APSEZL/EnvCell/2019-20/014 **Date:** 20.05.2019

To

Additional Principal Chief Conservator of Forests (C),
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

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 October – 2018 to March – 2019 has been submitted through mail communication and acknowledge of the same is attached here for your records.

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

Avinash Rai
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) Deputy Secretary, Forests & Environment Department, Block – 14, 8th floor, Sachivalaya, Gandhi Nagar – 382 010
5) Regional Officer, Regional Office GPCB (Kutch-East), Gandhidham, 370201

Adani Ports and Special Economic Zone Ltd
Adani House,
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Mundra, Kutch 370 421
Gujarat, India

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adani

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:

October-2018 to March-2019

Index

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.

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2019</th></tr>
<tr><td>2(i)</td><td>All construction designs / drawings relating to various project activities should have the approval of the concerned State Government departments / Agencies.</td><td>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.</td></tr>
<tr><td>2(ii)</td><td>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.</td><td>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.</td></tr>
<tr><td>2(iii)</td><td>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 whichever are more</td><td>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.
<table>
<tr><th>Location</th><th>Capacity</th><th>Quantity of Wastewater (Avg. from Oct'18 to Mar'19)</th><th>Type of ETP / STP</th></tr>
<tr><td>LT</td><td>265 KLD</td><td>99 KLD</td><td>Activated Sludge</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2019</th></tr>
<tr><td></td><td>stringent.</td><td>Third party analysis of the treated water is being carried out once in a month by NABL and MoEF&CC accredited agency namely M/s. Pollucon Laboratory Pvt. Ltd. Summary of the same for duration from Oct'18 to Mar'19 is mentioned below.

<table>
<tr><th>Parameter</th><th>Unit</th><th>Max</th><th>Min</th><th>Perm. Limit$</th></tr>
<tr><td colspan="5">Industrial Effluent / Sewage</td></tr>
<tr><td>pH</td><td>--</td><td>8.4</td><td>7.1</td><td>6.5 to 8.5</td></tr>
<tr><td>TSS</td><td>mg/L</td><td>72</td><td>25</td><td>100</td></tr>
<tr><td>TDS</td><td>mg/L</td><td>1921</td><td>1024</td><td>2100</td></tr>
<tr><td>COD</td><td>mg/L</td><td>94</td><td>68</td><td>100</td></tr>
<tr><td>BOD (3 Days @ 27°C)</td><td>mg/L</td><td>26</td><td>18</td><td>30</td></tr>
</table>
$ as per CC&A granted by GPCB

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 – 1 for detailed analysis reports and accreditation certificate. Approx. INR 20.36 Lakh is spent for all environmental monitoring activities during the FY 2018-19.

<u>Waste Management</u> – APSEZ has adopted 5R concept for environmentally sound management of different types of solid & liquid wastes. Please refer below details about management of each type of waste.

<u>Municipal Solid Waste</u>: A well-established system for segregation of dry & wet waste is in place. All wet waste (Organic waste) is being segregated & utilized for compost manufacturing and/or biogas generation for cooking purpose. The compost is further used by in house horticulture team for greenbelt development. Whereas dry recyclable waste is being sorted in various categories. Presently manual sorting is being done for sorting of different types of solid waste. Segregated recyclable materials such as Paper, Plastic, Cardboard, PET Bottles, Glass etc. are then sent to respective recycling units, whereas remaining non-recyclable waste is bailed and sent to cement plant (M/s. Sanghi Industries Ltd., Kutch and/or M/s. Ambuja Cement Ltd., Kodinar) for Co-processing as RDF (Refused Derived Fuel).</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2019</th></tr>
<tr><td></td><td></td><td>
<u>Hazardous Waste</u>:

E – Waste & Used Batteries are being sold to GPCB registered recyclers namely M/s. e-Processing House.
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.
Downgrade chemicals generated from cleaning of storage tanks / pipelines are being sold to authorized solvent recovery facilities namely M/s. Acquire Chemicals, Ankleshwar however during the compliance period, there was no disposal of downgrade chemicals.
Slop Oil received from vessels is treated to separate water and oil particles in Oil Water Separator system. Separated oil from the same is being sold to authorized recycler / reprocessor namely M/s. Western India 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 last EC Compliance Report for the period Apr'18 to Sep'18.

