8	31.1	30.8	31.5	31.1	30.6	30.4	30.7	30.4	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	156	174	174	190	186	210	208	225	220	241	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.3	Not Detected	3.6	Not Detected	3.4	Not Detected	3.1	Not Detected	3.0	Not Detected	IS 3025 (P44)1993Re.03Edition 2.1
5	Dissolved Oxygen	mg/L	6.1	5.9	5.9	5.7	5.9	5.8	5.9	5.7	5.9	5.6	IS3025(P38)89Re.99
6	Salinity	ppt	34.7	35	35.6	35.2	36	36.3	36.2	36.5	36.5	36.7	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/ L	8.1	6.12	4.37	5.28	4.18	4.32	3.76	3.53	3.17	2.94	IS3025(P34)88
9	Nitrite as NO_2	µmol/ L	0.74	0.58	0.49	0.31	0.64	0.52	0.94	0.78	0.68	0.52	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/ L	3.16	3.20	2.68	2.44	3.16	3.1	2.63	2.51	2.53	2.31	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/ L	1.36	1.17	1.94	1.73	2.44	2.28	1.87	1.63	1.6	1.39	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/ L	12.00	9.90	7.54	8.03	7.98	7.94	7.33	6.82	6.38	1.39	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	5.3	Not Detected	9.5	Not Detected	12	Not Detected	10	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	35790	36170	36649	36274	36948	37204	37294	37450	37446	37638	IS3025(P16)84Re.02
15	COD	mg/L	19	Not Detected	21	Not Detected	25	19.0	23.4	18	26	19.0	APHA(22nd Edi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.68	2.61	3.41	2.5	3.04	2.45	2.83	2.61	2.72	2.5	APHA (22nd Edi) 10200-H
16.2	Phaeophytin	mg/m	0.7	2.1	1.2	2.2	1.82	2.29	2.18	2.02	1.87	2.27	APHA (22nd Edi) 10200-

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. ArunBajpai
Lab Manager (Q)

		^{3}											H
16.3	Cell Count	No. x 10^3/L	172	96	150	78	142	80	136	92	138	106	APHA (22nd Edi) 10200-H
16.4	Name of Group Number and name of group species of each group	--	*Synedra sp. Thallasiothrix sp. Nitzschia sp. Biddulphia sp.* --	*Cheatoceros us sp. Skeletonema sp. Rhizosoleni a sp.* -- --	*Navicula sp. Thallasionema sp. Rhizosolenia sp. Biddulphia sp.*	*Thallasiothrix sp. Coscinodiscus sp. Ceratilem*	Nitzschia sp. Thallasionema sp. Biddulphia sp. Rhizosolenia sp. --	Navicula sp. Pleurosigma sp. Coscinodiscus sp. -- --	*Rhizosoleni a sp. Coscinodiscus sp. Pleurosigma sp. Nitzschia sp.*	*Navicula sp. Thallasiosira sp. Synedra sp.*	*Nitzschia sp. Thallasionema sp. Ceratium Biddulphia sp. Cyclotella sp.*	*Fragillaria sp. Rhizosoleni a sp. Coscinodiscus sp.*	APHA (22nd Edi) 10200-H
C	**Zooplanktons**												
17.1	Abundance (Population)	noX10^3 / 100 m^3	40		32		27		22		23		APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Ostracods Gastropods Copepods --		Hydroloans Polychaetes Amphipods Molluscans		Polychaetes Gastropods -- --		Hydrodictyons Polychaetes Bivalves Mysids		Polychaetes Chaetognathes Foraminiferans Decapods		APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.45		3.1		3.15		3.10		3.1		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**												
18.1	Total Bacterial Count	CFU/ml	1980		2120		2180		2450		2320		IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-5)

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020	JUNE 2020	JULY 2020	AUGUST 2020	SEPTEMBER 2020	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.63	0.56	0.62	0.49	0.37	FCO:2007
2	Phosphorus as P	µg/g	268	314	379	305	408	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	PLPL-TPH
5	**Heavy Metals**							
5.1	Aluminum as Al	%	5.1	5.84	5.26	4.86	4.56	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	148	203	218	193	213	AAS 3111B
5.3	Manganese as Mn	µg/g	1240	1048	946	924	870	AAS APHA 3111 B
5.4	Iron as Fe	%	5.18	5.3	5.1	4.9	4.83	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	53	41	59	50	61	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	32	39	42	35	42	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	170	208	196	184	158	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	2.78	2.19	2.3	1.96	2.3	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	AAS APHA- 3112 B
6	**Benthic Organisms**							
6.1	Macrobenthos	--	Polychaetes Crustaceans --	Polychaetes Crustaceans	Polychaetes Crustaceans ---	Polychaetes Gastropods Crustaceans	Crustaceans Gastropods	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Nematodes	Foraminiferans	Nematodes	--	Foraminiferans	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	529	471	382	324	352	APHA (22nd Edi) 10500-C

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.21	8.17	8.28	8.19	8.24	8.18	8.21	8.17	8.24	8.19	IS3025(P11)83Re.02
2	Temperature	oC	30.5	30.3	31.4	31.3	31.6	31.3	30.4	30.2	30.8	30.4	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	216	238	198	170	209	184	192	174	207	219	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.4	Not Detected	3.5	Not Detected	3.8	Not Detected	3.2	Not Detected	2.9	Not Detected	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.1	5.9	5.9	5.7	5.6	5.8	5.8	5.7	5.9	5.7	IS3025(P38)89Re.99
6	Salinity	ppt	34.9	35.3	35.3	35.2	36.1	36.4	36.3	36.5	36.6	36.8	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	8.3	6.13	5.0	4.63	4.86	4.7	3.84	3.61	3.27	3.1	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	0.72	0.64	0.83	0.59	0.77	0.68	0.96	0.72	0.8	0.67	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	3.56	3.12	2.76	2.17	3.16	3.24	2.74	2.53	2.6	2.3	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.27	1.1	2.19	1.93	2.7	2.56	2.36	2.2	2.21	2.16	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	12.54	9.89	8.54	7.39	8.79	8.62	7.54	6.86	6.63	5.95	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	9.2	Not Detected	8.4	Not Detected	11.4	Not Detected	9.6	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	37878	36314	36398	36134	37108	3710	37266	37463	37550	37756	IS3025(P16)84Re.02
15	COD	mg/L	24.0	Not Detected	21.0	Not Detected	26.0	20.0	22.6	17.5	25.0	18.6	APHA(22nd Edi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.47	2.83	3.2	3.04	2.88	2.45	2.93	2.67	2.83	2.61	APHA (22nd Edi) 10200-H
16.2	Phaeophytin	mg/m^3	1.0	1.4	1.1	1.1	1.6	2.14	1.51	2.41	1.7	2.5	APHA (22nd Edi) 10200-H
16.3	Cell Count	No. x 10^3/L	158	90	144	86	138	108	124	98	134	102	APHA (22nd Edi) 10200-H

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

16.4	Name of Group Number and name of group species of each group	--	*Rhizosolenia sp. Cheatoceros sp. Pleurosigma sp. Biddulphia sp.*	*Synedra sp. Nitzschia sp. Fragillaria sp.* --	*Rhizosolenia sp. Coscinodiscus sp. Chaetognathes Nitzschia sp.*	*Navicula sp. Synedra sp. Amphipora sp.*	*Nitzschia sp. Coscinodiscus sp. Rhizosolenia sp. Biddulphia sp.*	*Navicula sp. Rhizosolenia sp. Synedra sp.* --	*Rhizosolenia sp. Coscinodiscus sp. Pleurosigma sp. Nitzschia sp.*	*Navicula sp. Thallasionema sp. Synedra* --	*Rhizosolenia sp. Biddulphia sp. Skeletonema sp. Nitzschia sp.*	*Fragillaria sp. Thallasionema sp. Navicula sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**												
17.1	Abundance (Population)	noX10^3/ 100 m^3	42		39		33		27		24		APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Polychaetes Ostracods Decapods Foraminiferans		Molluscans Bivalves Foraminiferans		Polychaetes Decapods Bivalves --		Hydrodictyons Polychaetes Bivalves Mysids		Crustaeeans Polychaetes Mysids		APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.95		3.5		3.4		2.90		3		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**												
18.1	Total Bacterial Count	CFU/ml	2120		1950		2210		2210		2160		IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-5)

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020	JUNE 2020	JULY 2020	AUGUST 2020	SEPTEMBER 2020	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.64	0.53	0.62	0.49	0.43	FCO:2007
2	Phosphorus as P	µg/g	276	304	319	293	318	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	PLPL-TPH
5	**Heavy Metals**							
5.1	Aluminum as Al	%	5.14	4.76	4.92	4.76	4.56	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	168	203	234	216	270	AAS 3111B
5.3	Manganese as Mn	µg/g	1130	1076	968	934	839	AAS APHA 3111 B
5.4	Iron as Fe	%	5.24	4.98	4.81	4.96	4.35	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	38	41	56	43	60	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	46	38	47	35	42	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	208	201	213	190	239	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	2.7	1.98	2.96	1.79	2.5	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	AAS APHA- 3112 B
6	**Benthic Organisms**							
6.1	Macrobenthos	--	Copepods Molluscans Crustaceans	Polychaetes Crustaceans Bivalves	Polychaetes Crustaceans --	Polychaetes Gastropods	Copepods Crustaceans Bivalves	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	--	Foraminiferans	Foraminiferans	Nematodes	--	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	441	469	440	352	381	APHA (22nd Edi) 10500-C

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.25	8.19	8.29	8.23	8.2	8.15	8.23	8.19	8.19	8.14	IS3025(P11)83Re.02
2	Temperature	oC	30.6	30.5	31.6	31.3	31.7	31.5	31	30.3	30.7	30.5	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	216	227	234	259	216	204	201	218	216	241	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.5	Not Detected	3.1	Not Detected	4.0	Not Detected	3.3	Not Detected	3.0	Not Detected	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.0	5.9	5.8	5.6	5.9	5.7	5.9	5.7	5.9	5.6	IS3025(P38)89Re.99
6	Salinity	ppt	34.9	35.2	35.9	35.3	36	36.4	36.3	36.5	36.5	36.8	APHA (22ndEdi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22ndEdi)5520D
8	Nitrate as NO_3	µmol/L	7.94	7.16	4.18	3.96	4.98	4.76	3.57	3.3	2.6	2.2	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	0.63	0.57	0.83	0.49	0.72	0.58	0.83	0.64	0.49	0.32	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	3.46	3.00	2.99	2.75	3.18	2.91	2.76	2.56	2.4	2.1	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.33	1.14	2.1	1.93	2.3	2.13	1.94	1.7	1.5	1.39	APHA(22ndEdi) 4500 C
12	Total Nitrogen	µmol/L	12.03	10.7	8.00	7.2	8.88	8.25	7.16	6.46	5.44	4.7	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	9.8	Not Detected	11.6	Not Detected	15	Not Detected	10.2	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	35824	36418	36910	36298	36918	37316	37298	37494	37450	37746	IS3025(P16)84Re.02
15	COD	mg/L	22.0	Not Detected	23.0	Not Detected	27.0	Not Detected	25	20	23	18.0	APHA(22ndEdi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.15	2.93	3.25	2.77	2.83	2.67	2.93	2.45	2.88	2.56	APHA (22ndEdi) 10200-H
16.2	Phaeophytin	mg/m^3	1.5	1.5	1.3	1.8	1.99	2.0	2.56	2.33	2.05	2.4	APHA (22ndEdi) 10200-H
16.3	Cell Count	No. x 10^3/L	150	78	140	82	132	78	120	96	148	104	APHA (22nd Edi) 10200-H

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

16.4	Name of Group Number and name of group species of each group	--	*Skeletonema sp. Biddulphia sp. Coscinodiscus sp. Thallasionema sp.* --	*Nitzschia sp. Pleurosigma sp. Synedra sp.* -- --	*Nitzschia sp. Biddulphia sp. Thallasionema sp. Chaetognathes Coscinodiscus sp.*	*Navicula sp. Nitzschia sp. Biddulphia sp. Synedra*	*Nitzschia sp.* Coscinodiscus sp. Rhizosolenia sp. *Thallasiosira sp.* --	*Pleurosigma sp. Navicula sp. Synedra sp.* -- --	*Nitzschia sp. Thallasiosira sp. Coscinodiscus sp. Rhizosolenia sp.*	*Synedra sp. Navicula sp. Pleurosigma sp.* --	*Nitzschia sp. Thallasiosira sp. Coscinodiscus sp. Rhizosolenia sp.*	*Synedra sp. Navicula sp. Pleurosigma sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**											
17.1	Abundance (Population)	noX10^3 / 100 m^3	41		34		28		23		25	APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Decapods Polychaetes amphipods Gastropods		Gastropods Bivalves Foraminiferans Polychaetes		Gastropods Decapods Isopods --		Polychaetes Crustaceans Mysids		Polychaetes Molluscans Chaetognathes	APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.4		3.5		33		3.05		2.95	APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**											
18.1	Total Bacterial Count	CFU/ml	2140		1920		2280		2240		2160	IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent	APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent	IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent	IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-5)

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

RESULTS OF SEDIMENT ANALYSIS [M3 RIGHT SIDE OF BOCHA CREEK - N 22°46'530" E 069°41'690"]

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020	JUNE 2020	JULY 2020	AUGUST 2020	SEPTEMBER 2020	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.68	0.56	0.62	0.49	0.45	FCO:2007
2	Phosphorus as P	µg/g	214	270	256	236	293	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	PLPL-TPH
5	**Heavy Metals**							
5.1	Aluminum as Al	%	5.06	4.98	4.83	4.7	4.68	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	139	205	228	203	270	AAS 3111B
5.3	Manganese as Mn	µg/g	1180	1074	970	958	816	AAS APHA 3111 B
5.4	Iron as Fe	%	5.16	4.8	5.16	4.63	4.53	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	38	53	42	35	50	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	48	49	39	27	41	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	203	170	204	178	236	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	2.7	2.19	3.16	2.9	1.94	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	AAS APHA- 3112 B
6	**Benthic Organisms**							
6.1	Macrobenthos	--	Amphipods Polychaetes Copepods	Polychaetes Crustaceans Copepods	Crustaceans Bivalyes Decapods	Polychaetes Crustaeeans Isopods	Crustaceans Gastropods Decapods	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	--	--	Nematodes	--	--	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	412	559	441	353	382	APHA (22nd Edi) 10500-C

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.26	8.19	8.27	8.19	8.29	8.25	8.28	8.2	8.21	8.17	IS3025(P11)83Re.02
2	Temperature	oC	30.7	30.5	31.8	31.6	31.6	31.4	30.5	30.2	30.7	30.5	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	230	216	219	247	236	220	212	236	239	256	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	2.9	Not Detected	3.2	Not Detected	4.1	Not Detected	3.6	Not Detected	3.1	Not Detected	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	5.9	5.8	5.9	5.7	4.8	4.6	5.8	5.6	5.9	5.7	IS3025(P38)89Re.99
6	Salinity	ppt	34.7	35.2	35.8	35.5	36.1	36.4	36.4	36.7	36.8	37.1	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	6.54	6.13	4.27	4.1	4.68	4.32	3.68	3.47	2.71	2.39	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.12	0.69	0.98	0.74	0.82	0.76	0.76	0.49	0.63	0.42	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	3.27	3.10	2.56	2.33	2.74	2.39	2.53	2.38	2.3	2.1	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.39	1.16	2.21	2.14	2.14	2	1.81	1.67	1.68	1.46	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	10.93	9.92	7.81	7.17	8.24	7.47	6.97	6.34	5.65	4.91	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	6	Not Detected	9.8	Not Detected	11.8	Not Detected	9.2	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	35698	36298	36829	36544	37102	37402	37390	37645	38280	38554	IS3025(P16)84Re.02
15	COD	mg/L	20	Not Detected	25	Not Detected	24.6	Not Detected	21.2	Not Detected	23.9	19.0	APHA(22nd Edi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.36	2.67	3.57	2.72	3.09	2.67	2.93	2.61	3.09	2.83	APHA (22nd Edi) 10200-H
16.2	Phaeophytin	mg/m^3	1.2	2.4	0.9	2.3	1.69	2.41	1.96	2.32	1.69	1.95	APHA (22nd Edi) 10200-H
16.3	Cell Count	No. x 10^3/L	186	76	162	84	144	76	136	92	144	106	APHA (22nd Edi) 10200-H

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

16.4	Name of Group Number and name of group species of each group	--	*Melosira sp. Rhizosolenia sp. Coscinodiscus sp. Thallasionema sp.* --	*Nitzschia sp. peridiniu m sp Cyclotella sp.* -- --	*Navicula sp. Synedra Coscinodiscus sp. Thallasionema sp. Pleurosigma sp.*	*Navicula sp. Nitzschia sp. Cheatocerous sp. Cyclotella sp.*	*Nitzschia sp. Thallasiosira sp. Rhizosoleni a sp. Biddulphia sp.* --	*Navicula sp. Coscinodiscus sp. Synedra sp.* -- --	*Navicula sp. Thallasionema sp. Rhizosolenia sp. Pleurosigma sp.*	*Navicula sp. Synedra sp. Biddulphia sp.*	*Navicula sp. Biddulphia sp. Rhizosoleni a sp. Skeletonema sp.*	*Nitzschia sp. Thallasionema sp. Amphora sp.*	APHA (22nd Edi) 10200-H
C	**Zooplanktons**												
17.1	Abundance (Population)	noX10^3 / 100 m^3	42		35		32		27		31		APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Foraminiferans Ostracods Decapods Gastropods		Gastropods Polychaetes Foraminiferans Decapods		Polychaetes Decapods Nematodes Isopods		Polychaetes Decapods Crustaceans		Polychaetes Crustaeeans Chaetognathes		APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.65		3.9		3.10		2.90		3.35		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**												
18.1	Total Bacterial Count	CFU/ml	1960		2180		2150		2180		2260		IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-5)

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020	JUNE 2020	JULY 2020	AUGUST 2020	SEPTEMBER 2020	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.72	0.56	0.68	0.52	0.48	FCO:2007
2	Phosphorus as P	µg/g	216	298	340	316	370	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	PLPL-TPH
5	**Heavy Metals**							
5.1	Aluminum as Al	%	4.98	5.12	4.98	4.86	4.7	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	180	201	240	213	239	AAS 3111B
5.3	Manganese as Mn	µg/g	1073	958	976	958	864	AAS APHA 3111 B
5.4	Iron as Fe	%	5.11	4.9	5.18	4.7	4.9	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	43	58	62	52	63	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	36	49	54	35	42	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	183	203	216	193	148	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	2.48	2.79	2.58	2.36	1.79	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	AAS APHA- 3112 B
6	**Benthic Organisms**							
6.1	Macrobenthos	--	Polychaetes Crustaceans --	Polychaetes Bivalves Crustaceans	Polychaetes Molluscans --	Polychaetes Crustaceans Isopods	Polychaetes Gastropods Amphipods	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Nematodes	Foraminiferans	Nematodes	--	--	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	468	497	409	382	350	APHA (22nd Edi) 10500-C

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.25	8.21	8.28	8.18	8.26	8.21	8.29	8.24	8.21	8.24	IS3025(P11)83Re.02
2	Temperature	oC	30.8	30.7	31.5	31.3	31.4	31.2	30.4	30.3	30.7	30.5	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	193	181	218	234	245	270	216	238	241	263	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.1	Not Detected	3.5	Not Detected	4.0	Not Detected	3.1	Not Detected	3.5	Not Detected	IS 3025 (P44)1993Re.03Edition2 .1
5	Dissolved Oxygen	mg/L	6.0	5.8	5.9	5.7	5.9	5.6	5.9	5.5	5.9	5.7	IS3025(P38)89Re.99
6	Salinity	ppt	34.8	35.3	35.9	35.5	36.1	36.4	36.4	36.6	36.7	36.9	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/ L	5.1	4.92	4.76	4.13	4.58	4.31	3.61	3.38	2.61	2.34	IS3025(P34)88
9	Nitrite as NO_2	µmol/ L	1.58	1.43	0.99	0.75	0.76	0.68	0.98	0.70	0.73	0.49	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/ L	3.39	3.14	2.59	2.34	2.98	2.71	2.49	2.30	2.32	2.11	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/ L	1.47	1.28	1.96	1.58	2.16	1.92	1.86	1.74	1.69	1.43	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/ L	10.07	9.49	8.34	7.22	8.32	7.70	7.08	6.38	5.66	4.94	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	6.8	Not Detected	10.1	Not Detected	9.6	Not Detected	11.8	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	35710	36312	36918	36540	37120	37310	37362	37568	37642	37834	IS3025(P16)84Re.02
15	COD	mg/L	19.3	Not Detected	27.0	Not Detected	25.8	Not Detected	21.9	Not Detected	25.4	20.0	APHA(22nd Edi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.25	3.04	3.52	3.09	3.20	3.04	2.93	2.72	3.15	2.93	APHA (22nd Edi) 10200-H
16.2	Phaeophytin	mg/m^3	2.1	1.8	1.6	1.6	2.14	1.67	2.6	2.21	1.63	1.47	APHA (22nd Edi) 10200-H
16.3	Cell Count	No. x 10^3/L	162	84	146	78	134	84	126	98	140	108	APHA (22nd Edi) 10200-H

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Lab Manager (Q)

16.4	Name of Group Number and name of group species of each group	--	*Biddulphia sp. peridinium sp Coscinodiscus sp. Rhizosolenia sp.* --	*Fragillaria sp. Melosira sp. Pleurosigma sp.* -- --	*Nitzschia sp. Rhizosolenia sp. Coscinodiscus sp. Biddulphia sp. Cyclotella sp.*	*Navicula sp. Nitzschia sp. Thallasionema sp. Fragillaria sp.*	*Nitzschia sp. Thallasiosira sp. Rhizosolenia sp. Coscinodiscus sp.* --	*Navicula sp. Synedra sp. Biddulphia sp.* -- --	*Coscinodiscus sp. Synedra sp. Thallasiosira sp. Melosira sp. Pleurosigma sp.*	*Navicula sp. Rhizosolenia sp. Cheatocerous sp.*	*Rhizosolenia sp. Synedra sp. Skeletonema sp. Biddulphia sp. Navicula sp.*	*Fragillaria sp. Coscinodiscus sp. Melosira sp. Nitzschia sp.*	APHA (22nd Edi) 10200-H
C	**Zooplanktons**											
17.1	Abundance (Population)	no$X10^3$ / 100 m^3	48		42		26		23		29	APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Polychaetes Gastropods Decapods amphipods		Polychaetes Foraminiferans Cheatocerous sp. Mysids		Polychaetes Gastropods -- --		Polychaetes Molluscans Decapods Mysids		Gastropods Polychaetes Ostracods	APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.7		3.95		3.00		2.9		3.2	APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**											
18.1	Total Bacterial Count	CFU/ml	2150		1950		2290		2250		2250	IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent	APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent	IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent	IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-5)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020	JUNE 2020	JULY 2020	AUGUST 2020	SEPTEMBER 2020	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.73	0.59	0.63	0.51	0.42	FCO:2007
2	Phosphorus as P	µg/g	310	294	339	304	374	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	339	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	PLPL-TPH
5	**Heavy Metals**							
5.1	Aluminum as Al	%	5.04	4.9	5.12	4.82	4.7	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	208	183	218	203	238	AAS 3111B
5.3	Manganese as Mn	µg/g	1084	918	956	940	813	AAS APHA 3111 B
5.4	Iron as Fe	%	5.14	4.9	5.18	4.98	4.56	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	38	54	61	52	69	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	45	58	43	37	42	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	193	203	236	210	258	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	2.694	2.16	3.1	2.68	2.1	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	AAS APHA- 3112 B
6	**Benthic Organisms**							
6.1	Macrobenthos	--	Polychaetes Molluscans Amphipods	Copepods astropods Polychaetes	Polychaetes Molluscans Bivalyes	Polychaetes Crustaeeans Bivalves	Polychaetes Bivalves Crustaceans	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Nematodes	--	--	Nematodes	--	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	499	466	379	324	412	APHA (22nd Edi) 10500-C