The following table summarizes the waste management practice (for Oct'18 to Mar'19) 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>5.87</td><td rowspan="4">Co-processing at cement industries</td></tr>
<tr><td>Tank Bottom Sludge</td><td>21.59</td></tr>
<tr><td>Oily Cotton waste</td><td>66.22</td></tr>
<tr><td>ETP Sludge</td><td>5.21</td></tr>
<tr><td>Used / Spent Oil</td><td>92.03</td><td rowspan="2">Sell to registered recycler</td></tr>
<tr><td>Discarded Containers</td><td>8.72</td></tr>
<tr><td colspan="3">Municipal Solid Waste</td></tr>
<tr><td>Recyclables</td><td>92.26</td><td>After recovery sent for recycling</td></tr>
<tr><td>Refuse Derived Fuel</td><td>178.24</td><td>Co-processing at Cement Industries</td></tr>
<tr><td>Wet Waste (Food waste + Organic</td><td>188.44 (Manure) &</td><td>Converted to Manure for Horticulture use / Biogas for</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2019</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td>waste)</td><td>1938 Cum (Biogas)</td><td>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 Oct'18 to Mar'19 is mentioned below.

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$</td><td>99.6</td><td>50.2</td><td>100</td></tr>
<tr><td>$PM_{2.5}$</td><td>$\mu g/m^3$</td><td>59.2</td><td>20.4</td><td>60</td></tr>
<tr><td>SO_2</td><td>$\mu g/m^3$</td><td>27.5</td><td>6.6</td><td>80</td></tr>
<tr><td>NO_2</td><td>$\mu g/m^3$</td><td>46.6</td><td>13.6</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>56.0</td><td>75</td></tr>
<tr><td>Night Time</td><td>dB(A)</td><td>72.3</td><td>57.4</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</td><td>Complied.
Construction phase is completed.
For operation phase, following noise control measures are</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2019
	project activities and due to increase in the traffic which is likely to take place during construction and operational phases.	taken: • All DG sets are installed with acoustic enclosure. • 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.
2(vi)	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.	Complied. ETP 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. 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'18 to Sep'18 is mentioned in compliance condition no. 2(iii) above. **Marine Monitoring:** 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 Oct'18 to Mar'19 is mentioned below. Monitoring Reports are attached as **Annexure – 1** for the same. **Total Sampling Locations: 09 Nos.**

Parameter	Unit	Surface		Bottom	
		Max	Min	Max	Min
pH	--	8.37	8.07	8.24	8.03
TSS	mg/L	382	182	364	218
BOD (3 Days @ 27 °C)	mg/L	12.8	3.0	5.0	2.0
DO	mg/L	6.8	6.0	6.8	5.6
Salinity	ppt	35.7	33.9	36.0	3.0
TDS	mg/L	36734	34327	37434	34218

Ground Water Monitoring:
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

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2019</th></tr>
<tr><td></td><td></td><td>duration of Oct'18 to Mar'19 is mentioned below.
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>7.42</td><td>8.14</td></tr>
<tr><td>Salinity</td><td>ppt</td><td>1.26</td><td>17.33</td></tr>
<tr><td>Oil & Grease</td><td>mg/L</td><td>2</td><td>2.4</td></tr>
<tr><td>Hydrocarbon</td><td>mg/L</td><td>BDL*</td><td>BDL*</td></tr>
<tr><td>Lead as Pb</td><td>mg/L</td><td>0.031</td><td>0.96</td></tr>
<tr><td>Arsenic as As</td><td>mg/L</td><td>BDL*</td><td>BDL*</td></tr>
<tr><td>Nickel as Ni</td><td>mg/L</td><td>BDL*</td><td>BDL*</td></tr>
<tr><td>Total Chromium as Cr</td><td>mg/L</td><td>BDL*</td><td>BDL*</td></tr>
<tr><td>Cadmium as Cd</td><td>mg/L</td><td>0.014</td><td>0.058</td></tr>
<tr><td>Mercury as Hg</td><td>mg/L</td><td>BDL*</td><td>BDL*</td></tr>
<tr><td>Zinc as Zn</td><td>mg/L</td><td>0.072</td><td>2.1</td></tr>
<tr><td>Copper as Cu</td><td>mg/L</td><td>0.84</td><td>0.92</td></tr>
<tr><td>Iron as Fe</td><td>mg/L</td><td>0.25</td><td>9.8</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>0.9</td><td>1.05</td></tr>
</table>
*BDL = Below Detectable Limit

Please refer Annexure – 1 for detailed analysis reports. Approx. INR 20.36 Lakh is spent for all environmental monitoring activities during the FY 2018-19.</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</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 31-03-2019
	provided 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 in 78.87 ha. Total 159197 trees were planted with the density of 1993 trees per hectare within the port area. To enhance the marine biodiversity, till date APSEZ has carried out mangrove afforestation in more than 2850 ha. area across the coast of Gujarat. Total expenditure for the same till date is INR 832 lakh. So, far APSEZ has developed more than 455 ha. area as greenbelt with plantation of more than 8.3 Lacs saplings within the APSEZ area. Details on mangroves afforestation & Green belt development carried out by APSEZ till date is annexed as **Annexure – 2**.
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 4.2 MLD during compliance period i.e. Oct'18 to Mar'19. 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. During current year approx. 24 KL of rain water from storm water collected and utilized on land for gardening / plantation purpose. 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. Photograph showing roof top rain water harvesting system is attached as **Annexure – 3**. 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

Sr. No.	Conditions	Compliance Status as on 31-03-2019
		Patel Sahbhagi Jalsanchay Yojna' Total cost of these efforts was approx. INR 320 lakh. Under Sujlam Suflam project Adani Foundation has successfully completed pond deepening work in Mundra & Abdasa Taluka in record time. 26 pond deepening in Mundra and 7 pond deepening in Abdasa accomplished with all parameters calculated. In Mundra taluka 51723 cum excavation work has been done which increase storage capacity of 51 ML. In Naliya taluka 14550 cum excavation work has been done which increase storage capacity of 15 ML. Total 66 ML storage capacity will be increased. **Participatory Ground Water Management:** Adani foundation has started participatory ground water management project. The objective of the project was to reduce the salinity ingress in and around the coastal regions of Mundra, Kutchh and mitigate the ill-effects of this manmade problem to improve the livelihoods of the rural people. The Project will help to get water table high, also it will help in agricultural activities. As a part of pre monsoon activities with ACT (Arid Communities and Technologies – NGO) under this program, we have carried out following work. But, due to negligible rainfall we are not able to find out outcome of this project. i. Borana – Artificial bore well recharge (work completed) ii. Mangara – Artificial bore well recharge (work completed) iii. Dhrub – Pond deepening work (work completed) iv. Mota Kapaya – abended bore well recharge (work completed) Please refer **Annexure – 4** for full details of CSR activities carried out by Adani Foundation in the Mundra region. Budget for CSR Activity for the FY 2018-19 is to the tune of INR 1697 lakh. Out of which, Approx. INR 1624 lakh are spent during the year 2018-19.
2(x)	While filling the storage tanks, compatibility of the chemicals should be ensured for chemical safety. Since 5000 MT capacity is proposed to	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

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2019</th></tr>
<tr><td></td><td>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.</td><td>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 are attached as Annexure – 5.</td></tr>
<tr><td>2(xi)</td><td>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 required for converting NOC into "consent to operate" should be submitted within three months.</td><td>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 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>Permission</th><th>Project</th><th>Ref. No. / Order No.</th><th>Valid till</th></tr>
<tr><td>CtO – Renewal</td><td>Mundra Port Terminal</td><td>AWH-83561</td><td>20.11.2021</td></tr>
<tr><td>CtO - Amendment</td><td>Mundra Port Terminal</td><td>WH-88317</td><td>20.11.2021</td></tr>
<tr><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>CtO - Amendment</td><td>Mundra Port Terminal</td><td>H-98086</td><td>20.11.2021</td></tr>
</table>

CtO was granted based on the compliance of the CtE conditions. Copy of updated / amendment in CtO are attached as Annexure – 6.</td></tr>
<tr><td>2(xii)</td><td>For ensuring the acceptance of the project by the local</td><td>Complied.
Resolution from the Panchayat has been obtained and submitted to the Ministry of Environment, Forest & Climate</td></tr>
</table>

Sr. No.	Conditions	Compliance Status as on 31-03-2019
	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.	Change on 31st July, 2012.
2(xiii)	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 be earmarked for this cell.	Complied. APSEZL has a well structured Environment Cell, staffed with permanent qualified manpower for implementation of the Environmental Management Plan. Environment cell organogram was submitted along with last Half yearly compliance report i.e. Oct'17 to Mar'18. And there is no further change. Budget for environmental management measures (including horticulture) for the FY 2018-19 is to the tune of INR 1069 lakh. Out of which, Approx. INR 1008 lakh are spent during the FY 2018-19. 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	Complied. • Adani Skill Development Center (ASDC), Mundra is providing skill development training to the locals for Soft Skill, Technical Training and Carrier Guidance & knowledge based training. • During this year Total 1819 people is given various trainings to enhance socio economic development. Out of which 1294 People are getting employment or Self Employment and average income up to Rs. 5200 per month. Digital literacy training is very helpful in coordinating with today's Digital world.

Sr. No.	Conditions	Compliance Status as on 31-03-2019
	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.	• ASDC-Baroi (Mundra):- Adani skill development Center (ASDC) launched 'SAKSHAM' center at Baroi guest house in Mundra on 16th June 2018 to provide skill development training to youth in the Mundra. An initiative of Adani foundation, the center in the Mundra city will benefit about more than 500 candidates every year in Beauty & Wellness course. • 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. • During this compliance period, the foundation provided employment to the fishermen equivalent to 6261 man–days for mangrove plantation, moss cleaning, etc. In addition to this, employment worth of 35787 man-days has been provided till date. The Foundation has also supported Pagadiya fishermen as painting labors by providing them with employment and job in various fields. • Details on skill development training imparted during financial year of 2018-19 by Adani Foundation are enclosed as **Annexure – 4**.
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 18.09.1EPwas 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