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.17	8.13	8.24	8.17	8.27	8.22	8.28	8.21	8.2	8.16	IS3025(P11)83Re.02
2	Temperature	oC	30.8	30.6	31.5	31.2	31.5	31.1	30	30.1	30.7	30.5	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	172	143	219	236	237	256	216	237	224	246	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.9	Not Detected	3.5	Not Detected	3.8	Not Detected	3.2	Not Detected	3.5	Not Detected	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.0	5.8	5.9	5.7	5.9	5.6	5.9	5.7	5.9	5.6	IS3025(P38)89Re.99
6	Salinity	ppt	34.9	35.4	35.9	35.6	36.2	36.5	36.4	36.6	36.7	36.9	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	5.94	5.56	4.74	4.19	4.91	4.72	3.61	3.37	2.73	2.56	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.38	1.17	0.92	0.75	0.78	0.61	0.58	0.41	0.61	0.43	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	3.49	3.12	2.76	2.37	2.81	2.56	2.60	2.35	2.39	2.17	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.3	1.18	2.19	1.93	2.32	2.15	1.61	1.83	1.41	1.26	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	10.81	9.85	8.42	7.31	8.50	7.89	6.79	6.13	5.73	5.16	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	6.4	Not Detected	10	Not Detected	13.0	Not Detected	8.4	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	35716	36410	36918	36630	36994	37418	37394	37594	37626	37836	IS3025(P16)84Re.02
15	COD	mg/L	Not Detected	Not Detected	27	Not Detected	26	Not Detected	23.6	Not Detected	25.3	21.4	APHA(22nd Edi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.25	2.5	3.31	2.56	3.09	2.6	2.93	2.7	3.04	2.72	APHA (22nd Edi) 10200-H
16.2	Phaeophytin	mg/m^3	1.3	2.4	1.3	2.3	1.65	2.24	2.33	2.15	2.15	2.06	APHA (22nd Edi) 10200-H
16.3	Cell Count	No. x 10^3/L	148	20	140	76	134	86	150	102	168	116	APHA (22nd Edi) 10200-H

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16.4	Name of Group Number and name of group species of each group	--	*Surirella sp. Melosira sp. Thallasionema sp. Biddulphia sp.* --	*Nitzschia sp. Pleurosigma sp. Cyclotella sp.* -- --	*Nitzschia sp. Thallasionema sp. Pleurosigma sp. Rhizosolenia sp. Biddulphia sp.*	*Nitzschia sp. Coscinodiscus sp. Thallasiosira sp. Cyclotella sp.*	*Pleurosigma sp. Navicula sp. Thallasiosira sp. Rhizosolenia sp.* --	*Navicula sp. Biddulphia sp. Synedra sp.* -- --	*Rhizosolenia sp. Biddulphia sp. Skeletonema sp. Thallasionema sp. Coscinodiscus sp.*	*Biddulphia sp. Fragillaria sp. Cyclotella sp.*	*Skeletonema sp. Biddulphia sp. Rhizosolenia sp. Thallasionema sp.*	*Melosira sp. Fragillaria sp. Navicula sp. Synedra sp.*	APHA (22nd Edi) 10200-H
C	**Zooplanktons**											
17.1	Abundance (Population)	noX10^3 / 100 m^3	38		37		28		23		26	APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Decapods Gastropods Polychaetes --		Polychaetes Gastropods Foraminiferans Decapods		Polychaetes Decapods Bivalves --		Polychaetes Decapods Bivalves --		Polychaetes Gastropods Decapods Mysids	APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.25		3.45		3.5		2.95		3.1	APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**											
18.1	Total Bacterial Count	CFU/ml	2080		2140		2160		2140		2360	IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent	APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent	IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent	IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-5)

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POLLUCON LABORATORIES PVT. LTD. SURAT-7.

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Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.20	8.11	8.27	8.20	8.25	8.19	8.27	8.21	8.23	8.19	IS3025(P11)83Re.02
2	Temperature	oC	30.6	30.4	31.7	31.4	31.6	31.3	30.5	30.4	30.6	30.4	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	187	169	209	225	228	251	237	256	221	240	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.1	Not Detected	3.4	Not Detected	4.0	Not Detected	3.4	Not Detected	3.0	Not Detected	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.0	5.8	5.9	5.7	5.9	5.6	5.9	5.7	5.9	5.6	IS3025(P38)89Re.99
6	Salinity	ppt	35.3	35.6	36	35.7	36	36.3	36.3	36.6	36.7	36.9	APHA (22ndEdi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22ndEdi)5520D
8	Nitrate as NO_3	µmol/L	6.14	5.7	4.39	4.12	4.95	4.82	3.76	3.41	2.49	2.28	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.2	0.93	0.89	0.73	0.79	0.53	0.58	0.34	0.35	0.19	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	3.37	3.16	2.70	2.14	2.84	2.63	2.41	2.16	2.28	1.94	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.48	1.17	2.18	1.89	2.4	2.16	2.27	1.98	1.9	1.73	APHA(22ndEdi) 4500 C
12	Total Nitrogen	µmol/L	10.71	9.79	7.98	6.99	8.58	7.98	6.75	5.91	5.12	4.41	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	7.4	Not Detected	9.8	Not Detected	13.4	Not Detected	8.6	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	36516	36914	36998	36720	36984	37310	37296	37968	37648	38370	IS3025(P16)84Re.02
15	COD	mg/L	21.0	Not Detected	23.0	Not Detected	27.4	Not Detected	23.8	Not Detected	25.4	20	APHA(22ndEdi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.47	3.15	3.31	2.99	2.93	2.77	2.83	2.40	2.99	2.72	APHA (22ndEdi) 10200-H
16.2	Phaeophytin	mg/m^3	0.6	1.0	0.9	1.3	1.6	1.67	1.73	2.31	1.46	1.76	APHA (22ndEdi) 10200-H
16.3	Cell Count	No. x 10^3/L	148	82	136	74	130	78	148	92	174	110	APHA (22nd Edi) 10200-H

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POLLUCON LABORATORIES PVT. LTD. SURAT-7.

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Lab Manager (Q)

16.4	Name of Group Number and name of group species of each group	--	*Rhizosolenia sp. Synedra sp. Skeletonema sp. Biddulphia sp. Melosira sp.*	*Cheatoceros sp. Coscinodiscus sp. Navicula sp.* -- --	*Rhizosolenia sp. Coscinodiscus sp. Cheatoceros sp. Biddulphia sp. Navicula sp.*	*Nitzschia sp. Navicula sp. Thallasiosira sp. Synedra*	*Navicula sp. Thallasiosira sp. Rhizosolenia sp. Coscinodiscus sp. Cheatoceros sp.*	*Nitzschia sp. Rhizosolenia sp. Pleurosigma sp.* -- --	*Biddulphia sp. Pleurosigma sp. Thallasiosira sp. Synedra sp.*	*Nitzschia sp. Gyro sigma sp. Biddulphia sp.*	*Biddulphia sp. Skeletonema sp. Thallasionema sp. Rhizosolenia sp.*	*Synedra sp. Nitzschia sp. Coscinodiscus sp.*	APHA (22nd Edi) 10200-H
C	**Zooplanktons**												
17.1	Abundance (Population)	noX10^3 / 100 m^3	35		38		32		27		23		APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Copepods Decapods Gastropods --		Hydroloans Foraminiferans Polychaetes Ostracods		Polychaetes Bivalves Isopods --		Polychaetes Gastropods Decapods --		Polychaetes Mysids Ostracods Chaetognaths		APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.1		3.4		3.5		3.0		3.15		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**												
18.1	Total Bacterial Count	CFU/ml	1950		2210		2170		2320		2340		IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-5)

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020	JUNE 2020	JULY 2020	AUGUST 2020	SEPTEMBER 2020	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.68	0.53	0.63	0.52	0.43	FCO:2007
2	Phosphorus as P	µg/g	304	270	294	316	298	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	PLPL-TPH
5	**Heavy Metals**							
5.1	Aluminum as Al	%	4.98	4.86	5.18	4.7	4.56	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	206	190	230	209	239	AAS 3111B
5.3	Manganese as Mn	µg/g	1130	978	956	918	870	AAS APHA 3111 B
5.4	Iron as Fe	%	5.12	4.94	5.3	4.86	4.63	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	46	59	69	54	60	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	39	51	40	32	41	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	213	170	208	190	176	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	2.68	2.19	2.39	1.7	2.13	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	AAS APHA- 3112 B
6	**Benthic Organisms**							
6.1	Macrobenthos	--	Polychaetes Crustaceans Molluscans	Polychaetes Gastropods Bivalves	Polychaetes Bivalves *Isopods*	Polychaetes Crustaceans	Polychaetes Crustaceans Bivalves	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	--	--	--	Foraminiferans	--	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	382	441	353	294	381	APHA (22nd Edi) 10500-C

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.26	8.19	8.25	8.17	8.29	8.23	8.28	8.24	8.23	8.17	IS3025(P11)83Re.02
2	Temperature	oC	30.7	30.4	31.6	31.3	31.5	31.2	30.6	30.5	30.8	30.5	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	183	169	210	249	218	230	228	246	241	268	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.0	Not Detected	3.5	Not Detected	3.9	Not Detected	3.3	Not Detected	3.0	Not Detected	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.0	5.8	5.9	5.7	5.9	5.7	5.9	5.6	5.9	5.7	IS3025(P38)89Re.99
6	Salinity	ppt	35.5	35.9	36.1	35.7	36.2	36.5	36.4	36.7	36.7	37	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	5.68	5.3	4.42	4.16	4.91	4.72	3.69	3.47	2.68	2.39	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.37	1.18	1.28	0.93	0.83	0.69	0.72	0.56	0.5	0.41	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	3.42	3.19	2.90	2.58	2.89	2.73	2.49	2.28	2.34	2.16	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.34	1.17	2.11	1.97	2.16	2	1.91	1.76	1.7	1.52	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	10.47	9.67	8.60	7.67	8.63	8.14	6.90	6.31	5.52	4.96	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	6.8	Not Detected	5.6	Not Detected	8.6	Not Detected	9	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	36570	37112	37018	36724	37108	37509	37368	37648	37678	37914	IS3025(P16)84Re.02
15	COD	mg/L	23	Not Detected	28	Not Detected	23	17.8	23	Not Detected	23.4	19.6	APHA(22nd Edi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.9	2.83	3.52	2.77	3.04	2.83	2.72	2.50	2.99	2.83	APHA (22nd Edi) 10200-H
16.2	Phaeophytin	mg/m^3	0.8	2.1	1.0	2.1	1.89	1.90	1.87	2.27	1.35	2.74	APHA (22nd Edi) 10200-H
16.3	Cell Count	No. x 10^3/L	168	90	152	86	144	106	130	96	156	113	APHA (22nd Edi) 10200-H

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16.4	Name of Group Number and name of group species of each group	--	*Cheatocerous sp. Nitzschia sp. Thallasiosira sp. Coscinodiscus sp.* --	*Navicula sp. Pleurosigma sp. Staurorneis sp.* -- --	*Rhizosolenia sp. Biddulphia sp. Cheatocerous sp. Thallasiosira sp. Pleurosigma sp.*	*Navicula sp. Pleurosigma sp. Biddulphia sp. Cyclotella sp.*	*Nitzschia sp. Cyclotella sp. Rhizosoleni a sp. Cosmarium sp.* --	*Thallasionema sp. Synedra sp. Biddulphia sp.* -- --	*Nitzschia sp. Thallasiosira sp. Cyclotella sp. Biddulphia sp.*	*Navicula sp. Pleurosigma sp. Amphora sp.*	*Nitzschia sp. Thallasiosira sp. Skeletonema sp. Biddulphia sp. Cyclotella sp.*	*Navicula sp. Fragillaria sp. Melosira sp. Synedra sp.*	APHA (22nd Edi) 10200-H
C	**Zooplanktons**											
17.1	Abundance (Population)	noX10^3 / 100 m^3	45		38		31		29		24	APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Chaetognathes Gastropods Ostracods --		Ostracods Gastropods Polychaetes		Polychaetes Bivalves Mysids --		Polychaetes Molluscans Copepods --		Polychaetes Decapods Mysids Ostracods	APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	3.9		3.60		3.40		3.1		2.8	APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**											
18.1	Total Bacterial Count	CFU/ml	1980		2140		1920		2320		2330	IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent	APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent	IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent	IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent	IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-5)

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

SR. NO.	TEST PARAMETERS	UNIT	MAY 2020		JUNE 2020		JULY 2020		AUGUST 2020		SEPTEMBER 2020		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.23	8.19	8.27	8.16	8.26	8.22	8.29	8.21	8.25	8.19	IS3025(P11)83Re.02
2	Temperature	oC	30.6	30.4	31.7	31.5	31.6	31.4	31	30.3	30.8	30.6	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	193	180	218	239	238	251	217	239	224	240	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3.2	Not Detected	3.8	Not Detected	4.0	Not Detected	3.5	Not Detected	3.1	Not Detected	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.0	5.8	5.9	5.7	5.9	5.6	5.9	5.7	5.9	5.8	IS3025(P38)89Re.99
6	Salinity	ppt	35.4	35.7	36.1	35.6	36.2	36.6	36.4	36.7	36.8	37.1	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	5.34	5.1	4.58	4.29	4.73	4.51	3.79	3.56	2.56	2.39	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.25	1.13	1.18	0.86	0.99	0.83	0.84	0.69	0.38	0.24	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	3.36	3.00	2.15	1.93	2.31	2.17	1.73	1.56	1.57	1.32	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.41	1.26	2.3	2.18	2.2	2.00	1.9	1.69	1.69	1.43	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	9.95	9.23	7.91	7.08	8.03	7.51	6.36	5.81	4.51	3.95	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	Not Detected	Not Detected	6.9	Not Detected	9.92	Not Detected	12	Not Detected	9.1	Not Detected	PLPL-TPH
14	Total Dissolved Solids	mg/L	36410	36938	37110	36630	37112	37510	37346	37635	37736	37994	IS3025(P16)84Re.02
15	COD	mg/L	21	Not Detected	25	Not Detected	27	19.2	22	Not Detected	24.2	19.6	APHA(22nd Edi) 5520-D Open Reflux
B	**Phytoplankton**												
16.1	Chlorophyll	mg/m^3	3.15	2.93	3.25	2.50	2.99	2.70	2.61	2.50	2.83	2.72	APHA (22nd Edi) 10200-H
16.2	Phaeophytin	mg/m^3	1.5	2.0	1.4	2.3	1.83	1.86	2.50	2.31	1.95	1.86	APHA (22nd Edi) 10200-H

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16.3	Cell Count	No. x 10^3/L	170	84	152	86	136	90	122	94	136	102	APHA (22nd Edi) 10200-H
16.4	Name of Group Number and name of group species of each group	--	*Rhizosolenia sp. Nitzschia sp. Biddulphia sp. Pleurosigma sp.* --	*Nitzschia sp. Coscinodiscus sp. Cheatoceros sp.* -- --	*Biddulphia sp. Nitzschia sp. Coscinodiscus sp. Rhizosolenia sp.*	*Navicula sp. Synedra Foraminiferans*	*Cyclotella sp. Thallasiosira sp. Coscinodiscus sp. Rhizosolenia sp.* --	*Biddulphia sp. Synedra sp. Pleurosigma sp.* ***Nitzschia sp.*** --	*Pleurosigma sp. Nitzschia sp. Thallasionema sp. Biddulphia sp.*	*Navicula sp. Fragillaria sp. Cyclotella sp. Nitzschia sp.*	*Nitzschia sp. Skeletonema sp. Thallasionema sp. Rhizosolenia sp. Synedra sp.*	*Navicula sp. Fragillaria sp. Thallasiosira sp.*	APHA (22nd Edi) 10200-H
C	**Zooplanktons**												
17.1	Abundance (Population)	noX10^3 / 100 m^3	35		33		30		27		32		APHA (22nd Edi) 10200-G
17.2	Name of Group Number and name of group species of each group	--	Siphonophores Chaetognathes Copepods Gastropods		Gastropods Polychaetes Ostracods		Polychaetes Gastropods Bivalves --		Polychaetes Gastropods Bivalves --		Polychaetes Bivalves Ostracodes Decapods		APHA (22nd Edi) 10200-G
17.3	Total Biomass	ml/100 m^3	4.0		3.7		3.50		3.40		2.8		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**												
18.1	Total Bacterial Count	CFU/ml	2120		2180		1980		2250		2310		IS 5402:2002
18.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
18.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4(2003-05)
18.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
18.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
18.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
18.7	Vibrio	/ml	Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-5)

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Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

RESULT OF AMBIENT AIR QUALITY MONITORING

ADANI PORT – TUG BERTH 600 KL PUMP HOUSE								
Sr. No.	Date of Sampling	Particulate Matter (PM10) µg/m³	Particulate Matter (PM 2.5) µg/m³	Sulphur Dioxide (SO2) µg/m³	Oxides of Nitrogen (NO2) µg/m³	Carbon Monoxide as CO mg/m³	Hydrocarbon as CH_4 mg/m³	Benzene as C_6H_6 µg/m³
1	12/05/2020	69.37	37.59	10.20	31.59	0.78	ND*	ND*
2	14/05/2020	85.94	47.20	6.18	33.55	0.88	ND*	ND*
3	18/05/2020	80.52	41.21	19.23	21.25	0.65	ND*	ND*
4	20/05/2020	65.62	31.64	17.60	32.43	0.55	ND*	ND*
5	25/05/2020	83.68	45.37	14.53	22.23	0.82	ND*	ND*
6	27/05/2020	71.60	42.62	21.28	38.54	0.66	ND*	ND*
7	02/06/2020	84.36	46.62	19.66	38.34	0.98	ND*	ND*
8	05/06/2020	90.28	49.33	20.46	42.67	0.63	ND*	ND*
9	09/06/2020	62.48	28.31	11.62	28.37	0.70	ND*	ND*
10	12/06/2020	83.59	47.24	15.37	33.21	0.96	ND*	ND*
11	16/06/2020	77.65	36.34	17.56	23.47	1.03	ND*	ND*
12	19/06/2020	80.64	44.21	12.28	26.36	0.49	ND*	ND*
13	23/06/2020	70.48	30.34	18.27	36.22	0.78	ND*	ND*
14	26/06/2020	86.13	48.62	16.22	31.59	1.09	ND*	ND*
15	30/06/2020	91.28	40.63	13.43	34.29	0.81	ND*	ND*
16	03/07/2020	62.52	25.47	10.50	24.37	0.77	ND*	ND*
17	10/07/2020	57.22	23.60	16.32	21.38	0.53	ND*	ND*
18	14/07/2020	80.24	44.37	13.42	32.45	0.64	ND*	ND*
19	17/07/2020	69.47	30.22	11.33	25.64	0.38	ND*	ND*
20	21/07/2020	89.36	49.24	17.59	34.25	0.80	ND*	ND*
21	24/07/2020	75.36	41.58	19.66	38.36	0.96	ND*	ND*
22	28/07/2020	82.74	45.37	14.36	28.30	0.78	ND*	ND*
23	31/07/2020	78.36	34.26	22.66	40.26	0.65	ND*	ND*
24	04/08/2020	60.83	31.26	6.47	16.59	0.60	ND*	ND*
25	07/08/2020	56.37	23.68	10.27	20.33	0.72	ND*	ND*
26	11/08/2020	62.84	28.35	7.58	23.48	0.34	ND*	ND*
27	18/08/2020	71.26	38.38	11.50	28.39	0.71	ND*	ND*
28	21/08/2020	67.62	35.46	14.58	18.53	0.49	ND*	ND*
29	25/08/2020	77.44	40.21	19.24	38.46	0.22	ND*	ND*
30	28/08/2020	63.66	26.35	13.29	22.60	0.54	ND*	ND*

Continue …

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POLLUCON LABORATORIES PVT. LTD. SURAT-7.

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RESULT OF AMBIENT AIR QUALITY MONITORING

ADANI PORT – TUG BERTH 600 KL PUMP HOUSE								
Sr.No.	**Date of Sampling**	**Particulate Matter (PM10) µg/m³**	**Particulate Matter (PM 2.5) µg/m³**	**Sulphur Dioxide (SO2) µg/m³**	**Oxides of Nitrogen (NO2) µg/m³**	**Carbon Monoxide as CO mg/m³**	**Hydrocarbon as CH_4 mg/m³**	**Benzene as C_6H_6 µg/m³**
31	01/09/2020	79.62	35.57	20.44	36.51	0.29	ND*	ND*
32	04/09/2020	72.61	29.24	12.38	21.54	0.52	ND*	ND*
33	08/09/2020	82.65	44.57	17.48	31.22	0.40	ND*	ND*
34	11/09/2020	73.51	41.57	14.36	26.59	0.31	ND*	ND*
35	15/09/2020	80.37	49.31	11.22	23.40	0.68	ND*	ND*
36	18/09/2020	68.64	22.32	13.23	32.40	0.39	ND*	ND*
37	22/09/2020	88.37	47.56	16.83	30.39	0.46	ND*	ND*
38	25/09/2020	65.61	25.36	9.57	20.36	0.50	ND*	ND*
39	29/09/2020	74.54	32.45	32.54	34.58	0.32	ND*	ND*
LIMIT#		**100**	**60**	**80**	**80**	**4**	**Not Specified**	**5**
	TEST METHOD	**IS:5182(Part 23):Gravimetric CPCB - Method (Vol.I,May-2011)**	**Gravimetric-CPCB - Method (Vol.I,May-2011)**	**IS:5182(Part II):Improved West and Gaeke**	**IS:5182(Part VI):Modified Jacob &Hochheiser (NaOH-NaAsO2)**	**NDIR Digital Gas Analyzer**	**SOP: HC: GC/GCMS/Gas analyzer**	**IS 5182 (Part XI):2006/CPCB Method**

*Not Detected
#: Industrial, Residential, Rural and other Area Notification Dated 16th Nov.2009 as per national Ambient Air Quality Standards, CPCB New Delhi.

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POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF AMBIENT AIR QUALITY MONITORING

NEAR FIRE STATION								
Sr. No.	Date of Sampling	Particulate Matter (PM10) µg/m³	Particulate Matter (PM 2.5) µg/m³	Sulphur Dioxide (SO2) µg/m³	Oxides of Nitrogen (NO2) µg/m³	Carbon Monoxide as CO mg/m³	Hydrocarbon as CH_4 mg/m³	Benzene as C_6H_6 µg/m³
1	12/05/2020	82.14	42.69	14.60	23.43	0.45	ND*	ND*
2	14/05/2020	67.69	33.60	8.55	15.67	0.49	ND*	ND*
3	18/05/2020	75.68	36.27	11.51	27.25	0.57	ND*	ND*
4	20/05/2020	54.30	26.39	19.42	29.67	0.90	ND*	ND*
5	25/05/2020	64.26	34.56	23.44	31.28	0.76	ND*	ND*
6	27/05/2020	58.32	37.56	16.27	34.20	0.50	ND*	ND*
7	02/06/2020	69.64	37.52	16.35	35.65	0.86	ND*	ND*
8	05/06/2020	79.63	42.60	18.37	31.53	0.71	ND*	ND*
9	09/06/2020	56.38	25.68	8.63	21.25	0.60	ND*	ND*
10	12/06/2020	68.65	35.60	10.17	17.21	0.38	ND*	ND*
11	16/06/2020	59.34	27.68	12.64	20.35	0.85	ND*	ND*
12	19/06/2020	64.27	32.64	7.51	15.64	0.26	ND*	ND*
13	23/06/2020	86.73	36.52	9.68	23.65	0.66	ND*	ND*
14	26/06/2020	75.44	41.23	14.48	25.22	0.77	ND*	ND*
15	30/06/2020	67.67	28.43	11.53	28.62	0.89	ND*	ND*
16	03/07/2020	81.38	42.65	8.32	19.63	0.60	ND*	ND*
17	10/07/2020	52.64	20.34	13.32	18.40	0.41	ND*	ND*
18	14/07/2020	72.53	33.52	9.66	21.51	0.52	ND*	ND*
19	17/07/2020	63.53	25.35	6.44	14.48	0.21	ND*	ND*
20	21/07/2020	54.58	35.64	15.48	31.52	0.69	ND*	ND*
21	24/07/2020	61.51	31.56	17.21	29.56	0.79	ND*	ND*
22	28/07/2020	71.56	29.43	12.34	23.55	0.30	ND*	ND*
23	31/07/2020	64.31	26.39	16.14	34.53	0.71	ND*	ND*
24	04/08/2020	75.38	36.36	12.57	21.57	0.27	ND*	ND*
25	07/08/2020	67.31	27.51	14.37	18.31	0.56	ND*	ND*
26	11/08/2020	56.24	23.60	16.31	19.27	0.19	ND*	ND*
27	18/08/2020	61.23	32.47	10.29	24.22	0.46	ND*	ND*
28	21/08/2020	73.77	42.65	19.64	28.29	0.39	ND*	ND*
29	25/08/2020	52.85	31.56	17.54	25.63	0.53	ND*	ND*
30	28/08/2020	43.54	17.26	11.30	16.62	0.50	ND*	ND*

Continue …

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Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF AMBIENT AIR QUALITY MONITORING

NEAR FIRE STATION								
Sr.No.	**Date of Sampling**	**Particulate Matter (PM10) µg/m³**	**Particulate Matter (PM 2.5) µg/m³**	**Sulphur Dioxide (SO2) µg/m³**	**Oxides of Nitrogen (NO2) µg/m³**	**Carbon Monoxide as CO mg/m³**	**Hydrocarbon as CH_4 mg/m³**	**Benzene as C_6H_6 µg/m³**
31	01/09/2020	72.38	31.51	17.60	24.22	0.38	ND*	ND*
32	04/09/2020	68.47	22.48	10.58	28.34	0.33	ND*	ND*
33	08/09/2020	75.36	39.21	14.68	23.69	0.49	ND*	ND*
34	11/09/2020	50.22	30.64	12.65	30.63	0.17	ND*	ND*
35	15/09/2020	78.65	45.37	16.51	20.68	0.53	ND*	ND*
36	18/09/2020	61.57	26.52	19.39	26.26	0.14	ND*	ND*
37	22/09/2020	56.32	24.56	13.53	25.33	0.37	ND*	ND*
38	25/09/2020	60.22	21.56	11.36	19.69	0.45	ND*	ND*
39	29/09/2020	51.55	19.56	20.61	27.57	0.22	ND*	ND*
LIMIT#		**100**	**60**	**80**	**80**	**4**	**Not Specified**	**5**
	TEST METHOD	**IS:5182(Part 23):Gravimetric CPCB - Method (Vol.I,May-2011)**	**Gravimetric-CPCB - Method (Vol.I,May-2011)**	**IS:5182(Part II):Improved West and Gaeke**	**IS:5182(Part VI):Modified Jacob &Hochheiser (NaOH-NaAsO2)**	**NDIR Digital Gas Analyzer**	**SOP: HC: GC/GCMS/Gas analyzer**	**IS 5182 (Part XI):2006/CPCB Method**

*Not Detected
#: Industrial, Residential, Rural and other Area Notification Dated 16th Nov.2009 as per national Ambient Air Quality Standards, CPCB New Delhi.

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF AMBIENT AIR QUALITY MONITORING

ADANI HOUSE								
Sr. No.	Date of Sampling	Particulate Matter (PM10) µg/m³	Particulate Matter (PM 2.5) µg/m³	Sulphur Dioxide (SO2) µg/m³	Oxides of Nitrogen (NO2) µg/m³	Carbon Monoxide as CO mg/m³	Hydrocarbon as CH_4 mg/m³	Benzene as C_6H_6 µg/m³
1	12/05/2020	63.62	34.58	18.58	33.70	0.70	ND*	ND*
2	14/05/2020	58.61	37.57	11.53	19.36	0.64	ND*	ND*
3	18/05/2020	67.27	29.45	6.27	14.37	0.84	ND*	ND*
4	20/05/2020	49.39	23.24	15.27	23.51	0.74	ND*	ND*
5	25/05/2020	69.03	30.45	17.68	27.60	0.47	ND*	ND*
6	27/05/2020	76.56	28.32	19.69	30.23	0.71	ND*	ND*
7	02/06/2020	64.35	31.57	12.44	22.67	0.80	ND*	ND*
8	05/06/2020	70.25	35.65	14.34	35.42	0.44	ND*	ND*
9	09/06/2020	50.22	22.45	16.19	32.45	0.50	ND*	ND*
10	12/06/2020	77.34	42.32	8.62	20.25	0.30	ND*	ND*
11	16/06/2020	63.25	23.45	10.64	26.43	0.79	ND*	ND*
12	19/06/2020	74.27	40.32	15.19	29.54	0.42	ND*	ND*
13	23/06/2020	68.66	29.36	11.29	21.54	0.87	ND*	ND*
14	26/06/2020	57.29	32.40	9.50	18.65	0.48	ND*	ND*
15	30/06/2020	62.59	24.24	6.36	31.24	0.62	ND*	ND*
16	03/07/2020	58.68	21.57	15.34	30.54	0.36	ND*	ND*
17	10/07/2020	45.36	16.70	10.34	24.26	0.34	ND*	ND*
18	14/07/2020	79.52	40.23	16.17	19.61	0.22	ND*	ND*
19	17/07/2020	56.31	22.62	14.29	27.64	0.26	ND*	ND*
20	21/07/2020	62.81	38.65	11.61	20.31	0.61	ND*	ND*
21	24/07/2020	70.31	35.28	13.81	33.53	0.73	ND*	ND*
22	28/07/2020	69.31	25.61	7.60	16.64	0.23	ND*	ND*
23	31/07/2020	72.34	29.61	12.67	29.64	0.49	ND*	ND*
24	04/08/2020	55.37	28.24	14.22	29.26	0.64	ND*	ND*
25	07/08/2020	62.54	25.36	12.49	24.60	0.33	ND*	ND*
26	11/08/2020	51.57	21.53	18.52	27.54	0.24	ND*	ND*
27	18/08/2020	66.38	35.44	7.57	20.39	0.55	ND*	ND*
28	21/08/2020	50.22	27.66	9.17	15.63	0.31	ND*	ND*
29	25/08/2020	68.47	33.40	13.44	18.24	0.45	ND*	ND*
30	28/08/2020	53.36	23.41	6.54	13.47	0.23	ND*	ND*

Continue …

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF AMBIENT AIR QUALITY MONITORING

ADANI HOUSE								
Sr. No.	**Date of Sampling**	**Particulate Matter (PM10) µg/m³**	**Particulate Matter (PM 2.5) µg/m³**	**Sulphur Dioxide (SO2) µg/m³**	**Oxides of Nitrogen (NO2) µg/m³**	**Carbon Monoxide as CO mg/m³**	**Hydrocarbon as CH_4 mg/m³**	**Benzene as C_6H_6 µg/m³**
31	01/09/2020	66.55	29.32	8.54	20.45	0.57	ND*	ND*
32	04/09/2020	52.41	20.66	16.31	34.24	0.47	ND*	ND*
33	08/09/2020	64.55	34.53	12.42	19.59	0.54	ND*	ND*
34	11/09/2020	58.35	37.53	10.20	21.51	0.42	ND*	ND*
35	15/09/2020	61.25	33.49	14.22	28.55	0.26	ND*	ND*
36	18/09/2020	72.43	30.53	9.84	22.34	0.18	ND*	ND*
37	22/09/2020	67.54	38.36	11.67	18.36	0.58	ND*	ND*
38	25/09/2020	55.34	19.66	6.90	23.57	0.25	ND*	ND*
39	29/09/2020	63.41	27.36	27.40	29.40	0.15	ND*	ND*
LIMIT#		**100**	**60**	**80**	**80**	**4**	**Not Specified**	**5**
	TEST METHOD	**IS:5182(Part 23):Gravimetric CPCB - Method (Vol.I,May-2011)**	**Gravimetric-CPCB - Method (Vol.I,May-2011)**	**IS:5182(Part II):Improved West and Gaeke**	**IS:5182(Part VI):Modified Jacob &Hochheiser (NaOH-NaAsO2)**	**NDIR Digital Gas Analyzer**	**SOP: HC: GC/GCMS/Gas analyzer**	**IS 5182 (Part XI):2006/CPCB Method**

*Not Detected
#: Industrial, Residential, Rural and other Area Notification Dated 16th Nov.2009 as per national Ambient Air Quality Standards, CPCB New Delhi.

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF AMBIENT AIR QUALITY MONITORING

CT-3 RMU-2								
Sr.No.	Date of Sampling	Particulate Matter (PM10) $\mu g/m^3$	Particulate Matter (PM 2.5) $\mu g/m^3$	Sulphur Dioxide (SO2) $\mu g/m^3$	Oxides of Nitrogen (NO2) $\mu g/m^3$	Carbon Monoxide as CO mg/m^3	Hydrocarbon as CH_4 mg/m^3	Benzene as C_6H_6 $\mu g/m^3$
1	12/05/2020	89.61	45.19	22.60	37.58	0.58	ND*	ND*
2	14/05/2020	73.55	39.57	15.17	27.38	0.29	ND*	ND*
3	18/05/2020	85.68	48.36	17.50	24.49	0.54	ND*	ND*
4	20/05/2020	69.47	37.15	13.60	21.56	0.87	ND*	ND*
5	25/05/2020	77.55	42.52	18.26	29.53	0.42	ND*	ND*
6	27/05/2020	84.67	46.23	10.22	23.63	0.33	ND*	ND*
7	02/06/2020	76.83	41.28	14.51	30.44	0.92	ND*	ND*
8	05/06/2020	85.68	45.36	11.10	25.68	0.82	ND*	ND*
9	09/06/2020	70.37	35.49	19.32	36.49	0.74	ND*	ND*
10	12/06/2020	90.39	51.23	12.66	27.66	0.90	ND*	ND*
11	16/06/2020	82.69	40.23	15.66	31.43	0.64	ND*	ND*
12	19/06/2020	92.46	53.60	9.26	22.37	0.45	ND*	ND*
13	23/06/2020	75.31	34.53	13.62	32.35	0.53	ND*	ND*
14	26/06/2020	81.33	43.48	18.39	35.71	0.40	ND*	ND*
15	30/06/2020	72.63	31.61	16.47	18.89	0.56	ND*	ND*
16	03/07/2020	68.37	28.32	17.44	33.40	0.50	ND*	ND*
17	10/07/2020	64.55	31.28	15.11	29.51	0.66	ND*	ND*
18	14/07/2020	86.28	48.40	18.56	36.53	0.46	ND*	ND*
19	17/07/2020	50.28	20.45	8.94	20.69	0.32	ND*	ND*
20	21/07/2020	79.47	42.52	13.65	28.36	0.76	ND*	ND*
21	24/07/2020	83.43	46.31	10.20	23.49	0.82	ND*	ND*
22	28/07/2020	78.57	37.53	16.44	32.41	0.72	ND*	ND*
23	31/07/2020	87.31	43.57	19.26	37.53	0.45	ND*	ND*
24	04/08/2020	80.35	40.48	16.35	32.44	0.48	ND*	ND*
25	07/08/2020	70.36	29.82	18.20	28.44	0.44	ND*	ND*
26	11/08/2020	67.23	30.20	20.24	35.30	0.30	ND*	ND*
27	18/08/2020	76.25	42.40	17.56	31.55	0.66	ND*	ND*
28	21/08/2020	81.24	45.36	12.89	25.35	0.55	ND*	ND*
29	25/08/2020	73.67	38.32	9.31	29.29	0.36	ND*	ND*
30	28/08/2020	58.34	28.45	15.54	26.48	0.40	ND*	ND*

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF AMBIENT AIR QUALITY MONITORING

CT-3 RMU-2								
Sr.No.	**Date of Sampling**	**Particulate Matter (PM10) µg/m³**	**Particulate Matter (PM 2.5) µg/m³**	**Sulphur Dioxide (SO2) µg/m³**	**Oxides of Nitrogen (NO2) µg/m³**	**Carbon Monoxide as CO mg/m³**	**Hydrocarbon as CH_4 mg/m³**	**Benzene as C_6H_6 µg/m³**
31	01/09/2020	84.58	41.23	15.64	27.22	0.62	ND*	ND*
32	04/09/2020	79.41	33.56	19.52	38.51	0.71	ND*	ND*
33	08/09/2020	87.34	47.23	22.41	41.28	0.60	ND*	ND*
34	11/09/2020	65.62	38.35	16.56	35.47	0.55	ND*	ND*
35	15/09/2020	85.33	52.36	18.35	32.88	0.74	ND*	ND*
36	18/09/2020	78.35	36.56	10.38	37.53	0.57	ND*	ND*
37	22/09/2020	83.53	44.23	14.35	28.50	0.64	ND*	ND*
38	25/09/2020	76.67	32.43	17.20	31.56	0.36	ND*	ND*
39	29/09/2020	68.33	30.72	30.86	39.54	0.78	ND*	ND*
LIMIT#		**100**	**60**	**80**	**80**	**4**	**Not Specified**	**5**
	TEST METHOD	**IS:5182(Part 23):Gravimetric CPCB - Method (Vol.I,May-2011)**	**Gravimetric-CPCB - Method (Vol.I,May-2011)**	**IS:5182(Part II):Improved West and Gaeke**	**IS:5182(Part VI):Modified Jacob &Hochheiser (NaOH-NaAsO2)**	**NDIR Digital Gas Analyzer**	**SOP: HC: GC/GCMS/Gas analyzer**	**IS 5182 (Part XI):2006/CPCB Method**

*Not Detected
#: Industrial, Residential, Rural and other Area Notification Dated 16th Nov.2009 as per national Ambient Air Quality Standards, CPCB New Delhi.

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULTS OF NOISE LEVEL MONITORING

Result of Noise level monitoring [Day Time]

SR. NO.	Name of Location	ADANI PORT – TUG BERTH 600 KL PUMP HOUSE				
		Result [Leq dB(A)]				
	Sampling Date & Time	27/05/2020	19/06/2020	17/07/2020	28/08/2020	15/09/2020
1	6:00-7:00	67.3	65.2	61.4	67.4	60.1
2	7:00-8:00	65.2	62.8	63.7	62.5	63.8
3	8:00-9:00	61.4	69.9	69.8	65.9	67.4
4	9:00-10:00	68.8	63.7	73.5	66.4	62.1
5	10:00-11:00	65.5	65.5	70.1	62.8	69.8
6	11:00-12:00	69.3	60.8	65.5	61.5	65.1
7	12:00-13:00	73.2	62.9	68.1	65.9	64.2
8	13:00-14:00	70.2	63.1	64.8	69.9	68.7
9	14:00-15:00	67.4	62.8	63.7	72.1	65.1
10	15:00-16:00	64.7	68.2	65.1	74.1	60.8
11	16:00-17:00	69.4	66.4	62.4	70.6	65.9
12	17:00-18:00	66.4	70.1	60.8	71.8	62.8
13	18:00-19:00	62.2	69.1	68.8	69.8	69.1
14	19:00-20:00	68.1	66.1	64.5	64.2	62.5
15	20:00-21:00	63.8	68.4	62.1	63.7	63.7
16	21:00-22:00	67.6	63.8	65.5	62.8	68.4
Day Time Limit*		75 Leq dB(A)				

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	ADANI PORT – TUG BERTH 600 KL PUMP HOUSE				
		Result [Leq dB(A)]				
1	Sampling Date & Time	27/05/2020	19/06/2020	17/07/2020	28/08/2020	15/09/2020
2	22:00-23:00	65.5	63.8	63.4	60.4	67.1
3	23:00-00:00	62.1	60.1	62.7	64.8	62.5
4	00:00-01:00	63.4	61.8	62.4	63.1	65.9
5	01:00-02:00	68.1	67.5	65.8	62.8	62.8
6	02:00-03:00	62.7	65.8	67.1	65.2	62.5
7	03:00-04:00	60.1	62.8	66.2	60.8	63.8
8	04:00-05:00	60.9	61.7	63.4	67.1	68.1
9	05:00-06:00	63.1	63.4	61.8	66.2	64.8
Night Time Limit*		70 Leq dB(A)				

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULTS OF NOISE LEVEL MONITORING

Result of Noise level monitoring [Day Time]

SR. NO.	Name of Location	NEAR FIRE STATION				
		Result [Leq dB(A)]				
	Sampling Date & Time	20/05/2020	09/06/2020	10/07/2020	25/08/2020	18/09/2020
1	6:00-7:00	65.3	60.4	68.1	63.8	62.5
2	7:00-8:00	69.3	65.8	61.4	60.8	66.1
3	8:00-9:00	67.3	63.4	62.8	70.5	61.3
4	9:00-10:00	65.3	69.1	65.8	72.1	68.7
5	10:00-11:00	70.2	62.4	62.8	71.8	67.1
6	11:00-12:00	67.2	72.4	69.9	68.8	62.4
7	12:00-13:00	71.2	68.2	72.1	64.4	69.5
8	13:00-14:00	68.8	63.4	65.1	62.5	65.8
9	14:00-15:00	64.3	68.1	64.8	67.1	69.4
10	15:00-16:00	66.2	65.5	65.8	63.8	64.1
11	16:00-17:00	62.2	63.1	63.4	68.7	68.7
12	17:00-18:00	61.4	60.8	68.7	65.5	72.4
13	18:00-19:00	68.4	67.6	63.4	62.9	70.1
14	19:00-20:00	64.2	66.2	70.4	68.1	68.4
15	20:00-21:00	62.3	64.4	68.1	61.8	65.3
16	21:00-22:00	65.8	68.2	62.4	68.4	61.7
Day Time Limit*		75 Leq dB(A)				

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	NEAR FIRE STATION				
		Result [Leq dB(A)]				
1	Sampling Date & Time	20/05/2020	09/06/2020	10/07/2020	25/08/2020	18/09/2020
2	22:00-23:00	61.4	61.7	67.4	64.9	65.5
3	23:00-00:00	62.8	65.4	65.3	69.2	64.1
4	00:00-01:00	65.1	63.8	68.2	62.5	62.3
5	01:00-02:00	63.4	69.8	62.4	61.5	68.7
6	02:00-03:00	59.4	69.3	63.4	63.8	64.1
7	03:00-04:00	60.4	67.4	61.5	60.4	62.4
8	04:00-05:00	60.8	62.4	64.7	61.8	66.7
9	05:00-06:00	62.4	65.5	61.5	62.9	63.1
Night Time Limit*		70 Leq dB(A)				

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULTS OF NOISE LEVEL MONITORING

Result of Noise level monitoring [Day Time]

SR. NO.	Name of Location	ADANI HOUSE				
		Result [Leq dB(A)]				
	Sampling Date & Time	18/05/2020	23/06/2020	07/07/2020	11/08/2020	08/09/2020
1	6:00-7:00	65.3	65.2	67.1	65.1	65.5
2	7:00-8:00	62.1	63.8	62.8	68.4	62.4
3	8:00-9:00	68.4	66.1	61.8	69.4	68.7
4	9:00-10:00	70.3	61.8	65.8	72.9	70.1
5	10:00-11:00	68.7	62.8	68.1	70.6	73.4
6	11:00-12:00	64.2	69.1	62.4	65.8	70.4
7	12:00-13:00	62.7	62.8	68.4	62.4	74.1
8	13:00-14:00	69.3	67.1	69.4	61.8	69.8
9	14:00-15:00	63.1	64.3	65.1	64.8	68.1
10	15:00-16:00	61.6	61.8	68.1	68.4	65.4
11	16:00-17:00	68.3	64.5	71.7	63.4	62.1
12	17:00-18:00	63.2	68.9	69.1	65.8	61.8
13	18:00-19:00	62.4	63.1	65.1	62.8	65.7
14	19:00-20:00	66.8	67.2	62.4	63.4	62.2
15	20:00-21:00	68.2	69.9	68.4	61.8	68.7
16	21:00-22:00	65.5	62.8	64.1	68.7	64.2
Day Time Limit*		75 Leq dB(A)				

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	ADANI HOUSE				
		Result [Leq dB(A)]				
1	Sampling Date & Time	18/05/2020	23/06/2020	07/07/2020	11/08/2020	08/09/2020
2	22:00-23:00	65.1	67.2	64.1	68.4	68.5
3	23:00-00:00	62.7	63.8	60.1	63.4	66.2
4	00:00-01:00	66.4	64.1	62.4	61.5	63.7
5	01:00-02:00	66.9	60.4	58.8	63.1	64.1
6	02:00-03:00	60.1	63.8	63.1	62.4	62.1
7	03:00-04:00	62.4	65.2	65.1	65.5	63.8
8	04:00-05:00	62.8	61.8	62.1	62.4	62.1
9	05:00-06:00	63.7	64.2	60.4	63.1	61.8
Night Time Limit*		70 Leq dB(A)				

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULTS OF NOISE LEVEL MONITORING

Result of Noise level monitoring [Day Time]

SR. NO.	Name of Location	CT-3 RMU-2				
		Result [Leq dB(A)]				
	Sampling Date & Time	15/05/2020	06/05/2020	14/07/2020	18/08/2020	29/09/2020
1	6:00-7:00	60.2	63.7	60.8	68.4	65.1
2	7:00-8:00	58.3	60.8	63.4	65.1	62.8
3	8:00-9:00	65.4	62.8	58.4	63.7	67.5
4	9:00-10:00	67.4	67.0	65.8	65.1	70.5
5	10:00-11:00	62.2	65.5	69.4	62.7	65.5
6	11:00-12:00	68.7	68.1	61.4	65.3	68.2
7	12:00-13:00	64.4	69.5	68.5	61.8	63.1
8	13:00-14:00	68.9	70.4	62.7	65.4	67.1
9	14:00-15:00	60.3	65.1	59.4	68.7	61.5
10	15:00-16:00	62.3	66.4	62.3	62.4	64.2
11	16:00-17:00	66.2	62.8	68.1	60.7	62.5
12	17:00-18:00	63.7	65.1	62.4	63.8	69.8
13	18:00-19:00	67.5	61.9	64.4	68.4	71.1
14	19:00-20:00	69.2	62.8	62.8	71.6	69.8
15	20:00-21:00	65.1	64.7	67.7	65.8	65.4
16	21:00-22:00	69.1	69.1	68.7	62.4	64.2
Day Time Limit*		75 Leq dB(A)				

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	CT-3 RMU-2				
		Result [Leq dB(A)]				
1	Sampling Date & Time	15/05/2020	06/05/2020	14/07/2020	18/08/2020	29/09/2020
2	22:00-23:00	68.4	64.8	68.4	63.4	66.7
3	23:00-00:00	65.5	65.4	65.1	68.1	65.5
4	00:00-01:00	62.4	63.1	63.4	66.1	62.4
5	01:00-02:00	63.1	60.4	61.4	60.4	60.4
6	02:00-03:00	60.4	58.7	60.4	63.8	62.7
7	03:00-04:00	61.8	60.3	65.1	67.2	63.3
8	04:00-05:00	63.7	64.1	62.7	69.1	67.4
9	05:00-06:00	62.8	63.8	65.2	62.8	62.1
Night Time Limit*		70 Leq dB(A)				