<table>
<tr><th>Sr. No.</th><th>Conditions</th><th>Compliance Status as on 31-03-2019</th></tr>
<tr><td></td><td></td><td>last renewed vide license no. 0102 on 20.04.2017 (Sr. No. 70707) is valid up to 31.03.2020. The copy of valid license is enclosed as Annexure – 8.</td></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 Apr'18 to Sep'18 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 23.11.2018. Copy of the same is also available on our web site https://www.adaniports.com/ports-downloads. A soft copy of the same was also submitted through e-mail on 30.11.2018 to all the 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>Oct'15 to Mar''16</td><td>30.05.2016</td></tr>
<tr><td>2</td><td>Apr'16 to Sep'16</td><td>01.12.2016</td></tr>
<tr><td>3</td><td>Oct'16 to Mar'17</td><td>30.05.2017</td></tr>
<tr><td>4</td><td>Apr'17 to Sep'17</td><td>01.12.2017</td></tr>
<tr><td>5</td><td>Oct'17 to Mar'18</td><td>29.05.2018</td></tr>
<tr><td>6</td><td>Apr'18 to Sep'18</td><td>30.11.2018</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

"HALF YEARLYENVIRONMENTAL MONITORING REPORT"

FOR

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

MONITORING PERIOD:
OCTOBER 2018 TO MARCH 2019

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	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.07	8.01	8.21	8.18	8.12	8.09	8.16	8.1	8.21	8.19	8.13	8.05	IS3025(P11)83Re.02
2	Temperature	oC	30.4	30.2	30.5	30.4	30.1	29.9	30	29.9	30.2	30	30.1	29	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	284	252	264	224	256	270	224	251	191	244	210	234	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	4	3	5	3	4	BDL *	7.2	BDL*	4.8	BDL*	5.2	BDL*	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.4	6.1	6.2	5.9	6.1	5.8	6.2	5.9	6	5.8	6.1	5.9	IS3025(P38)89Re.99
6	Salinity	ppt	34.4	34.1	34.8	34.2	34.9	34.6	34.5	34.7	35.4	35.7	35.6	35.9	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)5520 D
8	Nitrate as NO_3	µmol/L	5.8	5	8.58	7.79	6.3	4.68	18.51	10.77	10.22	8.53	8.4	6.3	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.4	1	1.78	1.25	1.24	1.1	1.55	1.27	0.56	0.42	1.33	1.08	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	2.64	2.15	2.23	2.04	2.96	2.14	3.83	3.35	2.82	2.51	2.64	2.42	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.9	1.5	2.67	2.41	2.3	2.2	2.66	2.39	2.27	1.45	2.12	1.8	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	9.84	7.15	12.59	11.08	10.50	7.92	18.51	15.38	13.6	11.46	12.37	9.86	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	15	6	14	12	18	14.2	17	12	20	16	13	8	PLPL-TPH
14	Total Dissolved Solids	mg/L	34712	34519	36212	35844	35920	35624	35690	35734	36218	36594	36730	37434	IS3025(P16)84Re.02
15	COD	mg/L	14	10	18	12	15	6	24	7.0	27	19.0	23.6	11.4	APHA(22nd Edi) 5520-D Open Reflux
A	**Flora and Fauna**														
16	Primary productivity	mgC/L /day	1.26	1.12	1.66	1.26	3.6	2.8	4.5	4	8.32	5.62	8.55	5.4	APHA (22nd Edi) 10200-J
B	**Phytoplankton**														
17.1	Chlorophyll	mg/m^3	2.06	1.69	2.21	2.11	2.7	2.2	2.67	2.15	3.38	2.79	2.64	2.33	APHA (22nd Edi) 10200-H

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7

Dr. Arun Bajpai

Lab Manager (Q)