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF STACK MONITORING

SR. NO.	TEST PARAMETERS	UNIT	STD. LIMIT	THERMIC FLUID HEATER (BITUMEN-01)	THERMIC FLUID HEATER (BITUMEN-02)	HOT WATER SYSTEM-1	HOT WATER SYSTEM-2	TEST METHOD
				MAY 2020				
1	Particulate Matter	mg/Nm^3	**150**	17.61	--	--	22.33	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	4.52	--	--	6.52	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	28.62	--	--	33.42	IS:11255 (Part-VII):2005
				JUNE 2020				
1	Particulate Matter	mg/Nm^3	**150**	--	20.60	26.72	--	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	--	3.73	5.62	--	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	--	28.35	38.36	--	IS:11255 (Part-VII):2005
				JULY 2020				
1	Particulate Matter	mg/Nm^3	**150**	19.84	--	29.42	21.41	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	5.66	--	6.73	7.75	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	30.70	--	33.48	37.55	IS:11255 (Part-VII):2005
				AUGUST 2020				
1	Particulate Matter	mg/Nm^3	**150**	22.60	--	--	24.62	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	4.50	--	--	6.54	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	26.73	--	--	35.94	IS:11255 (Part-VII):2005
				SEPTEMBER 2020				
1	Particulate Matter	mg/Nm^3	**150**	17.31	--	34.49	--	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	5.66	--	7.78	--	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	29.27	--	37.49	--	IS:11255 (Part-VII):2005

*Below detection limit
Results on 11 % O_2 Correction when Oxygen is greater than 11 %. And 12% CO_2correction when $CO_2$is less thsn 12%

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULTS OF D.G. STACK MONITORING

30/08/2020							
SR. NO.	TEST PARAMETERS	Unit	Adani Port			GPCB Limit	Test Method
			D.G. Set-1 (500 KVA)	D.G. Set-2 (500 KVA)	D.G. Set-3 (500 KVA)		
1	Particulate Matter	mg/Nm^3	18.56	20.56	15.66	150	IS:11255 (Part-I):1985
2	Sulphur Dioxide	ppm	6.44	4.47	8.30	100	IS:11255 (Part-II):1985
3	Oxide of Nitrogen	ppm	36.52	33.49	37.58	50	IS:11255 (Part-VII):2005
4	Carbon Monoxide	mg/m3	--	8.8	4.6	Not Specified	Digital Gas Analyzer
5	Hydro Carbon NMHC	ppm	--	Not Detected	Not Detected	Not Specified	Gas Chromatography

*DG sets are used as standby, so stack monitoring is done on quarterly basis. Results on 15 % O2 Correction when Oxygen is greater than 15 %

			30/08/2020	25/07/2020			
SR. NO.	TEST PARAMETERS	Unit	Adani Port			GPCB Limit	Test Method
			D.G. Set-4 (500 KVA)	D.G. Set-5 (500 KVA)	D.G. Set -6, 7 & 8 (1250 KVA, each)		
1	Particulate Matter	mg/Nm^3	16.26	15.55	18.72	150	IS:11255 (Part-I):1985
2	Sulphur Dioxide	ppm	5.73	4.48	8.69	100	IS:11255 (Part-II):1985
3	Oxide of Nitrogen	ppm	30.61	33.44	38.43	50	IS:11255 (Part-VII):2005
4	Carbon Monoxide	mg/m3	7.3	9.8	--	Not Specified	Digital Gas Analyzer
5	Hydro Carbon NMHC	ppm	Not Detected	Not Detected	--	Not Specified	Gas Chromatography

*DG sets are used as standby, so stack monitoring is done on quarterly basis. Results on 15 % O2 Correction when Oxygen is greater than 15 %

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

05/09/2020							
SR. NO.	TEST PARAMETERS	Unit	CT-4			GPCB Limit	Test Method
			D.G. Set-1 (1500 KVA)	D.G. Set-2 (1500 KVA)	D.G. Set-3 (1500 KVA)		
1	Particulate Matter	mg/Nm^3	24.52	27.54	20.49	150	IS:11255 (Part-I):1985
2	Sulphur Dioxide	ppm	5.48	6.21	4.27	100	IS:11255 (Part-II):1985
3	Oxide of Nitrogen	ppm	35.66	33.56	30.28	50	IS:11255 (Part-VII):2005
4	Carbon Monoxide	mg/m^3	11.89	10.02	13.16	Not Specified	Digital Gas Analyzer
5	Hydro Carbon NMHC	ppm	Not Detected	Not Detected	Not Detected	Not Specified	Gas Chromatography

*DG sets are used as standby, so stack monitoring is done on quarterly basis. Results on 15 % O2 Correction when Oxygen is greater than 15 %

04/09/2020							
SR. NO.	TEST PARAMETERS	Unit	South Basin			GPCB Limit	Test Method
			D.G. Set-1 (1500 KVA)	D.G. Set-2 (1500 KVA)	D.G. Set-3 (1500 KVA)		
1	Particulate Matter	mg/Nm^3	34.26	32.39	27.55	150	IS:11255 (Part-I):1985
2	Sulphur Dioxide	ppm	5.47	6.23	4.61	100	IS:11255 (Part-II):1985
3	Oxide of Nitrogen	ppm	32.37	38.51	29.48	50	IS:11255 (Part-VII):2005
4	Carbon Monoxide	mg/m3	17.51	14.02	14.62	Not Specified	Digital Gas Analyzer
5	Hydro Carbon NMHC	ppm	Not Detected	Not Detected	Not Detected	Not Specified	Gas Chromatography

*DG sets are used as standby, so stack monitoring is done on quarterly basis. Results on 15 % O2 Correction when Oxygen is greater than 15 %

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

RESULT OF CETP OUTLET

SR. NO.	TEST PARAMETERS	UNIT	CETP OUTLET					GPCB Permissible Limit CETP OUTLET	TEST METHOD
			May-20	June-20	July-20	Aug-20	Sep-20		
1	pH	--	7.88	7.68	7.73	7.81	7.7	6 to 9	IS3025(P11)83Re.02
2	Temperature	°C	31.6	31.7	31.8	30.7	29.2	Shall Not exceed more than 5 °C above ambient water temperature	IS3025(P9)84Re.02
3	Colour	Co-pt	30	40	30	50	40	100	IS3025(P4)83Re.02
4	Total Suspended Solids	mg/L	41	59	48	56	48	100	IS3025(P17)84Re.02
5	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	10	APHA(22nd Edi)5520D
6	Phenolic Compound	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	1	IS3025(P43)92Re.03
7	Fluorides	mg/L	0.62	1.58	1.28	1.10	0.92	2	APHA(22nd Edi) 4500 F D SPANDS
8	Iron	mg/L	0.032	0.18	0.2	0.52	0.68	3	AAS APHA(22nd Edi)3111 B
9	Zinc as Zn	mg/L	Not Detected	Not Detected	0.069	0.044	0.072	15	AAS APHA(22nd Edi)3111 B
10	Trivalent Chromium	mg/L	0.025	0.044	Not Detected	Not Detected	Not Detected	2	AAS APHA(22nd Edi)3111 B
11	Sulphide as S	mg/L	0.60	0.8	Not Detected	Not Detected	Not Detected	2	APHA(22nd Edi) 4500-S
12	Ammonical Nitrogen as NH_3	mg/L	28	43	45	23	31	50	IS3025(P34)88Cla.2.3
13	BOD (3 Days @ 27°C)	mg/L	32	68	53	45	52	100	IS 3025 (P44)1993Re.03Edition2.1
14	COD	mg/L	165	249	228	210	198	250	APHA(22nd Edi) 5520-D Open Reflux
15	Chloride as Cl	mg/L	719	749	774	719	712	1000	IS3025(P32)88Re.99
16	Sulphate as SO_4	mg/L	131	58.98	62	46	48	1000	APHA(22nd Edi)4500 SO_4 E
17	Total Dissolved Solids	mg/L	2011	2044	2078	1829	1730	2100	IS3025(P16)84Re.02
18	Total Residual Chlorine	mg/L	Not Detected	Not Detected	Not Detected	0.6	0.8	1	APHA(22ndEdi)4500 Cl
19	Copper as Cu	mg/L	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	3	AAS APHA(22nd Edi)3111 B

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. ArunBajpai
Lab Manager (Q)

Minimum Detection Limit [MDL]

Ambient Air Parameters		
Sr. No.	**Test Parameter**	**MDL**
1	Particulate Matter (PM10) (µg/m^3)	10
2	Particulate Matter (PM 2.5) (µg/m^3)	10
3	Sulphur Dioxide (SO_2) (µg/m^3)	5
4	Oxides of Nitrogen (µg/m^3)	5
5	Hydrogen Sulphide as H_2S (µg/m^3)	6

Stack Parameters		
Sr.No.	**Test Parameter**	**MDL**
1	Particulate Matter (mg/Nm^3)	10
2	Sulphur Dioxide (ppm)	1.52
3	Oxides of Nitrogen (ppm)	2.65
4	Carbon Monoxide (mg/Nm^3)	0.1
5	Haydro Carbon NMHC (ppm)	1.0

Sea Water Parameters			
SR. NO.	**TEST PARAMETERS**	**UNIT**	**MDL**
1	pH	--	2
2	Temperature	°C	2
3	Total Suspended Solids	mg/L	2
4	BOD (3 Days @ 27 °C)	mg/L	1
5	Dissolved Oxygen	mg/L	0.1
6	Salinity	ppt	1
7	Oil & Grease	mg/L	2
8	Nitrate as NO_3	µmol/L	0.5
9	Nitrite as NO_2	µmol/L	0.01
10	Ammonical Nitrogen as NH_3	µmol/L	0.2
11	Phosphates as PO_4	µmol/L	0.5
12	Petroleum Hydrocarbon	µg/L	1
13	Total Dissolved Solids	mg/L	10
14	COD	mg/L	3
15	Primary productivity	mgC/L/day	0.1
16	Chlorophyll	mg/m^3	0.1
17	Phaeophytin	mg/m^3	0.1
18	Cell Count	No. x 10^3/L	1

Sea Sediment Parameters			
SR. NO.	**TEST PARAMETERS**	**UNIT**	**MDL**
1	Organic Matter	%	0.1
2	Phosphorus as P	µg/g	1
3	Petroleum Hydrocarbon	µg/g	1
4	Aluminum as Al	%	0.1
5	Manganese as Mn	µg/g	1
6	Mercury as Hg	µg/g	0.1

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

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Lab Manager (Q)

STP Water parameter(mg/L)		
Sr. No.	**Test parameter**	**MDL**
1	pH	2
2	Total Suspended Solids (mg/L)	2
3	BOD (3 days @ 270 C) (mg/L)	1
4	Residual Chlorine (mg/L)	0.2
5	Fecal Coliform (MPN INDEX/100 mL)	1.8

ETP Water Parameters			
SR. NO.	**TEST PARAMETERS**	**UNIT**	**MDL**
1	Colour	Co-pt	2
2	pH	--	2
3	Temperature	^{o}C	2
4	Total Suspended Solids	mg/L	2
5	Total Dissolved Solids	mg/L	10
6	COD	mg/L	3
7	BOD (3 Days @ 27 ^{o}C)	mg/L	1
8	Chloride as Cl	mg/L	1
9	Oil & Grease	mg/L	2
10	Sulphate as SO_4	mg/L	1
11	Ammonical Nitrogen as NH_3	mg/L	0.2
12	Phenolic Compound	mg/L	0.005
13	Copper as Cu	mg/L	0.01
14	Lead as Pb	mg/L	0.01
15	Sulphide as S	mg/L	0.1
16	Cadmium as Cd	mg/L	0.002
17	Fluoride as F	mg/L	0.05

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

"HALF YEARLY ENVIRONMENTAL MONITORING REPORT"

FOR

BORE HOLE WATER
ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED
TAL: MUNDRA, KUTCH, MUNDRA – 370 421

MONITORING PERIOD:
APRIL 2020 TO SEPTEMBER 2020

PREPARED BY:

POLLUCON LABORATORIES PVT.LTD.

**PLOT NO.5/6 "POLLUCON HOUSE", OPP. BALAJI INDUSTRIAL SOCIETY,
OLD SHANTINATH SILK MILL LANE, NEAR GAYTRI FARSAN MART,
NAVJIVAN CIRCLE, UDHANA MAGDALLA ROAD, SURAT-395007.
PHONE/FAX – (+91 261) 2455 751, 2601 106, 2601 224.
E-mail: pollucon@gmail.com Web: www.polluconlab.com**

TC - 5945 ISO 9001:2015 ISO 14001:2015 OHSAS 18001:2007

RESULTS OF BORE HOLE WATER

SR. NO	TEST PARAMETERS	UNIT	RESULTS			TEST METHOD
			PUMP HOUSE-1	PUMP HOUSE-2	PUMP HOUSE-3	
	Sampling Date		15/07/2020	15/07/2020	15/07/2020	
1	pH	--	8.09	7.91	7.99	IS3025(P11)83Re.02
2	Salinity	ppt	4.80	2.1	2.4	APHA 2520B
3	Oil & Grease	mg/L	Not Detected	Not Detected	Not Detected	APHA(22ndEdi)5520D
4	Hydrocarbon	mg/L	Not Detected	Not Detected	Not Detected	GC/GC-MS
5	Lead as Pb	mg/L	0.039	0.041	0.031	AAS APHA(22ndEdi)3111 B
6	Arsenic as As	mg/L	Not Detected	Not Detected	Not Detected	AAS APHA 3114 B
7	Nickel as Ni	mg/L	Not Detected	Not Detected	Not Detected	AAS APHA(22ndEdi)3111 B
8	Total Chromium as Cr	mg/L	Not Detected	Not Detected	Not Detected	AAS 3111B
9	Cadmium as Cd	mg/L	Not Detected	Not Detected	0.029	AAS APHA(22ndEdi)3111 B
10	Mercury as Hg	mg/L	Not Detected	Not Detected	Not Detected	AAS APHA- 3112 B
11	Zinc as Zn	mg/L	Not Detected	0.55	0.29	AAS APHA(22ndEdi)3111 B
12	Copper as Cu	mg/L	Not Detected	Not Detected	Not Detected	AAS APHA(22ndEdi)3111 B
13	Iron as Fe	mg/L	0.35	3.1	2.95	AAS APHA(22ndEdi)3111 B
14	Insecticides/Pesticides	mg/L	Absent	Absent	Absent	GC/GC-MS
15	Depth of Water Level from Ground Level	meter	1.84	2	1.8	--

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

SR. NO	TEST PARAMETERS	UNIT	RESULTS		TEST METHOD
			NEAR ETP OFFICE	NEAR CONTROL ROOM	
	Sampling Date		15/07/2020	15/07/2020	
1	pH	--	8.01	7.89	IS3025(P11)83Re.02
2	Salinity	ppt	12.4	7.1	APHA 2520B
3	Oil & Grease	mg/L	Not Detected	Not Detected	APHA(22ndEdi)5520D
4	Hydrocarbon	mg/L	Not Detected	Not Detected	GC/GC-MS
5	Lead as Pb	mg/L	0.044	0.36	AAS APHA(22ndEdi)3111 B
6	Arsenic as As	mg/L	Not Detected	Not Detected	AAS APHA 3114 B
7	Nickel as Ni	mg/L	Not Detected	Not Detected	AAS APHA(22ndEdi)3111 B
8	Total Chromium as Cr	mg/L	Not Detected	Not Detected	AAS 3111B
9	Cadmium as Cd	mg/L	Not Detected	Not Detected	AAS APHA(22ndEdi)3111 B
10	Mercury as Hg	mg/L	Not Detected	Not Detected	AAS APHA- 3112 B
11	Zinc as Zn	mg/L	0.13	0.65	AAS APHA(22ndEdi)3111 B
12	Copper as Cu	mg/L	Not Detected	Not Detected	AAS APHA(22ndEdi)3111 B
13	Iron as Fe	mg/L	0.51	4.85	AAS APHA(22ndEdi)3111 B
14	Insecticides/Pesticides	mg/L	Absent	Absent	GC/GC-MS
15	Depth of Water Level from Ground Level	meter	2.1	2.05	--

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai
Lab Manager (Q)

Borehole Water Parameters			
SR. NO.	**TEST PARAMETERS**	**UNIT**	**MDL**
1	pH	--	2
2	Salinity	mg/L	0.5
3	Oil & Grease	mg/L	2
4	Hydrocarbon	mg/L	0.01
5	Lead as Pb	mg/L	0.01
6	Arsenic as As	mg/L	0.001
7	Nickel as Ni	mg/L	0.02
8	Total Chromium as Cr	mg/L	0.025
9	Cadmium as Cd	mg/L	0.002
10	Mercury as Hg	mg/L	0.005
11	Zinc as Zn	mg/L	0.06
12	Copper as Cu	mg/L	0.01
13	Iron as Fe	mg/L	0.1
14	Insecticides/Pesticides	mg/L	0.1

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

Dr. Arun Bajpai

Lab Manager (Q)

Annexure – 3

Chiragsing Rajput

From: Chiragsing Rajput
Sent: Wednesday, May 13, 2020 4:34 PM
To: 'ro-gpcb-kute@gujarat.gov.in'; rowz.bpl-mef@nic.in; mefcc.ia3@gmail.com; monitoring-ec@nic.in; ms-gpcb@gujarat.gov.in
Cc: Shalin Shah; Azharuddin Kazi; Vivek Gundraniya; Kripa Shah; Mahendra Kumar Ghritlahre (Mahendra.Ghritlahare@adani.com); Ashvin Kumar Patni; Dhanesh Tank
Subject: Intimation Letter_Restart of Environment Monitoring Activities_APSEZ, Mundra
Attachments: Letter_Restart Environmental Monitoring_12.05.2020.pdf

Dear Sir,

In reference to trailing mail, please find attached intimation letter regarding of restarting of environmental monitoring activities within Adani Ports and SEZ Limited, Mundra (Kutch) from 12th May, 2020 after getting requisite permission from Port authority / district administration.

Kindly consider above submission and oblige.

Thanks & Regards
Chiragsing Rajput

From: Chiragsing Rajput
Sent: Monday, April 6, 2020 6:14 PM
To: 'ro-gpcb-kute@gujarat.gov.in' <ro-gpcb-kute@gujarat.gov.in>; rowz.bpl-mef@nic.in; mefcc.ia3@gmail.com; monitoring-ec@nic.in; 'ms-gpcb@gujarat.gov.in' <ms-gpcb@gujarat.gov.in>
Cc: Shalin Shah <Shalinm.Shah@adani.com>; Azharuddin Kazi <Azharuddin.Kazi@adani.com>; Vivek Gundraniya <vivek.gundraniya@adani.com>; Kripa Shah <Kripa.Shah@adani.com>; Mahendra Kumar Ghritlahre (Mahendra.Ghritlahare@adani.com) <Mahendra.Ghritlahare@adani.com>; Ashvin Kumar Patni <AshvinKumar.Patni@adani.com>; Dhanesh Tank <Dhanesh.Tank@adani.com>
Subject: Intimation Letter_Stoppage of Environment Monitoring due to COVID-19_APSEZ, Mundra

Dear Sir,

Please find attached intimation letter w.r.t. stoppage of environmental monitoring within Adani Ports & SEZ Limited, Mundra, Kutch (Gujarat) since 23rd March, 2020 considering COVID-19 Pandemic lockdown.

So kindly consider this submission and oblige.

Thanks & Regards,
Chiragsing Rajput
Environment Cell | Adani Ports & Special Economic Zone Ltd.
Mob +91 9687678443 | Ext: 52132 | chiragsing.rajput@adani.com | www.adani.com
Adani House, 1st Floor, P.O. Box 1, Mundra 370421, Gujarat, India.

APSEZL/EnvCell/2020-21/006 Date: 12.05.2020

To,

Regional Officer,
Regional Office – East Kutch
Gujarat Pollution Control Board,
Gandhidham – 370201.

Subject: Intimation for Restart of environmental monitoring within APSEZ, Mundra (Kutch, Gujarat).

Ref.: Our letter & E-mail dated 06.04.2020 (**Annexure – A**)

Dear Sir,

With reference to above stated subject, we would like intimate you that, we have stopped the environmental monitoring activities within APSEZ, Mundra since 23rd March, 2020 due to COVID – 19 Pandemic lockdown and same has been intimated to your good office vide our letter as well as E-mail dated 06.04.2020.

Now we have restarted environmental monitoring activities within APSEZ, Mundra from 12th May, 2020 after obtaining requisite permissions from Port authority and district administration.

This is for your kind information and reference.

Thanks & Regards
For, Adani Ports and Special Economic Zone Limited

Shalin Shah
(Head – Environment)

CC To:

1. Member Secretary, GPCB – Head Office, Paryavaran Bhavan, Sector 10 A, Gandhi Nagar – 382 010.
2. APCCF, Regional Office (WZ), MoEF&CC, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Link Road No. – 3, Bhopal – 462 016.
3. The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003.

Adani Ports and Special Economic Zone Ltd
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Gujarat, India
CIN: L63090GJ1998PLC034182

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Fax +91 2838 25 51110
info@adani.com
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Chiragsing Rajput

From: Chiragsing Rajput
Sent: Monday, April 6, 2020 6:14 PM
To: 'ro-gpcb-kute@gujarat.gov.in'; rowz.bpl-mef@nic.in; mefcc.ia3@gmail.com; monitoring-ec@nic.in; 'ms-gpcb@gujarat.gov.in'
Cc: Shalin Shah; Azharuddin Kazi; Vivek Gundraniya; Kripa Shah; Mahendra Kumar Ghritlahre (Mahendra.Ghritlahare@adani.com); Ashvin Kumar Patni; Dhanesh Tank
Subject: Intimation Letter_Stoppage of Environment Monitoring due to COVID-19_APSEZ, Mundra
Attachments: Letter_Stoppage of Envionmental Monitoring due to COVID-19.pdf

Dear Sir,

Please find attached intimation letter w.r.t. stoppage of environmental monitoring within Adani Ports & SEZ Limited, Mundra, Kutch (Gujarat) since 23rd March, 2020 considering COVID-19 Pandemic lockdown.

So kindly consider this submission and oblige.

Thanks & Regards,
Chiragsing Rajput
Environment Cell | Adani Ports & Special Economic Zone Ltd.
Mob +91 9687678443 | Ext: 52132 | chiragsing.rajput@adani.com | www.adani.com
Adani House, 1st Floor, P.O. Box 1, Mundra 370421, Gujarat, India.

APSEZL/EnvCell/2020-21/001 Date: 06.04.2020

To,

Regional Officer,

Regional Office – East Kutch

Gujarat Pollution Control Board,

Gandhidham – 370201.

Subject: Intimation for stoppage of environmental monitoring within APSEZ, Mundra (Kutch, Gujarat) during COVID – 19 Pandemic lockdown.

Ref.: Regulatory Permission obtained by APSEZ, Mundra (Kutch, Gujarat) as per attached **Annexure – 1**.

Dear Sir,

With reference to above stated subject, we would like intimate you that, in compliance to various regulatory permissions granted by MoEF&CC / SEIAA as well as SPCB for various project, M/s. Adani Ports and SEZ Limited, Mundra (Kutch, Gujarat) has been regularly carrying out post environment clearance, monitoring (environmental attributes viz. Air, Water, Noise, Soil, Marine etc.) through NABL accredited / MoEF recognized laboratory and same is being reported/submitted to regulatory body periodically.

However, considering the current scenario of COVID – 19 Pandemic lockdown, we were forced to stop the Environmental Monitoring from 23rd March, 2020 and same shall be restarted after completion of this lockdown period and/or when the condition is normalized (as directed by district administration/State/Central Govt.). The date of restart of Environment Monitoring, shall be communicated to your good office.

Kindly consider our above submission and oblige.

Thanks & Regards

For, Adani Ports and Special Economic Zone Limited

Shalin Shah

(Head – Environment)

CC To:

1. Member Secretary, GPCB – Head Office, Paryavaran Bhavan, Sector 10 A, Gandhi Nagar – 382 010
2. APCCF, Regional Office (WZ), MoEF&CC, Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, Arera Colony, Link Road No. – 3, Bhopal – 462 016
3. The Director (IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003

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

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

ANNEXURE – 1

REGULATORY PERMISSIONS

Sr. No.	Permission for	Ref. No. & Dated
Environmental / CRZ clearance from MoEF&CC / SEIAA		
1.	Handling facility of General Cargo / LPG /Chemicals and their storage terminal	F. No. J-16011/13/95-IA.III, 25th August, 1995
2.	Port expansion project including dry/break bulk cargo container terminal, railway link and related ancillary and back-up facilities	F. No. J-16011/40/99-IA.III, 20th September, 2000
3.	Single Point Mooring (SPM), Crude Oil Terminal (COT) and connecting pipes	F. No. J-16011/30/2003-IA-III, 21st July, 2004
4.	Development of Multipurpose berth (Terminal- 2)	F. No. 11-84/2006- IA.III, 5th February, 2007
5.	Water Front Development Project	F. No. 10-47/2008- IA.III, 12th & 19th January, 2009, 7th October, 2015
6.	Township and area development project	Letter No. SEIAA/GUJ/EC/8(b)/44 /2010, 20th February, 2010
7.	Establishment of Common Effluent Treatment Plant (CETP) of 17 MLD	Letter no. SEIAA/GUJ/EC/7(h)/43/2010, 20th February, 2010
8.	Multi Product SEZ, Desalination, Sea Water Intake, Outfall Facility and Pipeline	F. No. 10-138/2008-IA.III, 15th July, 2014
Consent to Operate from SPCB		
1.	Mundra Port Terminal **(PCB ID: 17739)** for handling, storage and distribution of Dry, Liquid and Containerized Cargo	Order No. AWH-83561, Dated 09.02.2017
2.	WFDP – West Port **(PCB ID: 35427)** for Dry cargo handling	Order No. AWH-79241, Dated 28.07.2016
3.	SPM and Pipeline for Crude Oil Terminal **(PCB ID: 37436)**	Order No. WH-86980, Dated 30.08.2017
4.	Multi Product SEZ **(PCB ID: 31463)**	Order No. AWH-88998, Dated 23.11.2017
5.	MUPL – CETP **(PCB ID: 10605)** for 2.5 MLD Capacity	Order No. AWH-79311, Dated 29.07.2016
6.	AMSIPL **(PCB ID: 10602)** for township and area development	Order No. AWH-89533, Dated 05.12.2017
7.	APSEZ, Residential colony **(PCB ID: 17738)** for STPs (350 + 250 KLD) & RO Plant (10 KLPH)	Order No. AWH-81075, Dated 12.09.2016
8.	MLPTPL **(PCB ID: 53331)** for handling, storage and distribution of LPG	Order No. AWH-103906, Dated 09.11.2019

Annexure – 4

Details of Greenbelt Development at APSEZ, Mundra

LOCATION	Total Green Zone Detail Till Up to Sep - 2020				
	Area (In Ha.)	Trees (Nos.)	Palm (Nos.)	Shrubs (SQM)	Lawn (SQM)
SV COLONY	70.81	33920.00	7962.00	69426.00	92791.00
PORT & NON SEZ	81.51	149192.00	19220.00	75061.78	61982.38
SEZ	116.60	227120.00	20489.00	220583.60	28162.03
MITAP	2.48	8168.00	33.00	3340.00	4036.00
WEST PORT	94.47	210022.00	63331.00	24112.00	22854.15
AGRI PARK	8.94	17244.00	1332.00	5400.00	2121.44
SOUTH PORT	14.45	27530.00	3470.00	3882.00	3327.26
Samudra Township	56.03	53922.00	11834.00	20908.89	47520.07
Productive Farming (Vadala Farm)	23.79	27976.00	--	--	--
TOTAL (APSEZL)	**469.05**	**755094.00**	**127671.00**	**422714.27**	**262794.33**
		882765.00			

Details of Mangrove Afforstation done by APSEZ

Sl. no.	Location	Area (ha)	Duration	Species	Implementation agency
1	Mundra Port	24.0	-	Avicennia marina	Dr. Maity, Mangrove consultant of India
2	Mundra Port	25.0	-	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)	298.0	2011 - 2013	Avicennia marina	-
6	Jangi Village (Bhachau, Kutch)	50.0	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)	255.0	2014-15 & 2016-17	Avicennia marina & Bio diversity	GUIDE, Bhuj
9	Dandi Village (Navsari)	800.0	2006 - 2011	Avicennia marina, Rhizophora mucronata, Ceriops tagal	SAVE, Ahmedabad
10	Talaza Village (Bhavnagar)	50.0	2011-12	Avicennia marina	SAVE, Ahmedabad
11	Narmada Village (Bhavnagar)	250.0	2014 - 2015	Avicennia marina	SAVE, Ahmedabad
12	Malpur Village (Bharuch)	200.0	2012-14	Avicennia marina	SAVE, Ahmedabad
13	Kantiyajal Village (Bharuch)	50.0	2014-15	Avicennia marina	SAVE, Ahmedabad
14	Devla Village (Bharuch)	150.0	210-16	Avicennia marina	SAVE, Ahmedabad
15	Village Tala Talav (Khambhat, Anand)	100.0	2015 - 2016	Avicennia marina	SAVE, Ahmedabad
16	Village Tala Talav (Khambhat, Anand)	38.0	2015 - 2016	Avicennia marina	GEC, Gandhinagar
17	Aliya Bet, Village Katpor (Hansot, Bharuch)	62.0	2017-18	Avicennia marina & Rhizophora spp.	GEC, Gandhinagar
Total Mangrove Plantation:		**2889.90 Ha**			

Annexure – 5

CSR KUTCH

Six Monthly Report 2020-21

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

INDEX

Fight Against COVID-19

While most of the nation is locked in the safe confines of home, Adani foundation is doing various activity in villages during lock-down period to fight against COVID-19.

24

villages of Mundra block Sanitized

Adani Foundation had done sanitization work with coordination of Fire Department APSEZ in 22 Villages in Mundra.

45000+

Mask prepared by SHG group

Adani Foundation has supported SHG Groups of Mundra, Mota Kapaya, Navinal, Nakhtrana and Lakhpat for mask preparation.

1800+

food packet per day two time

For The workers, drivers and labors of APSEZ and AWL Cost free Fresh Food Support (Breakfast, Lunch and Dinner) in AWL premises , Port premises and SEZ Premises.

9000+ ration kit support

Ration Kit support to Daily Wedge Labors and Needy people

150+ beneficiaries covered

Mobile health care unit is providing primary treatment to community at door step and also creating awareness to fight against Corona virus.

12500 people connected

By Awaz De software creating awareness in people in local kutchi language.

1400+ patient covered

AHMPL is providing all services IPD and OPD during lockdown period. social distance maintained during Pharmacy and queue for consultancy.

Important of handwashing & hygiene

Creating awareness of handwashing and hygiene by Sangini

57 senior citizens of old age home

During lockdown period our team providing medical facility to senior citizens at old age home in Mandvi and Gundala

Environmental Sustainability

Sustainable development has many important facets/components like social, economic, environmental, etc. these components are closely interrelated and mutually re-enforcing. Under Corporate Environmental responsibility 10 km radius villages from SEZ Boundaries.

To make connections between human actions and the level of biological diversity found within a habitat and/or ecosystem, this year we launch project “Sanrakshan” in coordination with GUIDE and Sahjeevan.

Environmental Sustainability

Water Conservation Projects

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 Government Figures. Our water conservation work is as Below.

- A large number of water harvesting structure (18 Nos. of check dams in coordination with salinity department)
- Ground recharge activities (pond deepening work for more than 52 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
- Roof Top Rain Water Harvesting 54 Nos. which is having 10,000 litre storage which is sufficient for one year drinking water purpose for 5 people family.
- Recharge Bore well 75 Nos which is best ever option to conserve ground water

Environmental Sustainability

Water Conservation Projects

- Drip Irrigation 823 Farmers benefitted in coordination with Gujrat Green Revolution Company
- Participatory Ground Water Management in ten villages with holistic approach for Kankavati Sandstone Aquifer Programme
- **As per Average Calculation more than 450 hac. area benefitted with increased in 109 MCFT water Quantity.**

Environmental Sustainability

Bio Diversity Park – Mundra

Ecological greenbelt development plan expects to attracts and provide habitats for many species of major faunal groups such as amphibians, reptiles, birds (terrestrial and aquatic), butterflies and mammals. Further this developed area can act as recreational, educational and interpretation center for the community of the corporate sector to understand and enhance their knowledge base on local environmental and ecological scenario.

Adani Foundation, Mundra-Kutchh proposed a biodiversity park at 5 acres Nandi Sarovar area and approached to Sahjeevan, Bhuj for technical support for same. Sahjeevan team visited this proposed site for development of greenbelt to support biodiversity and enhancement of overall ecological food web existing in and around the landscape in first phase.

In addition, senior team of Adani Foundation and Sahjeevan also discussed in details for this program and suggested to initiate an interpretation center for awareness to various stakeholders on very unique biodiversity of Kutchh region in second phase.

Environmental Sustainability

Bio Diversity Park – Mundra

Zone wise different habitats identified by technical team, i.e. Outside Plot Area, Along Waterlogged Area, Climber/Twiner Area, New Plantation Area, Entry Gap Filing Area, Gate Area, and Wetland Area within the proposed project area, technical team will develop a list of species that are representative of mature, undisturbed local forests, grasslands and wetlands. The chosen species will be typical of the species composition of local habitats. Main objectives are :-

Develop a list of plant species that can be chosen on the basis of aesthetic characteristics, in particular for the beauty/abundance of their flowers, eventually of their fruits/foliage.

Define information on different types activities involved under this ecological greenbelt development project (i.e. butterflies areas, medicinal plants areas, birds areas etc.).

Develop a manual that will give guidelines for habitats based on local practices, for short term and long-term management.

Till date more than 2500 medicinal plants and 1000 native plants are planted, due to good rain growth is considerable

Environmental Sustainability

Environmental Sustainability

Coastal Bio Diversity Park – Luni

Bio diversity Project has been Continue with three spices Rhizophora Mucronata ,Ceripos Tagal, Ceriops Decandra with good growth at Luni Bandar.

The mangrove biodiversity enrichment project in and around Adani ports special economic zone limited (APSEZL) aims to introduce select true mangrove species on a pilot scale in suitable coastal belts and assess their survival. Because this project is the first of its kind, the expected survival rate is between 20-30.

The project is currently in its initial stages of establishing nurseries and sowing seeds of several different species brought in from multiple locations in and outside of Gujarat state. These nurseries have been developed in tidal flats near the village of Luni, Kutchh, Gujarat.

The mangrove seeds/propagules) for the establishment of the nursery were brought in from various locations in India, namely, Machilipatnam (Andhra Pradesh), Pondicherry (Tamil Nadu), Parangipettai (Pichavaram Mangroves, Tamil Nadu), Kandla (Gujarat) and Jamnagar (Gujarat).

Environmental Sustainability

Coastal Bio Diversity Park – Luni

In most of these locations, there is adequate fresh water supply available due to high/substantial rainfall and/or presence of major rivers (also important river confluences and deltas that give rise to a thriving estuarine environment). Consequently, the mangrove species that successfully grow in those regions are adapted to a low-salinity environment (where salinity is approximately 20 ppt) against that of 37-44 ppt prevailing in Kutchh coastal waters. Furthermore, the species selected to establish the biodiversity enrichment project also belong to this group of mangrove species. This subsequently creates a challenge for the team heading this project because the Kachchh region does not provide adequate salinity ranges for survival of most of these species. In fact, it provides an extremely harsh saline environment (salinity can range up to as high as 44 ppt during summer).

Considering the above-mentioned scenario, the site selection criteria, need for species of high salinity tolerance and studying their natural occurrence in Kutchh becomes critical in ensuring a substantial survival rate of the mangrove species selected to potentially successfully establish a diverse and resilient mangrove community in the Kutchh region.

Furthermore, a highly diverse set of mangrove species will ensure resilience in the face of changing climate and could probably provide as a thriving gene pool and seed bank in the future for the Kutchh region.

Environmental Sustainability

Tree Plantation

4110 Tree have been planted at various Public places , Schools, GP and crematorium with their responsibility to nurture and maintain regularly.

Environmental Sustainability

Drip Irrigation Projects

- **Basis of Requirements of Drip Irrigation**

The main source of livelihood being agriculture, the cultivators tend to use more and more underground water for irrigation. Underground waters have gone very highly saline. The use of such water for irrigation has made the soil also saline and the crop yields have dwindled.

- **Process of Drip Support**

Farmer have to applied in the prescribed form of Adani foundation with photograph.
Inspection and verification will be by AF representative.
Ration card, work order of G.G.R.C, 7/12 certificate and all bills must be attached.
Farmer will be informed by telephonic to have form query.
Primary information about farmer land will be received by telephone.
Farm visit within 10 days of after received of application and verified the installation of system as per map and material as per bill will be checked and get farmer feed back.
Verification report submitted to account office.
Payment within 20 days if all document is complete through net banking.
Farmer economic study after our support. – Follow up

- **We have covered 295 farmers and 1422 acre drip irrigation area in last two years which is remarkable for water conservation – in this six months we have covered 51 farmers and 310 Acre land for the same.**

Environmental Sustainability

Sea Weed Projects

The cultivation of seaweed have significant potential for the sequestration of carbon dioxide (CO2) and will very fulfill in mitigating the climate change. Seaweeds are macrophysics algae, a primitive type of plants lacking true roots, stems and leaves. They provides valuable source of raw material for industries like health food, medicines, pharmaceuticals, textiles, fertilizers, animal feed etc.

As per study of government of Gujarat, Seaweed culture can be best developed along the coast lines of Amreli and Kutchh districts in Gujarat. Juna bandar has good potential for seaweed farming as it has Calm and less wind action. We started this project as Pilot base at Junabadar with 50Kg Quantity. though there was good growth but due to cyclone it was damaged at present it 600Kg.

In July 2020, We have done MOU with VRTI who is expert in Sea weed cultivation for supporting 20 fisherman in first phase for tank based sea weed farming. Dr. CVR Reddy (Ex- Director CSMSRI) is our Guide for the Project.

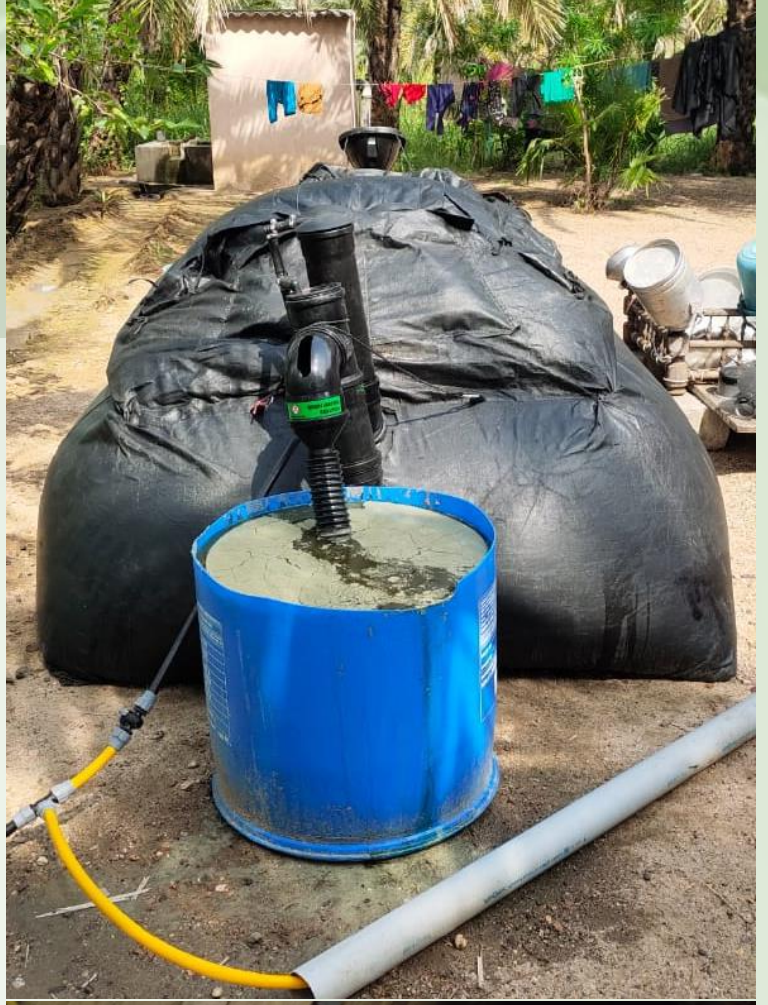
Environmental Sustainability

Homebiogas Project

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 to Uthhan Villages phase wise. Current year supported 95 home biogas in Dhrub, Zarpara and Navinal Villages.

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

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.
As a Main Process, Bacteria break down organic waste in a naturally occurring process, and Home Biogas stores and harnesses the energy created so that it can be used for gas.
Earlier we had proceeded for capacity 2 cum but after visit and series of meetings with farmer group – we need to take up plant capacity 6 cum.
Till date 54 farmers are utilizing it with satisfaction and considerable outcome by saving Average Rs. 1250 for gas and fertilizer as well.

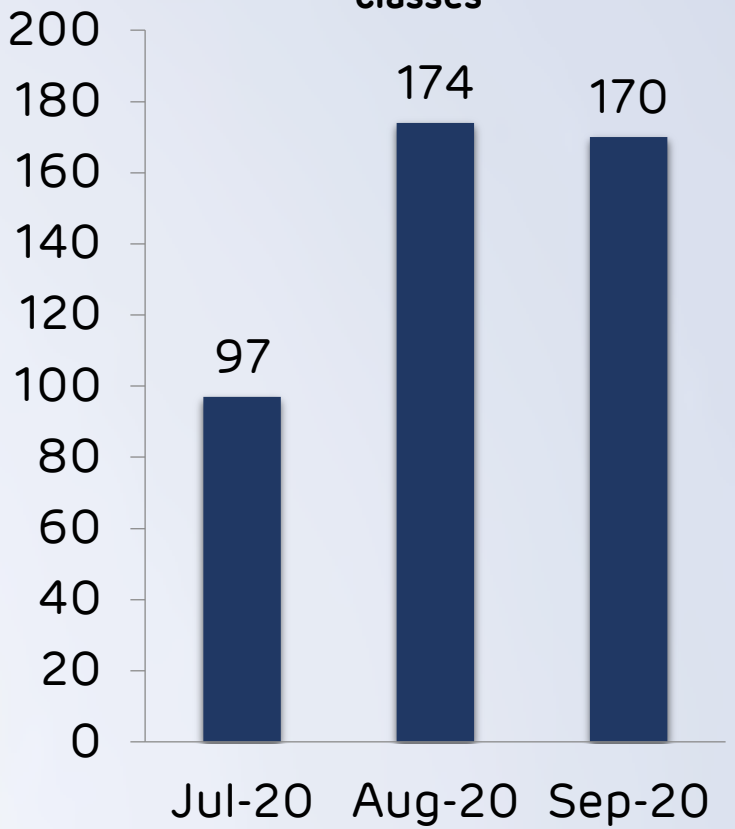


Utthan

Academic

- ✓ Utthan Sahayaks connected through WhatSapp and phone calls with the progressive learners from April – July
- ✓ July onwards structured 'Online classes' were started for Utthan Schools focusing Progressive learner on Google meet platform
- ✓ Utthan Shayaks made Annual syllabus, customized worksheets and TLM
- ✓ Weekly IT and Sports material were circulated in all Utthan Schools

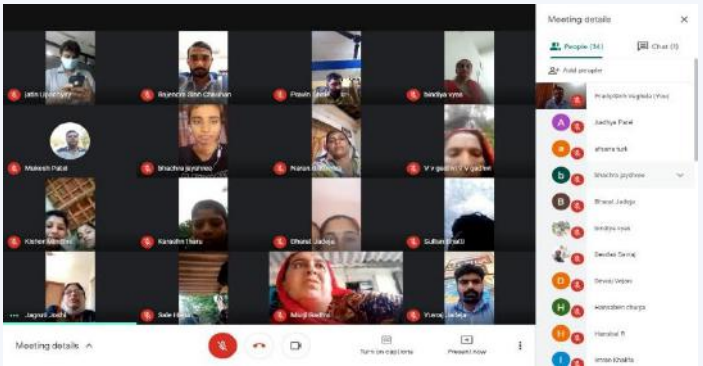
Priya Vidyarthi in 17 Government Primary School : 259 (2020-21)
No. of Priya Vidyarthi attending online classes



Mother's meet

3 Mothers' meet conducted

148 Mothers' were addressed



Topic covered –

- Precaution during heavy rainfall and covid
- Active participation in online classes
- Spend quality time with your child
- Focus to develop creative skills amongst your kids

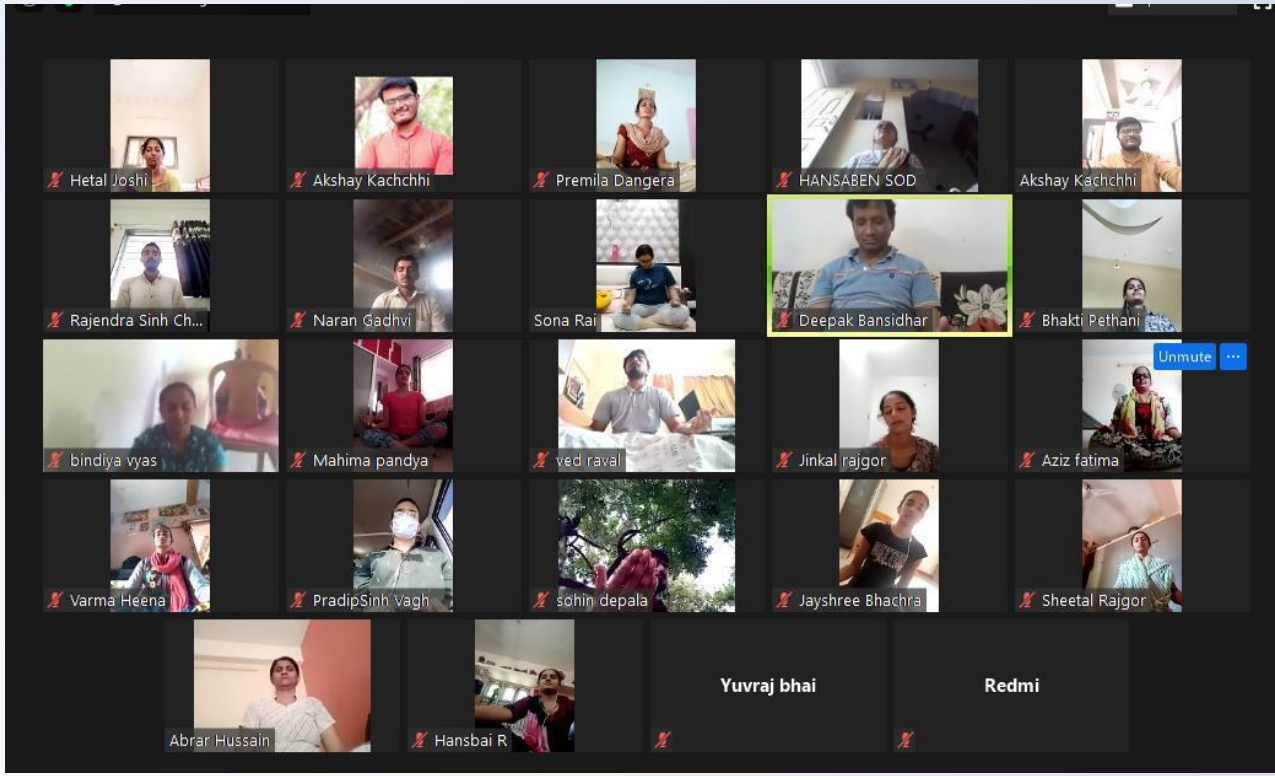
Utthan

06 Virtual Capacity Building Program on various topic through Microsoft team

Apart from CPD Utthan Sahayks attended 30+ educational webinar during lockdown.