17.2	Phaeophytin	mg/m^3	1.9	1.3	1.49	1.57	1.96	1.84	2.24	1.92	2.93	2.51	1.86	1.60	APHA (22ndEdi) 10200-H
17.3	Cell Count	No. x 10^3/L	131	111	212	124	270	146	203	122	249	95	207	85	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Coscino discus** *Nitzschia* *Rhizosolenia* *Navicula* *Biddulphia* --	**Navicula** *Pleurosigma* *Nitzschia* -- -- --	**Rhizosolenia sp.** *Navicula sp.* *Biddulphia sp.* *Cheatoceros sp.* *Ceratium* -- --	**Nitzschia sp.** *Synedra sp.* *Cyclotella sp.* -- -- -- --	Thallasiosira sp. Navicula sp. Biddulphia sp. --	Nitzschia sp. Rhizosolenia sp. -- --	Rhizosolenia sp. Navicula sp. Thallasiosira sp. Cosmarium	Coscinodiscus sp. Nitzschia sp. -- --	*Rhizosolenia sp. Cheatoceros sp. Coscinodiscus sp.* --	*Nitzschia sp. Synedra sp. Fragillaria sp.* --	*Rhizosolenia sp. Navicula sp. Coscinodiscus sp. Thallasionema sp.*	*Nitzschia sp. Navicula sp.* -- --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	53		66		46		61		55		48		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Foraminiferans Polychaetes Gastropods --		Polychaete Bivalves Ostracodes Gastropods		Gastropods Decapods Crustaceans		Copepods Mysids Bivalves --		Foraminiferans amphipods Gastropods		Polychaetes Gastropods Crustaceans		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	6.6		7.25		6.2		4.8		3.9		5.6		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	1300		1840		1880		1840		1760		1820		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4 (2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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	OCTOBER 2018	NOVEMBER 2018	DECEMBER 2018	JANUARY 2019	FEBRUARY 2019	MARCH 2019	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.48	0.64	0.42	0.56	0.69	0.71	FCO:2007
2	Phosphorus as P	µg/g	246	212	256	278	311	264	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	PLPL-TPH
5	**Heavy Metals**								
5.1	Aluminum as Al	%	5.35	5.18	4.9	5.2	4.98	5.24	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	190	210	164	170	235	270	AAS 3111B
5.3	Manganese as Mn	µg/g	1780	1698	1430	1286	1384	1258	AAS APHA 3111 B
5.4	Iron as Fe	%	5.1	4.82	5.2	4.9	5.32	4.89	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	53	20.4	34	27	47	24.8	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	49	37	49	33	30	31.6	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	318	348	230	310	291	270	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	3.8	1.9	2.6	3	2.8	1.98	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	AAS APHA- 3112 B
6	**Benthic Organisms**								
6.1	Macrobenthos	--	Polychaetes Decapods --	Mysids Crustaceans Decapods Polychaetes	Crustaceans Polychaetes --	Gastropods mollusca Decapods	Polychaetes Crustaceans --	Polychaetes Crustaceans --	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Nematodes Bryozoans --	Hydrozoan Gastrotriches ---	Bryozoans -- --	-- -- --	Foraminiferans Nematodes --	Foraminiferans Hydrozoans --	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	382	645	616	821	794	853	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	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.15	8.09	8.19	8.12	8.2	8.16	8.19	8.15	8.17	8.14	8.15	8.1	IS3025(P11)83 Re.02
2	Temperature	oC	30.3	30	30.6	30.4	30.4	30.2	30	29.8	30.2	30	30.3	30	IS3025(P9)84R e.02
3	Total Suspended Solids	mg/L	254	240	328	290	272	218	216	228	186	246	230	263	IS3025(P17)84 Re.02
4	BOD (3 Days @ 27 °C)	mg/L	3	BDL*	4	BDL*	3	BDL*	5.0	BDL*	3.9	BDL*	5.3	BDL*	IS 3025 (P44)1993Re.03 Edition2.1
5	Dissolved Oxygen	mg/L	6.4	6.2	6.2	5.9	6.6	6.1	6.1	5.9	6.2	5.8	6	5.7	IS3025(P38)89 Re.99
6	Salinity	ppt	34.1	33.8	34.4	34.1	34.7	34.5	34.3	34.5	35.6	35.8	35.4	35.7	APHA (22ndEdi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22ndEdi)5 520D
8	Nitrate as NO_3	µmol/L	8.5	7.2	7.55	6.34	5.8	6.4	8.16	5.87	7.2	6.29	7.96	5.84	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1	0.6	1.23	1.16	1.5	0.8	0.98	0.69	0.58	0.81	0.84	0.99	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	2.4	1.8	9.28	8.98	11.4	8.2	3.89	3.6	2.6	2.4	2.7	2.5	IS3025(P34)88 Cla.2.3
11	Phosphates as PO_4	µmol/L	2.45	1.6	2.78	2.14	2.56	2.4	2.39	2.07	2.4	1.74	2.3	1.86	APHA(22ndEdi) 4500 C
12	Total Nitrogen	µmol/L	11.9	9.6	18.06	16.49	18.70	15.40	13.03	10.16	10.37	9.5	11.5	9.33	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	6	2	12	4	15	BDL*	18	BDL*	23	BDL*	16	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34608	34416	35731	35296	36012	35940	35842	35964	36728	36943	36432	36936	IS3025(P16)84 Re.02
15	COD	mg/L	12	BDL*	14	BDL*	12	BDL*	20.0	BDL*	17.0	6.8	24.8	8.0	APHA(22ndEdi) 5520-D Open Reflux
A	**Flora and Fauna**														
16	Primary productivity	mgC/ L/day	1.57	1.3	2.07	1.68	2.6	1.8	5.4	4	7.98	5.26	7.65	4.72	APHA (22nd Edi) 10200-J
B	**Phytoplankton**														
17.1	Chlorophyll	mg/ m^3	1.6	0.968	2.25	1.33	1.94	1.2	2.42	1.98	3.4	2.8	3.12	2.31	APHA (22ndEdi) 10200-H
17.2	Phaeophytin	mg/ m^3	2.35	1.01	1.76	1.54	1.68	0.99	1.8	1.54	3.0	2.13	1.4	0.8	APHA (22ndEdi) 10200-H
17.3	Cell Count	No. x 10^3/L	150	106	198	134	172	80	203	99	231	87	219	74	APHA (22nd Edi) 10200-H