Topics covers -

- We’re all at home-but you’re not alone,
- Think big! Boost your learning
- Project for teen
- Teaching CLIL
- Building up confidence in writing skills
- An introduction to positive psychology well being for your classroom



Utthan

Arrange various competition and celebration for Priya Vidyarthi

School Visit and Home Visit by Utthan Sahayak

Meeting with School principals and Utthan Sahayaks

Conduct meeting with Principal / Teacher of Utthan schools, TPEO, BRC, CSR Head, Education Coordinator, Project Officer and Utthan Sahayaks through Microsoft Team

Agenda:

- Utthan Sahayaks strengthen themselves by attending 30 + webinar
- Online courses conducted by Cambridge University
- Prepare worksheets especially for *Priya Vidyarthi* Annual curriculum for Reading, Writing, Maths, English, Library, IT, Sports
- Prepared Teaching Learning material Connect with *Priya Vidyarthi* by Online class + WhatsApp + Text messages + Home Visit
- Meeting with government officials

Adani Vidya Mandir Bhadreshwar

Adani Vidya Mandir Bhadreshwar **provide "cost-free"** education to meritorious students coming from challenging economic background, who have priceless treasures but have been under achievers due to situation. In year **2020-21 490 students are studying.**

82.60% - Result SSC Board Exam

Tab Distribution

Tablet provide to students of std 10th for online study through Employee Volunteering Programme and we distributed the tablets to students of Std 10.
HOD's and HOS's of Adani Ports, Adani Power, Solar and Adani Wilmar and Adani Tuna had supported for online studies of Standard 10th Students of AVMB for smooth studies.

Adani Vidya Mandir Bhadreshwar

Activities Covered

- Admission process of std 1 students through draw system. 80 students selected out of 91. remain 11 students in waiting list
- Online Class through WhatsApp and you tube video
- Teachers are regularly visiting students house for checking homework and lessons with PPE's.
- supported Text-books to the students of all classes.
- Tab distribution to Std 10th students
- House Visit by Principal Madam & Vice Principal to irregular students.
- Hindi Day celebration
- Unit test conducted as per GSEB circular for the students. Paper received from CRC & Board for std 9th and 10th.





Health

During this panic situation health is the basic need for development of community. Adani Foundation focuses on ensuring good health for batter contribution to growth and progress.

11 Rural Clinic

8 from Mundra 3 from Anjar block treated ;

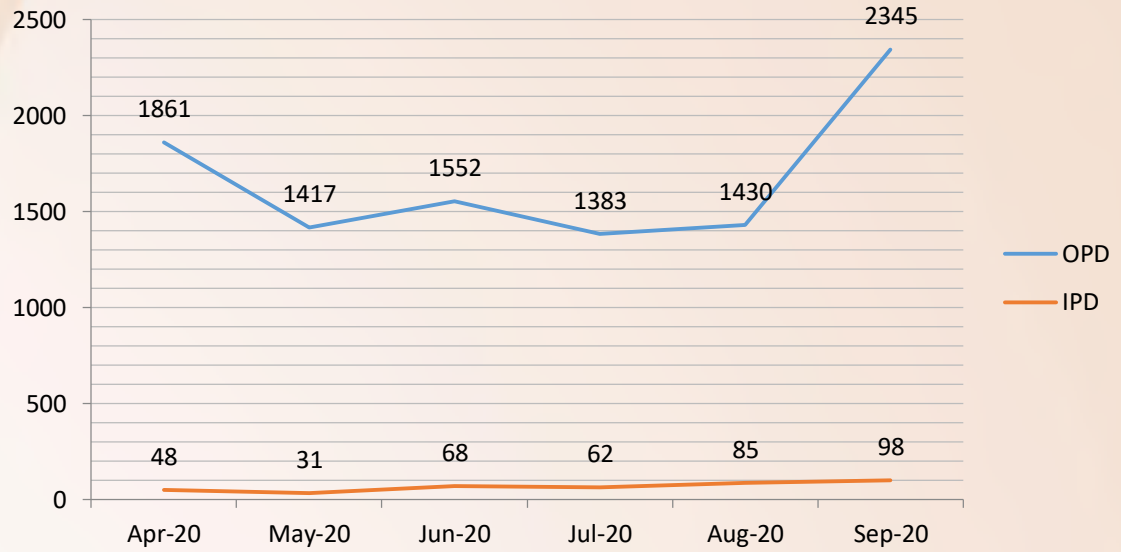
8196 patients.

31 villages covered, with 109 types of general and life saving medicines through Mobile healthcare unit

6879 patients benefited during six month

Health

AHMPL OPD & IPD detail



AHMPL	Month						
	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Total
OPD	1861	1417	1552	1383	1430	2345	9988
IPD	48	31	68	62	85	98	392
Total	1909	1448	1620	1445	1515	2443	10380

Project wise detail

Project`	OPD/IPD						
	20-Apr	20-May	20-Jun	20-Jul	20-Aug	20-Sep	Total
Senior citizen	471	537	694	504	313	402	2921
Medical Supports	106	89	70	41	60	100	466
Dialysis Supports	43	51	41	36	35	30	236
Medical Mobile van	50	1470	1107	1234	1445	1573	6879
Rural Clinic	0	1653	1557	1705	1591	1690	8196
Total	670	3800	3469	3520	3444	3795	18698

Health

Dialysis Support

Due to high salinity, in Kutch cases of kidney failures are comparatively more. At Adani Hospital we are providing dialysis treatment with token charges. We have provided treatment to 6 patients of kidney failure 236 times.

Sr. Citizen project

8672 Card holders of 68 villages get benefit under this project .

2921 sr. citizen patients benefited during six month 8000 limit for three year per patients

Medical Support

470 Needy patients had been facilitated with Medical Support OPD & IPD treatment with token charges during this six month

Health

Abhimanyu Project

Having pregnancy is the precious for women as well as her family. But sometimes some complication may arise which can be fatal for mother and child due to incomplete knowledge and irregular health check-up.
To resolve its at some extent we design Abhimanyu health calendar with all details about diet, vaccination, symptoms and precautionary measures in Gujarati language with pictures so the pregnant women can be align with it's regularly.

1150 health calendar were distributed to various PHC,CHC and ICDS department of Mundra, Mandvi, Nakhtrana, Lakhpat, Abadasa, Anjar & Gandidham block.

594 Protein Powder packet distributed to ANC woman of Utthan villages and TB patient of Mundra block.

Sustainable Livelihood Development

Fisher folk

Education:-

Education play significant role for any individual as well as community transformation.
Covid pandemic has severely impacted on education system. Hence to keep them connected and motivated various intervention have been made.

55 Higher secondary Fishermen students of Sekhadiya, Navinal, Zarpara &Junabandar benefitted with book support.
Mother meeting and telephone Discussion for their wards discussion.

Alternative livelihood

Providing Option livelihood to Fishermen during Fishing Off season by Mangroves plantation and Maintenance. It also creating environment sustenance.

4830 Man-days work was provided over 236 Fishermen family during this six months

Sustainable Livelihood Development

Government Scheme Facilitation.

To avail Fishermen Government scheme **(Fishermen Credit card)** one day program was arranged with social distancing and all precaution.

30 KCC form fill-up at Navinal.

Created awareness with Telephonic about same.

Sea Weed Culture

To create option livelihood over fishermen with co-ordination of VRTI.

Pilot phase -3500Kg seaweed was harvested

Based on that MOU with **ICCSIR** (Brach of VRTI) to expand sea weed Culture by Offshore and inshore Method

We have to support for Community Mobilization and land for inshore Seaweed Culture.

Potable Water at Fishermen Vasahat

Potable Water to Fisher Folk at vasahat-2020-21			
Sr.	Vasahat	family	Requirement Per day
1	Luni Bandar	110	15000
2	Bavdi Bandar	117	15000
3	Kutdi Bandar	140	15000
4	Randh Bandar	350	25000
	Total	717	70000

Availing pure drinking water to fishermen vasahat.

To mitigate born disease and women drudgery to get water

1113 fishermen are getting benefit of its

Juna Bandar Fishermen vasahat been water sustain with linking to Mundra Gram Panchayat

Sustainable Livelihood Development

The purpose of this project is to initiate village wise integrated agricultural & allied development for sustaining agriculture and socio economic situation of farming community of Mundra block.

Adani Foundation had coordinated with Village Development Committee, Gram Panchayat and Gau Seva Samiti of Siracha Village Gauchar Development.

Total 85 Acre Gauchar Land was approved by GP for Development by decision taken in Gram Sabha . Among them 72 Acre land Has been Sowed and Remaining land would be Grow with Wild Grass.

Fodder cultivation

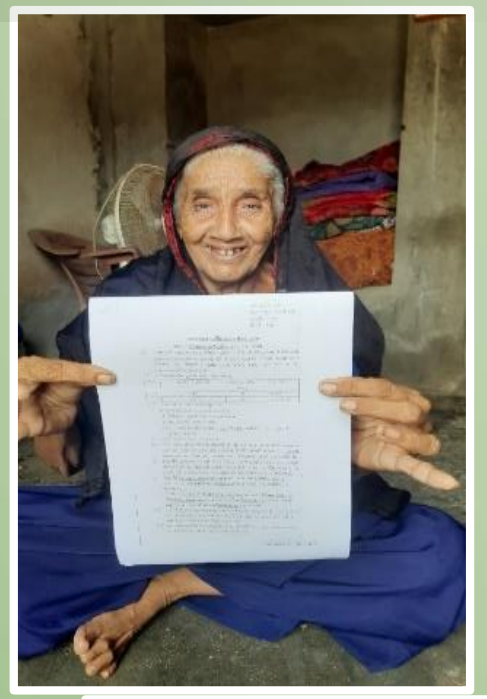
- To Increase production and availability of green and dry Fodder.
- Village driven fodder sustainability through cultivation in village Gauchar land..
- Zarpara -25 Acre & Siracha- 85 Acre Gauchar land development is in progress – We got very good support from Village Development Committee in post care.

Sustainable Livelihood Development

Government Scheme Facilitation

Facilitate widows, senior Citizens and Divyang to various schemes of government like widow pension, free bus pass, Senior citizen pension scheme sankat mocha sahay etc. support for process and documentation

66 people are getting benefits of various government scheme



Sr.	Name of Scheme	Nos of beneficiaries	Supports amount
1	Widow pension	51	Rs.1250 per month
2	Divyang Buss	8	Free of cost traveling
3	Senior Citizen pension scheme	3	Rs.750 per month
4	Sankatmochan sahay	2	Rs.20,000 once in life for BPL
5	Cabin support to widow	2	by foundation

Sustainable Livelihood Development

Women Empowerment

An initiative under the Sustainable Livelihoods Development Program to encourage women, take control of their own lives and increase their confidence whether they are single, married or widowed.

5-SHG had been Facilitated for Rs1.0 lac bank loan through DRDA to start-up new business for women empowerment.

facilitated artisan for artisan support by District collector Kutch Rs.1000/- per month for four month

₹ 6,00,000+

income has been earned

60,000+ three layer mask has been prepared and sold by Umang SHG group @ Rs.10.00 per mask

11 members Shradha saheli SHG of Motakapaya village is prepared snacks and meals for catering.

The group's catering tender has been sanction to providing snacks and meals service for Government program in mundra block.

Sustainable Livelihood Development

Registration of "Kutchh Kalptaru Farmer's Producer Company and meeting with Director, DRDA for Equipment and Agri mall Grant is done.

Tissue Culture

Our periphery villages are famous for the dates farming as having appropriate weather and soil condition.

To Doubling the farmer income by aviling "Barahi Varities Tissue plant" has good productivity

850 plants have been distributed to 34 farmers

25 plants / Farmers cost of a plants is Rs.3500.

50% Contribution have been collected from Farmers which will further utilized to purchase more tissue plants to availed more farmers.

Fodder support

Fodder support in 20 villages of Mundra and Anjar block.

Dry fodder 6.70 lacs kg
Green fodder 11.60 lacs kg

Sustainable Livelihood Development

Home Bio Gas

Installation of 53 Home Bio-gas with SOP Awareness and trouble shoot of problem as well.

Dragon Fruit Farming

To promote dragon food farming to doubling farmer income as having good economic value. 10,000 dragon food sapling , Pole and wire have been supported to 5 farmers.

Model Farming

To promote cow-based farming two model farm have been developed with 25 type innovative activities. This will be utilized for demonstration and replication at other farms.

Sustainable Livelihood Development

95 Farmers benefitted with NB -20 Off suite to bring fodder sustainability.

Kitchen garden Kits (Seeds, Fertilizer and Pesticides) were facilitated to 48 SC family with the help of horticulture department and aware about its importance in diet.

Organic farmer hat at shantivan colony
To avail pure organic vegetables ,Milk, ghee, buttermilk as well as webinar was also organized to aware about the importance of healthy food for healthy life.

Community Infrastructure Development

Adani foundation has designed, planned and built a infrastructure community health, agriculture and living standards, all initiatives were fulfilled according to the needs of people of community.

Development of Prisha Park at Mundra.

Pond Bund strengthening at Zarpara Village

Community Infrastructure Development

Work In Progress:-

1. Drainage Line and Chamber work at Bhopavandh.
2. Drainage Maintenance & JCB Hiring & Other Mis. Work.
3. Road Repairing at Kutdi Bandar.
4. Road Repairing at Zarapra Fisherman Vashat.
5. Road Repairing at Luni Pagadiya Fisherman

SuPoshan

The purpose of the Project is to reduce occurrence of malnutrition and anemia.

create awareness about malnutrition and anemia and related factors amongst all stakeholders and role they may play in curbing the issue.

To successful implementation of the project, “Sangini – Village Health Volunteer” plays major role in the Project.

SuPoshan

Covid-19 awareness in village & Slum Area

100 beneficiaries covered in Menstrual Hygiene Day - with slogan called "RED-ACHHA HAI"

204 beneficiaries covered in Breastfeeding Week

320 beneficiaries covered in National Deworming Day

20 villages covered in celebration of NATIONAL NUTRITION MONTH

42 FAMILY COUNSELLING

Participate in Umbre Anganwadi episode

SuPoshan

Community Engagement and other Activities		
Sr.No	Activity	Total
1	No of Sangini	24
2	Total Village Cover	41
3	Total Anganwadi Cover	70
4	SAM to MAM Monitoring Progress	03
5	MAM to Normal Monitoring Progress	15
6	Focus Group Discussion	85
7	Family Based Counselling	42
8	Village level Events	05
9	No of SAM children referred to CMTC	06
10	Total Anthropometric screening	140
11	Total Family Cover through video & Audio Calling	20
12	Total House Hold Family Visit	130
13	No. of Severe Acute Malnourished children (SAM) Telephonic Counselling	08
14	No. of Severe Underweight children (SUW) Telephonic Counselling	03
15	No. of adolescent girls-Telephonic Counselling	190
16	No. of pregnant women-Telephonic Counselling	100
17	No. of lactating mothers-Telephonic Counselling	230
18	No IFA Tablet Distribution to adolescent girls	200
19	Total Family Cover	9178
20	No of Sangini completed online POSHAN Abhiyan E- Learning module	15

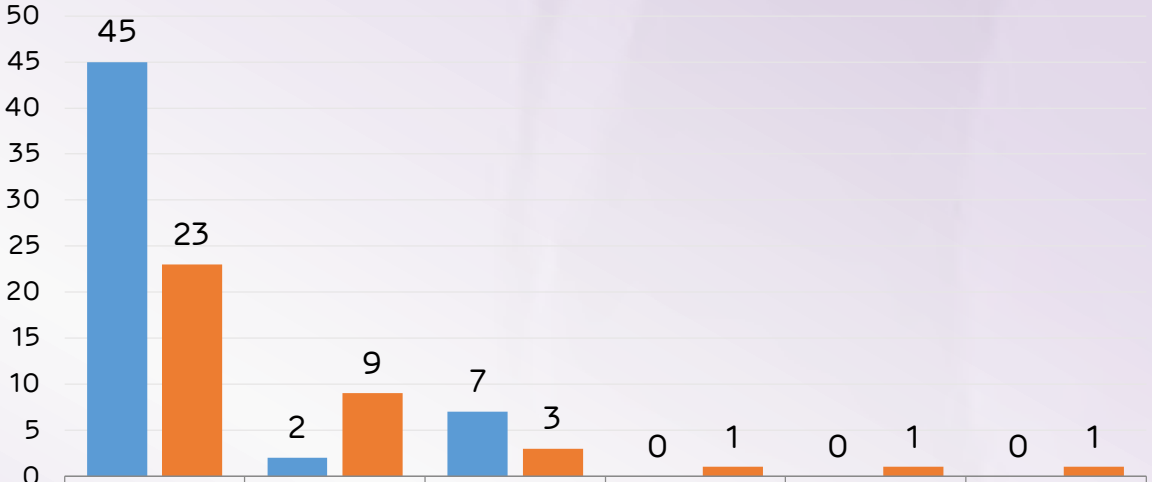
THANKS GIVING PROGRAMME" MUNDRA & BITTA Site

SuPoshan Thanksgiving program was organized. In this webinar DDO, CDPO Mundra and other dignitiaries remained present and appreciated the efforts to overcome malnourishment in Mundra and Bitta.

Adani Skill Development Centre

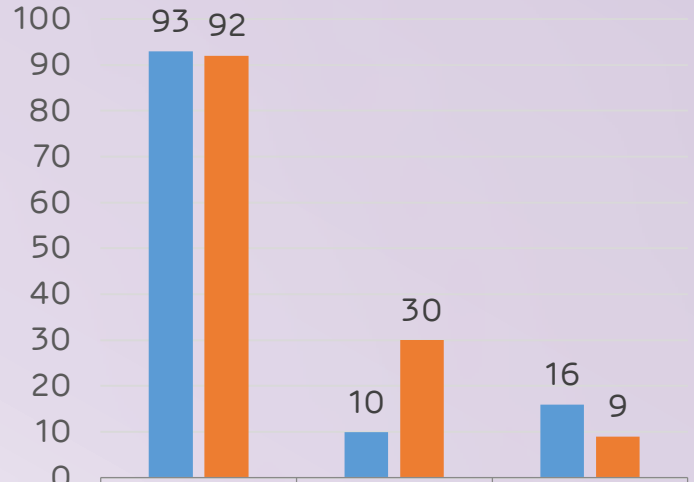
Admissions From April to September, 2020

OHO Model (Subsidized)



	GDA	GST with Tally	Digital Literacy	Basic Functional English	EDP	Mud Work
Female	45	2	7	0	0	0
Male	23	9	3	1	1	1

Free Training Model

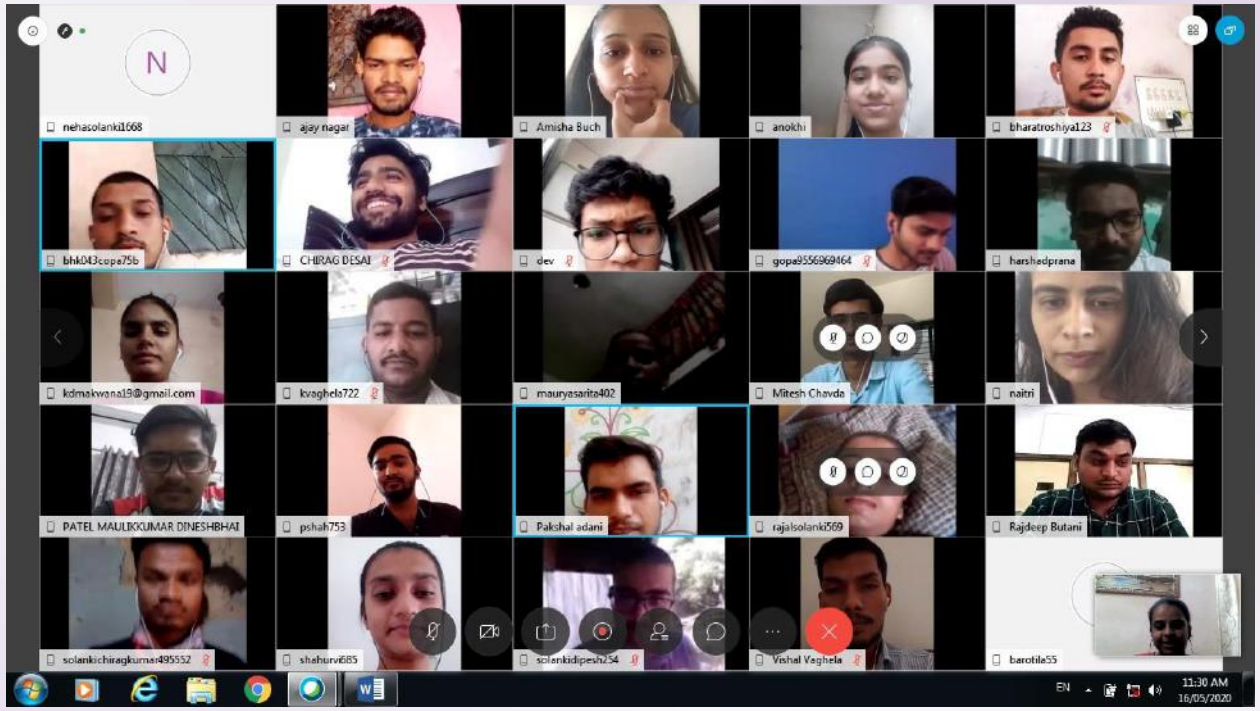


	Basic Funcional English	GST With Tally	Digital Literacy
Female	93	10	16
Male	92	30	9

Adani Skill Development Centre

E-Learning

324 students Enrolled in Online Training



Various Activity

The students of DDU-GKY (GDA) creating awareness regarding Covid-19 in their own village through various activity

Adani Skill Development Centre

Interview and Placement

Arranged interview of DDU-GKY GDA students at Sterling Hospital – Gandhidham, GAIMS (Sodexo), Chanakya College, Accord Hospital, Fire Academy.