POLLUCON LABORATORIES PVT. LTD. SURAT-7

H. T. Shah
Lab Manager

Dr. Arun Bajpai
Lab Manager (Q)

17.4	Name of Group Number and name of group species of each group	--	**Cheatoc erous** *Nitzschia Biddulphi a Thallasion ema Coscinodi scus Cyclotella*	**Melosira** *Navicula Fragillaria* -- -- --	**Biddulph ia sp.** *Nitzschia sp. Cheatocer ous sp. Coscinodi scus sp. Fragillaria sp.* -- --	**Nitzschi a sp.** *Navicula sp. Rhizosole nia sp.* -- -- -- --	**Nitzschi a sp.** Thallasios ira sp. Cheatocer ous sp. Biddulphi a sp.	Nitzschia sp. Thallasiosi ra sp. -- --	*Navicula sp. Bacteriast ram Cosmariu m Biddulphi a sp.*	*Nitzschia sp. Synedra sp.* -- --	*Thallasion ema sp. Fragillaria sp. Closteriu m sp. Synedra sp.*	*Nitzschia sp. Biddulphia sp. Synedra sp.* --	*Rhizosole nia sp. Biddulphi a sp. Navicula sp. Thallasion ema sp.*	*Thallasio nema sp. Nitzschia sp. Synedra sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**													
18.1	Abundance (Population)	noX10 3/ 100 m^3	48		57		65		71		58		51	APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Crustaceans Gastropods Polychaetes --		Hydrozoa Bivalves Foraminiferans Crustaceans		Gastropods Crustaceans Chaetognathes		Copepods Gastropods Cyclops --		Chaetognathes Polychaetes Foraminiferans		Polychaetes Gastropods Bivalves	APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/10 0 m^3	4.94		5.57		5.8		5.1		4.78		4.29	APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**													
19.1	Total Bacterial Count	CFU/ml	1450		1620		1680		1640		1560		1620	IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent	APHA(22ndEdi)9 221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	IS:1622:1981Ed i.2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent	IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent	IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent	IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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	OCTOBER 2018	NOVEMBER 2018	DECEMBER 2018	JANUARY 2019	FEBRUARY 2019	MARCH 2019	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.56	0.84	0.51	0.62	0.72	0.68	FCO:2007
2	Phosphorus as P	µg/g	214	232	220	278	319	246	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	PLPL-TPH
5	**Heavy Metals**								
5.1	Aluminum as Al	%	5.18	5.18	4.9	5.2	5.19	4.84	AAS APHA 3111 B
5.2	Total Chromium as Cr+3	µg/g	164	152	184	190	213	201	AAS 3111B
5.3	Manganese as Mn	µg/g	1698	1366	1230	1350	1320	1298	AAS APHA 3111 B
5.4	Iron as Fe	%	5.06	5.1	4.92	5.1	4.83	4.94	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	38	27	32	40	20	27.3	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	46	33	46	28	37	34.6	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	260	218	240	298	278	204	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	2.9	3.1	2.1	3.4	1.9	2.32	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	AAS APHA- 3112 B
6	**Benthic Organisms**								
6.1	Macrobenthos	--	Polychaetes Chaetognaths Mysids	Echinoderms Bivalves Polychaete worms	Echinoderms Gastropods --	Gastropods Crustaceans --	Polychaetes Bivalves --	Crustaceans Gastropods --	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Copepods Ostracodes --	Nematodes --- ---	Copepods -- --	Ostracodes -- --	Foraminiferans -- --	Nematodes Foraminiferans --	APHA (22nd Edi) 10500-C
6.3	Population	no/m^2	250	499	528	645	733	850	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	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.11	8.07	8.25	8.12	8.18	8.11	8.14	8.12	8.19	8.16	8.13	8.06	IS3025(P11)83Re.02
2	Temperature	oC	30.2	30	30.3	30.2	30.5	30.4	30.2	30.1	30.3	30.1	30.2	30	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	318	364	348	306	298	252	256	271	196	219	203	226	IS3025(P17)84Re.02
4	BOD (3 Days @ 27°C)	mg/L	BDL*	BDL*	6	BDL*	4	BDL*	5.0	BDL*	5.9	BDL*	4.2	BDL*	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.2	5.8	6.1	5.7	6.4	6.2	6.1	6.0	6	5.8	6.1	5.9	IS3025(P38)89Re.99
6	Salinity	ppt	33.9	33.7	34.6	34.3	35.2	35	34.9	35.1	35.4	35.7	35.6	35.9	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	6.6	4.9	9.09	8.64	4.8	5.1	6.41	5.69	9.1	4.5	7.2	6.0	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.2	0.8	1.33	1.12	1.7	1.9	0.86	0.63	0.73	0.86	0.84	0.92	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	2.8	1.7	2.25	1.95	3.4	3.6	3.16	2.91	2.7	2.4	2.4	2.1	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	2.59	1.8	3.21	2.78	2.8	2.6	2.7	2.4	1.76	1.36	1.62	1.21	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	10.6	7.4	12.68	11.72	9.90	10.60	10.42	9.23	12.53	7.74	10.46	9	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	24	10	17.4	12	19	BDL*	16	11.0	18.4	BDL*	15.3	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34418	34356	35218	35078	36118	35678	35670	35834	36679	36830	36516	37293	IS3025(P16)84Re.02
15	COD	mg/L	BDL*	BDL*	14	BDL*	16	10	19.0	8.0	21	BDL*	22	BDL*	APHA(22nd Edi) 5520-D Open Reflux
A	**Flora and Fauna**														
16	Primary productivity	mgC/L /day	1.23	1.08	1.98	1.64	2.84	2.76	4.2	3.8	8.3	6.4	7.2	5.17	APHA (22nd Edi) 10200-J
B	**Phytoplankton**														
17.1	Chlorophyll	mg/m^3	1.97	1.13	2.93	1.01	2.46	2.3	3.76	2.26	3.1	2.46	2.92	2.21	APHA (22nd Edi) 10200-H
17.2	Phaeophytin	mg/m^3	1.59	0.865	1.22	0.43	1.8	1.2	2.2	1.3	2.35	1.5	2.18	0.5	APHA (22nd Edi) 10200-H

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7

Dr. Arun Bajpai

Lab Manager (Q)

17.3	Cell Count	No. x 10^3/L	141	66	204	72	190	84	161	73	224	96	197	59	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Biddulphia** *Melosira* *synedra* *Navicula* *Nitzschia* **Cheatoc erous**	**Navicula** *Nitzschia* *Biddulphi a* *Melosira* -- **--**	**Biddulph ia sp.** *Pleurosig ma sp.* *Nitzschia sp.* *Cheatocer ous sp.* *Cyclotella sp.* *Diplones* --	**Synedra sp.** *Coscinodi scus sp.* *Navicula sp.* -- -- -- --	Nitzschia sp. Cheatocer ous sp. Rhizosole nia sp. Amphipro ra sp.	Navicula sp. Thallasios ira sp. Guinardia --	*Coscinodi scus sp.* Rhizosole nia sp. Nitzschia sp. *Thallasios ira sp.*	*Navicula sp.* *Thallasios ira sp.* -- --	*Thallasion ema sp.* *Nitzschia sp.* *Rhizosole nia sp.* *Coscinodi scus sp.*	*Synedra sp.* *Biddulphi a sp.* *Navicula sp.* --	*Biddulphi a sp.* *Navicula sp.* *Thallasios ira sp.* *Coscinodi scus sp.*	*Nitzschia sp.* *Synedra sp.* *Biddulphi a sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	58		63		50		64		79		59		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Copepods Polychaetes Crustaceans --		Cephalopods Ostracodes Bivalves Crustaceans		Foraminiferans Ctenophores Ostracods		Polychaete Gastropods Crustaceans --		Polychaetes Crustaceans Bivalves		Polychaetes Bivalves --		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	8.1		8.7		6.2		5.6		6.1		5.85		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	1700		1980		1880		1820		1860		1780		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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	OCTOBER 2018	NOVEMBER 2018	DECEMBER 2018	JANUARY 2019	FEBRUARY 2019	MARCH 2019	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.52	0.46	0.54	0.48	0.69	0.72	FCO:2007
2	Phosphorus as P	µg/g	208	218	240	290	312	230	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	PLPL-TPH
5	**Heavy Metals**								
5.1	Aluminum as Al	%	5.1	4.9	4.86	5.2	4.97	5.12	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	174	198	130	168	218	150	AAS 3111B
5.3	Manganese as Mn	µg/g	1540	1614	1346	1240	1475	1136	AAS APHA 3111 B
5.4	Iron as Fe	%	4.9	4.2	4.82	5.1	4.96	5.14	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	46.8	30.2	36	42	53	32	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	51.6	29	46	35	27	39	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	296	250	234	310	219	250	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	3.3	2.6	2.9	2.2	1.7	2.16	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	AAS APHA- 3112 B
6	**Benthic Organisms**								
6.1	Macrobenthos	--	Amphipods Isopods Polychaetes	Polychaete worms Bivalves Chaetognathes	Polychaete Chaetognathes Bivalves	Crustaceans Polychaete --	Crustaceans Gastropods --	Gastropods Polychaetes --	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Copepods Foraminiferans --	Nematodes Hydrozoan ---	Copepods -- --	Nematodes -- --	Nematodes hydrozoans --	Gastropods Polychaetes --	APHA (22nd Edi) 10500-C
6.3	Population	no/m^2	279	557	587	704	853	824	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	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.18	8.05	8.17	8.06	8.07	8.03	8.1	8.08	8.14	8.13	8.13	8.1	IS3025(P11)83Re.02