27 students get placement in GAIMS (sodexo), Alilance Hospital, Shreeji Hospital, Bhuj Fire Academy, Divine Hospital etc.
3 students are working in COVID-19 Hospital

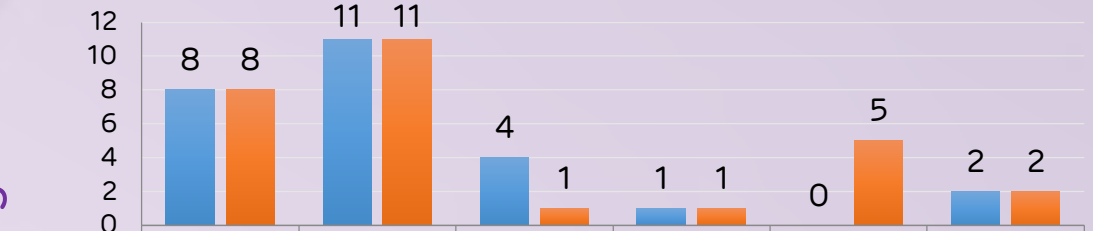
Adani Skill Development Centre

E-Learning & Activity

- Online E- Learning training of Interview skill course
- Online training of Mud work – Theory and practical

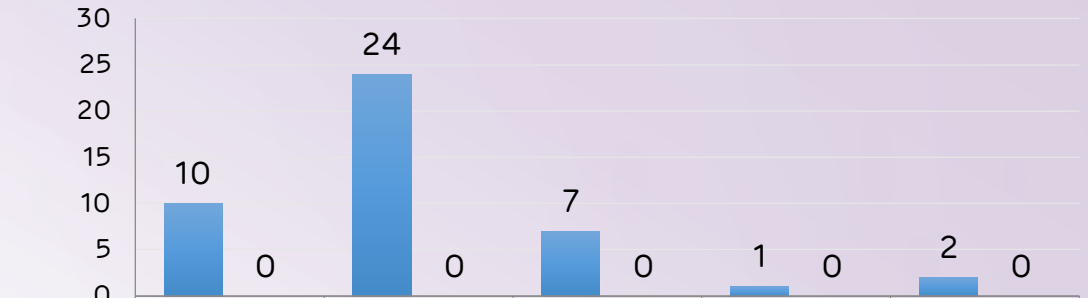
Admissions From April to September, 2020

Free Training Model



	Digital Literacy	Basic Functional English	Basic Home Health Care	Financial Literacy	Marketing Skill	Training Skill
Female	8	11	4	1	0	2
Male	8	11	1	1	5	2

Subsidized Training Model



	Digital Literacy	Mud work	Beauty Therapist	Manicure Pedicure	Basic English
Female	10	24	7	1	2
Male	0	0	0	0	0

CSR - Nakhatrana

Recharge Bore well

Adani Foundation, Nakhatrana had revived ground water table by recharging the bore wells and wells in Amara and Jinjay village. Total 15 Bore well recharge work will be beneficial to more than 70 beneficiaries in irrigation.

Benches and Otta Work

In Jinjay Village 5 cement benches were grouted and 2 sitting places – otta were repaired at public places. Also in Amara village 6 cement benches was grouted near Village Pond which brought visibility of our entry point activity work for Green Energy Projects.

Tree Guard Support

Adani Foundation always believes in Nature conservation. For purpose of planting and protection of trees, Adani Foundation provided 50 cages in Ugedi village of Nakhtrana taluka and 100 cages in Ratadia village..

CSR - Nakhatrana

Swavlamban Divyang Support

The Adani Foundation, Nakhtrana provides a variety of tools to help people with disabilities become financially self-sufficient. Disabled people are given various support for livelihood such as cabin shop, sewing machine, Atta chakki in which they earn income by selling various things.

SETU Agriculture Projects

Adani Foundation supported agriculture projects by linkages of Government Scheme. Facilitated 23 SC Farmers of Ugedi, Amara, Ratadiya and Desalpar village by Kitchen Garden kits worth Rs 2000 by coordination with Department of Horticulture GOG.

SETU Widow/Divyang Support

We act as a bridge between Government schemes for Widows and Divyang people. 104 Widow women were supported to fulfill formalities of filling pension scheme forms and started getting aid of Rs. 1250 per month. Tricycle, Bus pass and sewing machine support was also coordinated with social welfare department

CSR - Nakhatrana

Biodiversity - Ugedi

Adani Foundation also works for the conservation of biodiversity. To do such work, Adani Foundation works with the advice of experts and the guidance of an expert organization to protect the environment and also to protect and preserve the wild biodiversity. It works to protect biodiversity.

This work has been entrusted to Sahajivan, an expert organization for the protection and conservation of biodiversity, as part of which a Biodiversity Conservation Committee has been formed in Ugedi village (BMC). As well as in the garden of Ugedi village and in the place of Angalwadi, trees have been planted. Also, in the seam area of Ugedi village, more than 300 native trees have been planted, In which trees like Pilu, Desi Bawal, Khejari, Liar have been planted. As well as the seeds of the native trees have been sprinkled, babool has been removed from the roots in the village pastures by JCB and the pastures have been cleared so that the native trees can grow more and the sprinkled seeds grow there and It has been tried to grow back the native trees of Kutch. Also, a small pond has been constructed in Shim of Ugedi village, in which wild animals can get water as well as survive

CSR - Lakhpat

Tree Guard Support

Adani Foundation always believes in Nature conservation. For purpose of planting and protection of trees, Adani Foundation provided 100 cages in Kapurashi village of Lakhpat taluka and 100 cages in Koriyani village..

Fodder Cultivation

Animal Husbandry is the main livelihood of Lakhpat. Due to good rain we motivated more than 61 farmers to grow fodder in at least one acre of land to become self sustainable.

CSR-Tuna

Rations Kits Support

We believes in growth with Goodness and giving back to society.

We are Always ready to support during any Nature calamities and pandemic.

During the Covid -19 pandemic we had started Ration kit Distributed campaign with spreading precautionary awareness to needy and poor people.

Total 1100 Ration Kits Distributed to Tuna Rampar and Vandi Villages

SETU – Widow/Divyang Support

We act as a bridge between Government schemes for Widows and Divyang people. social welfare department.

We arranged Awarness program with Anarde Foundation , setu and Government Officers.

CSR-Tuna

Potable water Distribution

at Vira and Ghavarvado Fishermen Vasahat

Water Project

Water Pipe Line installation & Storage tank construction with Collaboration with WASMO , GP and AKBTL at Tuna

Fodder Support

Fodder distribution to Rampar and Tuna Villages.

Rampar

15520 Kg dry Fodder Rs.1.1 Lacs

122930 Kg Green Fodder Rs.3.50 Lacs

Tuna

32430 Kg Dry Fodder Rs.2.65 Lacs

212800 Kg Green Fodder Rs.6.06Lacs.

Tree Plantation

Adani Foundation always believes in Nature conservation. For purpose of planting and protection of trees, Adani Foundation have Done Tree planation at Tuna , Rampar , Vandi Government Schools and Police station.

EVP-Employee Volunteering program

802 students of Vallabh Vidhalaya schools has been adopted by Adani employee

35 tablet for students of AVMB

Amid covid-19 its difficult to continue 10th standard study for the financial weaker students who don't have any digital gadget for online learning . Hence to enable them for online learning our APSEZ Employee volunteering support to provide Lenovo tablet to AVMB Students . .

All the 802 students are in the school are from migrants labour families who are working in various industries in and around of Mundra. Laborer children are in addition to resource constrain at home and also bear the dis-advantages of unfamiliarity of local language and culture, which inhabiting them to participation in school. Vallabh vidhalaya by passes the language barrier as the medium of instruction is Hindi.

Total Rs.16.04Lacs cheque had been handed over to Mr. Dharmendra who is the director of Vallabha vaiadhalaya On 1st may as the world labour day.

Events

World Environment Day

World Environment Day was celebrated in Four Talukas by different activities related to conservation of Environment.

- Mangrove Plantation at Luni sea coast with fisher folk community
- Tree Plantation at Mundra, Nakhtrana, Lakhpat & Tuna block.
- Inauguration of Gauchar land development work in 22 acres at Siracha village
- Tissue culture plant distribution to farmer
- 1500 herbal plants like meshvak, amla, galo, gugal, ardusi, pilu, etc planted at Nandi Sarovar biodiversity park

Events

Vanmhotsav

4100+ tree plantation

Vanmhotsav tree plantation :

Tunda, Siracha, Navinal , Zarpara, Dharb, Baroi, Luni, Samgoga, Nani bhujapar, Moti bhujapar, Mota bhadiya, Gundiyali , Anjar, Tuna, Rampar and Wandi Village.

For Mota bhdiya, Ravalpirdada tample and Zarpara with Government 1000 plants received from Forest Department.

Events

World Mangrove day

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.

Dr.V.Vijayan Kumara (Director of Gujarat institute of Desert ecology) , Mr. C.R.K Reddy (Former chief scientist ,CSIR-CSMCRI CEO) and Respected PNR sir and Gadhvi sir had delivered occasionally speech. As well as Paper presentation by GUIDE and with KSKV Scientist . Total 70 participated had joint this webinar.

Events

World ocean day

World ocean day

World ocean day celebration on 8th June at Luni bandar with spreading cleanliness message through coastal cleaning program and aware about government scheme with maintaining of social distancing

My Mother's dream became true

Name: Mura Keshabhai Dhuva

Place: Khavda**,** Bhuj, Kutch, Gujarat

Employer: Alliance Hospital (Covid 19 hospital), Mundra, Kutch, Gujarat.

Job: Joined as Nursing Assistant.

Salary: Rs. Up to 9000/- per month with lodging and boarding facilities.

Candidate Brief:

He belongs to rural family. Father is Carpenter and mother is Home maker. Parental household's monthly income prior to his placement was Rs.8, 000. His prior educational qualifications is 12th pass.

In his own words:

My mother's dream is that one of the sons should be in medical field. But due to financial constraint, I couldn't study further. I thought I will never be able to fulfill my mother's dream but fortunately, I got opportunity to get trained under GDA course and soon after its completion, I got placement in hospital. I feel proud to serve Covid19 patients and will continue doing fearlessly.

Thanks to Adani Skill Development Centre to give me opportunity to take training under DDU-GKY scheme and make me capable to take care of my family.

When asked how confident he is at his new and challenging work, he replies "Along with GDA training we were also trained with soft skills training as it helped me to become good team member and work efficiently."

It helped me to become good team member and work efficiently

Name: Nipul Punjabhai Sanjot

Place: Bidada-Mandvi, Kutch, Gujarat

Employer: Alliance Hospital (Covid 19 hospital), Mundra, Kutch, Gujarat.

Job: Joined as Nursing Assistant.

Salary: Rs. Up to 9000/- per month with lodging and boarding facilities.

Candidate Brief:

His father and mother works as helping staff (housekeepers) in another hospital. Monthly income of family prior to his placement was 10,000/-. His prior educational qualifications is 12th pass.

In his own words:

I am youngest in Covid19 hospital here but I know this is the time to act wise. When my friends ask me do you fear working as PCA? I simply laugh and say I am trained in GDA course and fully prepared for this work. My duty is to check patient's temperature, blood pressure and oxygen level and maintain record. We get residential facility nearby hospital. To Treat Covid19 patients, needs a courage and team work and I am blessed I got this wonderful chance. Thanks to Adani Skill Development Centre to give me opportunity to take training under DDU-GKY scheme and make me capable to take care of my family.

Stick at old ages

Dhanuba a self-esteem lady from Zarpara Village .While I peeped in her life it seems like that her existence is only to bear grief and sadness .Her husband was passed away before 20 Years since that she has been eduring social and economic responsibility of her family by drudgery daily wages. She have two daughter who are married and two sons who are supporting her for daily end meet ,day was passed little more good combatively .....Who knows it was for short times .....

Unfortunately one more shock in her life that her elder son get Heart attack and passed away & younger son got mentally ill again she have to drudgery to get them daily bread and butter... Though her daughters called her to lives with them but she denied strongly believed to don't be burden & belongs to daughter. Now she is 70 years old and physically weak and also get illed often.

One day she came to our Rural clinc for medical check-up and was talking with deep sigh & despair about her problem. Fortunately our Employee Mr. Karsanbhai was present at their and promptly talked with her and comprehend the reality. She could not availed benefit of widow pension scheme because of the certain government limitation even after numbers of time applied and Follow-up for the same. He went along with her and Collected the essential document and submitted to the respective department later within two month she received sanction order for the same and further Rs.1250 /- Widow pension has been started which been the great support for daily meet.

She and her daughters expressed great gratitude and said that Adani Foundation is hope

For the Poor and needy persons.

“Vidyadan Mahadan”

Really AF Scholarship support intervention could be the Community transformation rather than Individual.

Name: Sohil Gafur Manjaliya

Place: Luni ,Mundra

AF intervention:- Education Scholarship Support

Progress & Achievement:- Studied intently and perused Graduation Degree and process for LLB admission

Salary: Working with Lawyer as a practicenor and earn Rs. 8000/Month

Back Ground : He belongs to Poor Fishermen family and sincere to study since child hood. He belongs to Poor Fishermen family and sincere to study since child hood. His father is used to Pagadiya fishing practice to get the daily end meet.

In his own words:

In our community most of the youth left study after 8th standard and engaged in Fishing practice but when I had interacted with AF staff and persuaded for further study and Scholarship support. I realized that the only education can be the game changer to strengthen my Financial condition. Later I focused to study Intentionally and dreamed to be Lawyer.

Now am working with Advocate as Assistance and do Financially support to my family.

Indeed AF sensitized me and act as catalyst to transform my life than others really I am honored by friends and Society

The sewing machine act as legs to made me earned and confident for my family

Real Support

Name: Harkhumben hirabhai Rabari

Place: Jinjauu,Nakhtrana

AF intervention:- Sewing Machine Support.

Progress & Achievement:- Started Embroidery and sewing work

Income : Rs.2500 to 3000/Month

Back Ground : She is 40 year old lady and disable by polio in childhood. They are five members three Children and Husband wife. Her husband is driver and the only person to earn hence financial problem is always remain host. However She is illiterate & handicapped but symbol of etiquette and dedication. She always thought to be financial Supporter to her life partner . As belongs to Rabari community stitching & hand work is imbibed in her and she want to purchase Sewing machine for the same but Financial constrain did not allow them for same.

During community interaction she express her willing sewing machine support. we met her and after verification Support accordingly.

In his own words:

It was difficult to me as house wife to maintain budget but since I have started sewing work which added some extra money which can we expence for our children nurturing and education for their bright future.

Thanks to Adani foundation to be supporter to such disable persons

Sea of Change – I got a job ....

Manjaliya Jakum Osman is 36 years old Fishermen Youth though he was little dull in study but has insight sense and dedication to work. After completion of primary education he had been engaged in fishing practice with his father. Though he was earning but not enough to sustain his big family with Five Daughters .

He was always thinking to get hike and asking to provide work according to his skill like drivering ,electrician and painting work.
One day we offer him contract work in our dry cargo department for loading Unloading work. He started enthusiastically with 30 Labors teams and paid 100% Efforts to fetch the targets but.....Unfortunately he had to left contract due to some constrain.

Again he engaged in fishing as routine but destiny define another for him. we had called From APSEZ to need Casual labors and referenced for Jakum as having Good feedback for dedication toward work.

he accepted opportunity even did not know the process. Initially We supported for gate pass and other mandatory formalities. Currently 22 Fishermen youth are working under him.

He is saying that I am earning Approx Rs.40000/Month. And massage to Fishermen youth that I am grateful to AF to provide chance to proof my self and sustaining well. now I can Fulfill all basic amenities and invest to my daughter education.

He message to Fishermen Youth that we have great Opportunity as having ADANI port and companies to get employed.

Media coverage

જીવન સાથે જીવનનિર્વાહની સામર્થવાન કામગીરી કરતું: અદાણી ફાઉન્ડેશન

(પ્રેસ રીલીઝ) મુંદરા તા. ૧૨

આજે અદાણી ફાઉન્ડેશન ૧૮ રાજ્યમાં ૨૨૫૦ ગામડાઓ સુધી લોક કલ્યાણ અર્થે કામ કરી રહ્યુ છે. અદાણી ફાઉન્ડેશન કચ્છ જિલ્લામાં પણ સુસંગત, વ્યવસ્થિત રીતે, સમાજ ઉપયોગી કામગીરી કરવા હંમેશા તત્પર રહ્યું છે. તેની કામગીરી સહીયારા મૂલ્યની વિભાવનાથી પ્રેરિત છે. જેમાં અદાણી ફાઉન્ડેશન સમાજ માટે સર્વસમાવેશક વાતાવરણ ઉભું કરવા ઉત્સુક છે, તેના આ કાર્યની સાબિતી મુન્દ્રાના લાભાર્થી પરિવારો પૂરી પાડે છે.

અદાણી ફાઉન્ડેશન દ્વારા દેશના ૧૮ રાજ્યમાં ૨,૨૫૦ ગામડાઓમાં કરવામાં આવેલ લોક કલ્યાણના વિવિધ કર્યો : મુન્દ્રા તાલુકાના ૨૨ ગામોને સેનીટાઈઝ કરવામાં આવ્ય અસરગ્રસ્ત પરિવારોને ૧૦,૦૦૦ જેટલી રાશન કીટનું વિતરણ

જેટલી રાશન કીટનું વિતરણ કરવામાં આવ્યું છે તથા આ કામગીરી હમણાં પણ ચાલી રહી છે. આવશ્યક સેવાના ભાગરૂપે અદાણી પોર્ટ અને વિલ્મારના સહયોગથી ત્યાં કામ કરતા કામદારો અને ડ્રાઈવરોને દૈનિક બે ટાઈમ અંદાજિત ૫,૨૦૦

આપતાં સુપોષણ પ્રોજેકટની "સંગીની બહેનો" કોવિડ ૧૯થી બચવા હેલ્થ હાઈજિનની સચોટ માહિતી દરેકને અને ખાસ કરીને પ્રસૂતા બહેનોને આપવામાં આવે છે. છેલ્લા સાત વર્ષથી સફળ રીતે કાર્યરત "આવાજ દે" સોફ્ટવેર

પ્રતિકારક શક્તિ વધારવા માટેના જરૂરી ખોરાકની માહિતી પણ વર્ચ્યુઅલ પ્લેટફોર્મ દ્વારા આપવામાં આવે છે. આ સાથે અન્ય રોગથી પીડાતા દર્દીઓને ઘરે ફોન કરીને નિયમિત દવા લેવા અને ઘરની બહાર ન નીકળવા માટે અનુરોધ

મુંદરામાં અદાણી ફાઉ. દ્વારા વલ્લભ વિદ્યાલયને ચેક અર્પણ કરાયો તે વેળાનું દૃશ્ય.

અદાણી ફાઉન્ડેશને મુંદરાના વલ્લભ વિદ્યાલયનાં ૮૦૦ બાળકને દત્તક લીધાં

મુંદરા, તા. ૨ : અદાણી ફાઉન્ડેશન દ્વારા વલ્લભ વિદ્યાલયના ૮૦૦થી વધુ બાળકને દત્તક લેવાનો નિર્ણય લીધો છે. આજે શાંતિવિહારમાં

અદાણી કંપનીના કર્મચારીઓ દ્વારા અભ્યાસ કરતાં બાળકોને દત્તક લેવાનું કાર્ય છેલ્લા બે વર્ષથી

વાય.એમ.સી.ને ધન્યવાદ આપી શિક્ષણનું મહત્ત્વ સમજાવ્યું હતું. જ્યારે વલ્લભ વિદ્યાલયના ... રૂા. ૧૬ લાખનો

ખારેક, દાડમ અને કેરીના ગ્રેડિંગ, ક્લીનિંગ અને પેકિંગ માટે ખાસ વ્યવસ્થા ઉભી કરાશે

મુંદ્રાના ૧૧ ગામોના ખેડૂતોના ઉત્થાન માટે 'કચ્છ કલ્પતરૂ પ્રોડ્યુસર કંપની લિ.' એગ્રોમોલ બનાવશે !

● અદાણી ફાઉન્ડેશનનો સહયોગ અને ડાયરેક્ટરોના સમન્વય થકી ધરતીપુત્રોને કૃષિ ક્ષેત્રે મળશે સાચા

● ઓક્ટોબરના અંત સુધીમાં ૨૦૦ સભાસદોનો

માસિક એ શારીરિક પ્રક્રિયા હોવાથી અપવિત્રતા સાથે ન જોડો

અદાણી ફાઉન્ડેશન દ્વારા રાષ્ટ્રીય માસિક સ્ત્રાવ સ્વચ્છતા દિવસની ઉજવણી કરાઈ

। મુન્દ્રા ।

ગત તા. ૨૮મેના રાષ્ટ્રીય માસિક સ્ત્રાવ સ્વચ્છતા દિવસની અદાણી ફાઉન્ડેશન દ્વારા ઉજવણી કરવામાં આવી હતી. આ પ્રસંગે ગ્રામ્ય સ્તરે જાગૃતિ અભિયાન છેડતા માસિક એ શારીરિક પ્રક્રિયા હોવાથી તેને અપવિત્રતા સાથે ન જોડતા આ સમયગાળા દરમ્યાન મહિલાઓ પરત્વે ભેદભાવ નહી રાખવા

ફાઉન્ડેશન દ્વારા કાર્યરત આશા સહેલી રૂપે સેનેટરી પેડનું વિતરણ કરતાં નિકાલ

મુન્દ્રા તાલુકાના ૮ ગામોના ૩૪ ખેડૂતોને બારહી ખારેકના ટીસ્યુકલ્ચર રોપાઓનું વિતરણ કરાયું

મુન્દ્રા : તાલુકાના જુદા જુદા ૮ ગામોમાં ખારેક સમિતિ મુન્દ્રા અને અદાણી ફાઉન્ડેશનનાં સંયુક્ત પ્રયાસથી ખારેક વાવતા ખેડૂતોને જરૂરી વળતર મળે એ હેતુસર બારહી ખારેકના ૮૫૦ ટીસ્યુ કલ્ચર રોપાઓનું ૩૪ ખેડૂતોને વિતરણ કરવામાં આવ્યું હતું, તો બીજી તરફ ખેડૂતોના આ ઉત્પાદનની બજાર વ્યવસ્થા માટે કચ્છ - કલ્પતરુ પ્રોડ્યુસર કંપની બનાવવાની કાર્યવાહી શરુ

ખારેક બજાર વ્યવસ્થા માટે કચ્છ-કલ્પ તરુ પ્રોડ્યુસર કંપની બનાવશે : અદાણી ફાઉ. દ્વારા આયોજન

ગઢવી, દતાત્રેય ગોખલે તેમજ અદાણી સેઝ પોર્ટના એક્ઝીક્યુટીવ ડાયરેક્ટર રક્ષિતભાઈ શાહે

ભુજપુર આસપાસ ૨૩ લાખના ખર્ચે વિવિધ વિકાસકામો સંપન્ન : ખાનગી કંપનીનો સહયોગ

ભુજપુર (તા. મુંદરા), તા. ૨૧: મુંદરા તાલુકાના ...

તળાવ સુધારણા, વૃક્ષારોપણ, બગીચો રસ્તો-ફેન્સિંગ સહિતનાં કામો અદાણી ફાઉ. દ્વારા કરાયા

અદાણી સ્કિલ ડેવ. દ્વારા નિ:શુલ્ક ઓનલાઈન વ્યવસાયલક્ષી અભ્યાસક્રમ

ભુજ, તા. ૧૦ : અદાણી સ્કિલ ડેવલોપમેન્ટ દ્વારા ચાલતા વ્યવસાયલક્ષી અભ્યાસક્રમ કોરોનાની મહામારીને કારણે નિ:શુલ્ક ઓનલાઈન અભ્યાસક્રમ

તાલીમાર્થીઓ ઓનલાઈન જોડાયા છે. તાલીમ ૫૦ દિવસ સુધી ચાલશે. રોજ બે કલાક ચાલતી આ તાલીમમાં હજુ પણ કચ્છમાંથી કોઈ જોડાવા ઈચ્છુક

નર્સિંગ કોર્ષના ૨૦ તાલીમાર્થીઓને પ્રમાણપત્ર પહેલા જ નોકરી મળી

ભુજમાં અદાણી સ્કિલ ડેવલોપમેન દ્વારા અપાઈ હતી તાલીમ

કચ્છમાં જરૂરિયાત મુજબ નિમણુક અપાવવામાં પ્લેસમેન્ટ ઓફિસર નિરવ લેઉવા, કિન્નરી ઉમરાણીયા તથા રોહન સોની મદદરૂપ થયા હતા.

તાલીમ માટે અસ્મિતાબેન જેઠી અને પૂર્વી ગોસ્વામી સહાયરૂપ થયા હતા. હજુ પણ જરૂરિયાત મુજબ પ્રયત્નો કરવામાં આવી રહ્યા છે.

અત્રે ઉલ્લેખનીય છે કે, ગયા ઓક્ટોબર-૧૯માં બેચ શરૂ થઈ હતી. પરંતુ, લોકડાઉન આવી જતા પરીક્ષા લઈ શકાઈ નહોતી છતાં ફળ મળ્યું છે.

લુણીમાં સમુદ્ર સફાઈ અભિયાન હાથ ધરાયું







We Salute to Corona Warrior Staff of Adani GKGH, Adani Hospital Mundra, Community Health Staff and team....

Our fight against Corona is still continue with new hope and dreams.....

Adani Foundation-Mundra : Budget F.Y. 2020-21

Executive Summary : Budget Utilization Statement-April to September.2020

F.Y. 2020-21 (Rs. In Lacs)

Sr. No.	Budget Line Item	Budget 2020-21	Budget Utilization	% of utilization	Remarks
A.	**Admin Expense**	**61.10**	**24.07**	**39.39%**	
B.	**Education**	**94.56**	**25.11**	**26.55%**	
B1	Utthan-Education -Mundra	64.11	24.16	37.68%	
B2	Education -Fisherfolk - Balwadi	30.45	0.95	3.12%	
C.	**Community Health**	**420.70**	**95.29**	**22.65%**	
D.	**Sustainable Livelihood Development**	**365.00**	**171.83**	**47.08%**	
E.	**Community Infrastructure Development**	**58.30**	**7.81**	**13.40%**	
F.	**EDM Recommanded Projects**	**60.00**	**1.38**	**2.30%**	
G.	**COVID 19 Support**	**100.00**	**23.05**	**23.05%**	
	Total AF CSR Budget :	**1,159.66**	**348.54**	**30.06%**	
H.	**Adani Vidya Mandir-Bhadreshwar**	**219.67**	**42.24**	**19.23%**	
I.	**Project Udaan-Mundra**	**50.00**	**25.92**	**51.84%**	
	GRAND TOTAL BUDGET F.Y. 2020-21 :	**1,429.33**	**416.70**	**29.15%**	

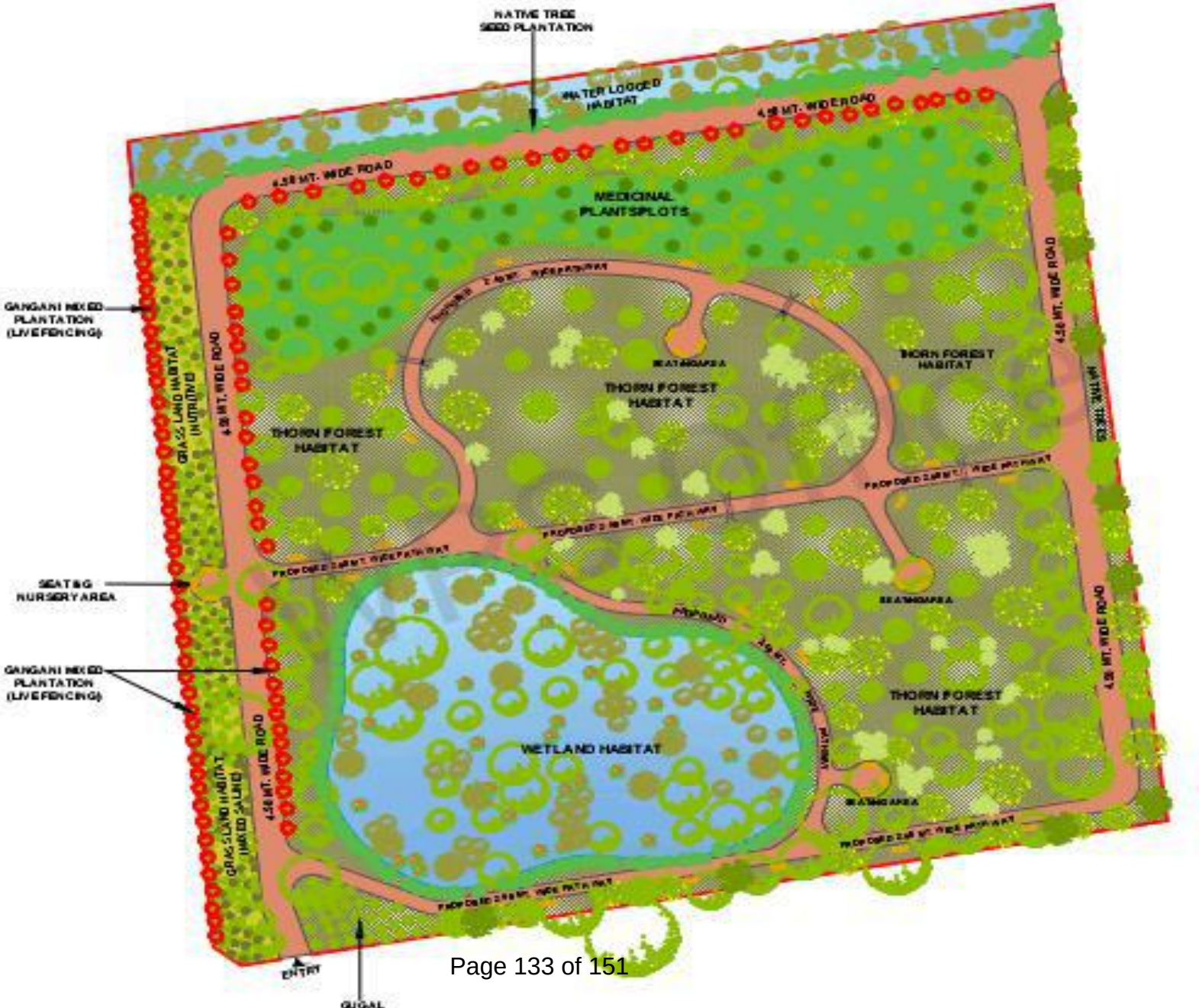
Development of Biodiversity Park

at

Nandi Sarovar

Mundra- Kachchh

Proposed Plan Layout for Biodiversity Park



Collection of Baseline Data

PRE MONSOON SURVEY

- 78 Species (under 34 Families and 71 Genera)
- 384 TREES
- 50% plant species are herbs, followed by trees (31%) and grasses (11%).

POST MONSOON SURVEY

- 25 New NATIVE Species added in List
- 48 SPECIES are planted including 6-7 Saline Mixed Grasses

Site Clearing and Leveling

- *Before and after Lockdown*
- *Through Labors*
- *Through Machineries*
- *Prosopis juliflora,* debris and other waste

Nursery Beds and Purchasing Native Saplings (45+ Species)

Sr. No	Species Name	Social Forest Nursery, Dhunai	Normal Forest Nursery, Dhunai	Hightech Nursery, FD, Bhuj	Salvadora Green Nursery, Nakhtrana	Gov. Ayurveda Farm, Reldi	Pvt. Nursery, Adipur	Gulfarm Nursery, Bhuj	TOTAL
1	Manilkara hexandra (Rayan)				12				12
2	Azadirechta indica (Limdo)			10					10
3	Cordia gharf (Liyar)				63				63
4	Acacia nilotica (Deshi Bavar)			50	50				100
5	Pomegrantum (Dadam)			20					20
6	Psidium (Jamphal)	10							10
39	Withania somnifera (Ashwagandha)					14			14
40	Abrus precatorius (Chanothi)					10			10
41	Canna indica (Canna)						50	50	100
Total from Each Nursery		100	240	150	358	56	60	160	1124

Collection and Purchased SEEDs (10+ Species)

- Vegetative cuttings of stem of drought resistant plant species like *Euphorbia caducifolia* (Tuar, Thor)
- Seeds of *Cassia auriculata* (Awar), *Acacia nilotica* (Desi Baval) and *Pongamia pinnata* (Karanj), from surrounding landscape.
- Seeds of *Grewia villosa* (Luska), *Premna sp.* (Kundher), *Gymnosporia montana (Vikado)*, *Moringa oleifera* (Mitho Saragavo) are collected from wild area of Bhuj Taluka and
- Seeds of *Ziziphus mauritiana* (Bor) and *Salvadora oleoides* (Mithi Jar) are purchased from Koli communities of Rapar taluka

Development of Grassland Habitat

More than 10 species planted: Mixed Saline, High Nutritive, Sedges etc.

More than 5 species are planted through roots-saplings from our site

Development of Wetland Habitat

Site composition	Species planted	Strategies
Waterlogged area	Vitex negundo (Nagod), Salvadora persica (Khari Jar), Suaeda nudiflora (Lano, Unt Morad)	Water preferable species, fast growing and saline tolerant; medicinal plant; attract many insects, butterflies during flowering.
Seepages with sewage water	Canna indica (Cana Plant)	Evergreen tuberous herb and helpful in water purification with control on sewage smell.
Dominant by sedges	Cyperus scariosus, C. rotundens and others	Soil binder and saline tolerant species and also preferable by many insects and butterflies.
Dominant by Phragmites sp. and other vegetation	Seed sowing of mix grasses collected from Banni grassland as part of gap filling along the boundary	Soil binder and saline tolerant-high nutritive species and also preferable by many insects and butterflies.
Dominant by Sesbania bisponosa and Cypers scarious	Seed sowing of mix grasses collected from Banni grassland as part of gap filling along the boundary; and also planted seeds of native thorny species available at sites for providing more shelter trees for birds	Soil binder and saline tolerant-high nutritive species and also preferable by many insects and butterflies. Native seed sowing of Zizyphus mauritiana (Bor), Cassia auriculate (Aavar), Pongamia pinnata (Karanj), Acacia nilotica (Deshi Bavar), Salvadora oleiode (Mithi Jar) etc.
Complete Dry area	Caesalpinia crista (Kachka)	Spiny straggling shrub, provide green and wild protection/live fencing; medicinal species

Development of Thorn Forest Habitat

Species Name	Local Name
Cordia gharaf	Liyar
Acacia nilotica	Desi Bavar
Grewia tanax	Gangani
Commiphora wightii	Gugal
Prosopis cineraria	Khijdo, Kandhi
Pithecellobium dulce	Goras Ambli
Zizyphus mauritiana	Bor
Azadiractha indica	Limdo
Salvadora persica	Khari Jar, Pilu

- Drought resistant, thorny and deep-rooted plants.

- Less requirement of water during summer season compared to other evergreen plant species.

Development of Medicinal Plants PLOTS

- **Increased density:** *Salvadora persica* (Khari Jar), *Moringra concensis* (Kadvo Sargavo), *Pithecellobium dulce* (Goras Amali), *Prosopis cineraria* (Kandhi), *Tecomella undulata* (Ragat Rohido), *Zizyphus mauritiana* (Bor), *Cordia dichotoma* (Gunda), *Salvadora oleoides* (Mithi Jar), *Holoptelea integrifolia* (Kanaji), *Punica granatum* (Dadam), *Acacia nilotica* (Deshi Bavar), *Cordia gharaf* (Liyar).

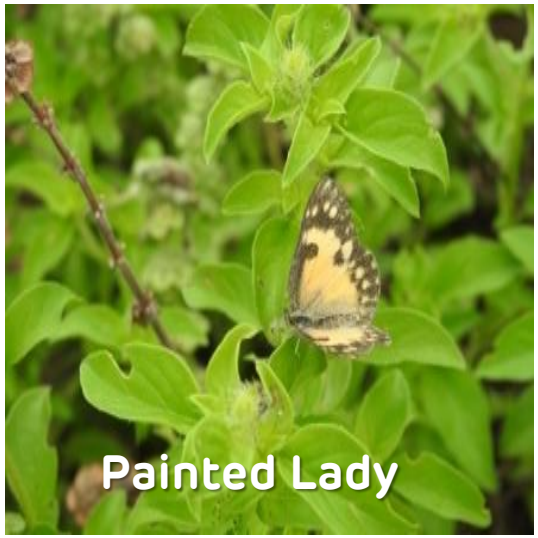
- Between two small plots, we planted almost **12 medicinal plant species in block**

Development of Climbers and Live Hedges

- Wild climber species are planted i.e. Tinospora cordifoilia (Garo), Abrus precatorius (Chanothi), Argyreia nervosa (Samudra Sosh) and Asparagus racemosus (Satavari).

- Mainly FOUR species, i.e. Acacia nilotica (Deshi Bavar), Pithecellobium dulce (Goras Amali), Grewia tenax (Gangani) and Euphorbia cuducifoilia (Tuar) for plantation are planted as LIVE FENCED

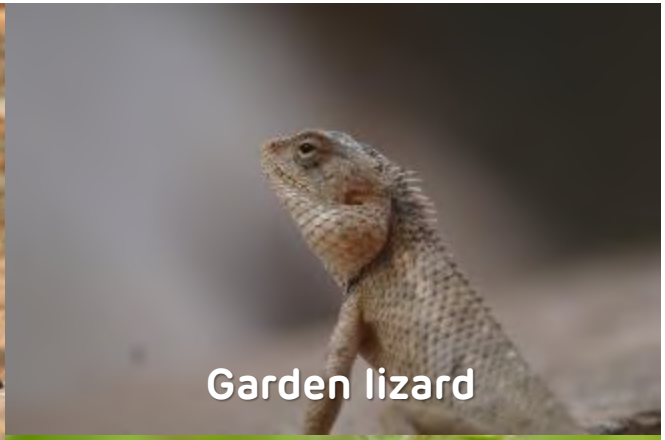
Diversity of Butterflies

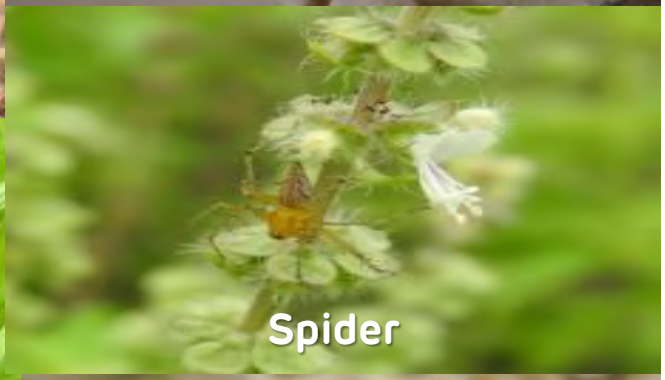


Common Faunal Species


Dragon Fly


Red-wattled Lapwing


Garden lizard


Spider


Blue Bull- *Nilgai*


Beetle


Fan Throated Lizard

Celebration of Special Days…

Environment Day on 5th June 2020 and Van-Mahotsav on 6th July 2020

નંદી સરોવરમાં પાર્ક બનાવવાનું આયોજન

પ્રાગપર ગામે પાંચ એકરમાં બાયોડાયવર્સિટી પાર્ક બનશે

અહિંસાધામ અને અદાણી ફાઉન્ડેશન દ્વારા આયોજન

। ભુજ । (સંદેશ પ્રતિનિધિ)

મુન્દ્રા તાલુકાનાં પ્રાગપર ખાતે અદાણી ફાઉન્ડેશન દ્વારા એન્કરવાલા અહિંસાધામ સંચાલિત નંદી સરોવર ખાતે આવેલા પાંચ એકર પ્લોટને બાયોડાયવર્સિટી (જૈવ વિવિધતા) પાર્ક તરીકે વિકસાવવામાં આવશે.

૧લી જુલાઈથી ૭ જુલાઈ સુધી યોજાયેલા વન મહોત્સવ અઠવાડિયા દરમિયાન પાંચ એકર પ્લોટમાં ૧૨૫૦ જેટલા ઔષધિ વનસ્પતિના રોપાંઓનું વાવેતર કરવામાં આવ્યું હતું. આ કાર્ય માટે ડ્રીપ પદ્ધતિ અપનાવવામાં આવી છે. આ વન મહોત્સવમાં અહિંસા ધામના સી.ઈ.ઓ. ગિરીશભાઈ નાગડા, અદાણી ફાઉન્ડેશનનાં હેડ પંકિતબેન શાહ તથા માવજીભાઈ બારૈયા, કરસનભાઈ ગઢવી, સહજીવન સંસ્થાના ડાયરેક્ટર ડો.પંકજભાઈ જોશીનાં હસ્તે વાવેતર કરવામાં આવ્યું હતું. મુન્દ્રા તાલુકાના ઝરપરા ગામની સરકારી હાઈસ્કૂલ અને સ્મશાનભૂમિ ખાતે પણ વૃક્ષારોપણ કરવામાં આવ્યું હતું. આ ઉપરાંત નખત્રાણા તાલુકાના ઉગેડી ગામે વન મહોત્સવ દરમિયાન વિવિધ રોપાંનું સરપંચ મીઠુભાઈનાં સહકારથી અદાણી ફાઉન્ડેશન દ્વારા કરવામાં આવ્યું હતું. સમગ્ર કાર્યક્રમનું આયોજન અને અમલીકરણ પ્રોજેક્ટ ઓફિસર કરશનભાઈ ગઢવી તથા તેમની ટીમ દ્વારા કરવામાં આવ્યું હતું.

Future Planning...
for discussion

- Landscaping, designing and seating arrangement at 2-3 Locations;
- Preparation of Signboards for Medicinal plants and selected Faunal Species;
- GAP Plantation of medicinal plants- MAKING DENSE PLOTS; and
- Compilation of Biodiversity Data: FLORA & FAUNA

Budget For Next Six Months

ACTIVITY	Proposed Budget Rs.	Accumulated Expenses	Available Balance Rs.
Layout and Designing of BD Park	40,000	0	40,000
Saplings , Seeds Purchasing	1,06,230	65,578	40,652
Travel Cost Including TEDE	1,25,200	54,097	71,103
H.R.Cost Including Support Team	2,76,000	1,38,000	1,38,000
Overhead Cost	46,600	23,296	23,304
Total	5,94,030	2,80,971	3,13,059


THANK YOU...

Annexure – 6

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, **Gandhinagar** 382010
Phone : (079) 23222425
(079) 23222152
Fax : (079) 23232156
Website : www.gpcb.gov.in

Application For CTE After TOR

File No : GPCB/ **(PCB ID. - 17739)**

To,
M/s. Adani Ports & Special Economic Zone Ltd.,
169/P, AT-NAVINAL ISLAND, MUNDRA, KUTCH,
City :Mundra ,
Dist : Kutch East ,
Taluka : Mundra

Sub: Consent to Establish (After obtaining Terms Of Rrference For Environment Clearance) under Section 25 of Water Act 1974 and Section 21 of Air Act 1981.

Ref: (1) Your online application No. 175853 dated 27/04/2020

(2) TOR issued by Central Authority vide their letter no. 10-24/2019-IA-III Dated 17/05/2019

Sir,

Without prejudice to the powers of this Board under the Water (Prevention and Control of Pollution) Act-1974, the Air Act-1981 and the Environment (Protection) Act-1986 and without reducing your responsibilities under the said Acts in any way, this is to inform you that this Board grants **Consent to Establish (After obtaining Terms Of Rrference For Environment Clearance) under Section 25 of Water Act 1974 and Section 21 of Air Act 1981** for manufacturing of products as mentioned into the application of Environment Clearance (EC) for which TOR is granted vide letter under reference no (2) above.

Consent To Establish Is Granted Subject To The Following Conditions: -

1) The validity period of this CTE shall be Seven Years from the issue of this order.
2) Applicant shall strictly comply with all conditions stipulated by competent authority in the order of Environment Clearance to be issued in reference to TOR issued vide letter under reference No. : 2 above.
3) The applicant shall however , not without the prior concern of the Board. Bring into use any new or altered outlet for the discharge of effluent or gaseous emission or sewage waste from the proposed industrial plant. The applicant is required to make applications to this Board for this purpose in the prescribed forms under the provisions of the water Act – 1974, the Air – 1981 and the Environment (Protection) Act – 1986.

For and on behalf of
Gujarat Pollution Control Board

K. B. Chaudhary
ROH - Kutch East

- This order is issued to 169/P, AT-NAVINAL ISLAND, MUNDRA, KUTCH, City :Mundra, Dist : Kutch East, Taluka : Mundra (17739) for CTE amendment after obtaining EC.

Annexure – 7

Cost of Environmental Protection Measures

Sr. No.	Activity	Cost incurred (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2018 – 19	2019 – 20	2020 – 21 (Till Sep'20)	2020 – 21
1.	Environmental Study / Audit and Consultancy	6.7	0.33	2.0	51.0
2.	Legal & Statutory Expenses	4.42	0.84	10.09	11.0
3.	Environmental Monitoring Services	20.36	21.74	8.46	30.0
4.	Hazardous / Non Hazardous Waste Management & Disposal	95.72	108.43	44.34	119.8
5.	Environment Days Celebration and Advertisement / Business development	0.28	1.5	0.94	10.0
6.	Treatment and Disposal of Bio-Medical Waste	1.21	1.62	1.08	1.68
7.	Mangrove Plantation, Monitoring & Conservation	47.0	Nil	Nil	Nil
8.	Other Horticulture Expenses	579.32	734.18	490	910
9.	O&M of Sewage Treatment Plant and Effluent Treatment Plant (including STP, ETP of Port & SEZ & Common Effluent Treatment Plant)	144.29	110.18	81.09	160.08
10.	Expenditure of Environment Dept. (Apart from above head)	109.28	105.13	41.44	107.44
	Total	**1008.58**	**1083.95**	**679.44**	**1401.0**

Annexure – 8

091245

Previous License No. 4929

गुजरात विशेष आर्थिक क्षेत्र अधिनियम २००४ के
अध्याय ७ की शर्तों के आधीन

0102

फॉर्म नं. ४

(नियम ५ के अनुसार)

कारखाना चलाने के लिये नामांकन और लाइसेंस

अधपन्ना 52109

नामांकन संख्या ~~70707~~

लाइसेंस नं. _____

सविनय Malay Mahadevia + 8 १९४८ के कारखाना के अधिनियम और उसके अंतर्गत बनाये गये नियमों के आधीन निम्न लिखित मकान विस्तारका वर्ष के दौरान किसीभी कार्य दिवसमें 500 से अधिक/~~अधिक~~ नहीं व्यक्तिओं को कार्य पर रखने और 5000 होर्स पावर से अधिक/~~अधिक नहीं~~ विद्यय शक्ति रखनेवाले कारखानो को नियमनुसार लाइसेंस दिया जाता है ।

यह लाइसेंस ३१ दिसंबर 2018 तक मान्य रहेगा ।

दिया गया भुगतान शुल्क 79200/- 52 2640/-

बाकी भुगतान शुल्क 79200/-

अधिक भुगतान शुल्क 2640/-

ता. 20/4/2017

का. धा. दिनांक : 7/10/98

Deputy Director
Industrial Safety & Health
Adipur (Kutchh)

-Sd-
विकास आयुक्त
मुन्द्रा विशेष आर्थिक क्षेत्र

लाइसेंस दिए गए मकान विस्तार की रुपरेखा

दिनांक 11-11-98 का नकशा नं. 1209/C में दर्शित लाइसेंस दिए गए मकान Navinal Island - Mundra - ~~Kutch~~ जगह पर आया हे और उसमें Adani Ports And Spcial Economic Zone Ltd है।

नवी करण

नवी करण दिनांक	कामगारों की संख्या के लिये	होर्स पावर के लिये	कुल शुल्क	अधिक भुगतान शुल्क	लाइसेंस समाप्ति की तारीख ३१ दिसंबर,	लाइसेंस देनेवाले अधिकारी के हस्ताक्षर
26/11/2018	500 से अधिक नहीं	5000 से अधिक नहीं	39600	42240/-	२०19	
"	500 से अधिक नहीं	5000 से अधिक नहीं	39600	2640	२०20	
	से अधिक नहीं	से अधिक नहीं			२०	
	से अधिक नहीं	से अधिक नहीं			२०	
	से अधिक नहीं	से अधिक नहीं			२०	
	से अधिक नहीं	से अधिक नहीं			२०	
	से अधिक नहीं	से अधिक नहीं			२०	
	से अधिक नहीं	से अधिक नहीं			२०	
	से अधिक नहीं	से अधिक नहीं			२०	