2	Temperature	oC	30	29.9	30.7	30.5	30.8	30.4	30.2	30.1	30.1	29.9	30.2	30	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	296	272	338	299	264	226	248	272	208	234	217	243	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	4	BDL*	3	BDL*	4	BDL*	5.2	BDL*	6.4	BDL*	5.8	BDL*	IS 3025 (P44)1993Re.03 Edition2.1
5	Dissolved Oxygen	mg/L	6.5	6	6.2	5.9	6.6	6.8	6.2	5.8	6.1	5.7	6.2	5.8	IS3025(P38)89Re.99
6	Salinity	ppt	34.3	34.1	34.2	33.9	34.8	34.4	35	35.2	35.7	35.9	35.6	36	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	7.8	6.2	11.45	9.91	10.2	9.4	13.37	11.67	10.77	9.56	8.52	5.46	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	3.4	2	1.47	1.23	1.60	1.5	0.96	0.78	0.78	1.12	0.83	0.94	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	2.75	2.1	2.46	2.27	2.40	2.8	3.43	3.2	2.9	2.6	2.6	2.4	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	1.95	1.6	2.14	1.82	2.31	2.2	1.96	1.59	1.19	1.18	1.32	1.27	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	13.95	10.3	15.38	13.41	14.20	13.70	17.75	15.65	14.49	13.31	11.94	8.76	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	16	4	18	5	10	BDL*	14	BDL*	20	BDL*	17	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34692	34460	35384	35130	35816	35718	35946	36218	36734	36984	36581	37134	IS3025(P16)84Re.02
15	COD	mg/L	14	BDL*	12	BDL*	14	BDL*	18.0	6.0	23.0	10.0	19.0	8.3	APHA(22nd Edi) 5520-D Open Reflux
A	Flora and Fauna														
16	Primary productivity	mgC/L/day	2.25	1.35	2.36	1.71	3.64	2.9	4.5	3.3	8.43	5.58	7.42	4.38	APHA (22nd Edi) 10200-J
B	Phytoplankton														
17.1	Chlorophyll	mg/m^3	1.55	1.02	1.86	1.14	2.8	2.62	3.2	2.6	3.25	2.8	2.79	2.2	APHA (22nd Edi) 10200-H
17.2	Phaeophytin	mg/m^3	0.94	0.64	1.44	0.88	1.68	1.52	2.4	1.1	2.1	2.2	1.33	0.96	APHA (22nd Edi) 10200-H

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7

Dr. Arun Bajpai

Lab Manager (Q)

17.3	Cell Count	No. x 10^3/L	146	87	178	84	204	106	146	73	193	67	179	64	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Nitzschia** *Navicula Coscinodiscus Rhizosolenia Thallasiosira* **--**	**Nitzschia** *Pleurosigma Navicula* -- -- --	**Navicula sp.** *Biddulphia sp. Synedra sp. Rhizosolenia sp. Cyclotella sp.* -- --	**Thallasiosira sp.** *Nitzschia sp. Pleurosigma sp.* -- -- --	Gyrosigma sp. Cheatoceros sp. Fragillaria sp. Pleurosigma sp.	Nitzschia sp. Rhizosolenia sp. Thallasiosira sp. --	*Navicula sp.* Biddulphia sp. Coscinodiscus sp. Rhizosolenia sp.	*Nitzschia sp. Thallasiosira sp.* Synedra sp. --	*Rhizosolenia sp. Cheatoceros sp. Pleurosigma sp. Biddulphia sp.*	*Synedra sp. Biddulphia sp. Navicula sp.* --	*Thallasiosira sp. Nitzschia sp. Coscinodiscus sp. Pleurosigma sp.*	*Synedra sp. Navicula sp. Cheatoceros sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	67		59		72		64		81		73		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Polychaetes Gastropods Decapods --		Gastropods Bivalves Crustaceans Oligocheata		Foraminiferans Ctenophores Polychaetes		Gastropods Crustaceans Polychaete --		Foraminiferans Ostracods Polychaetes		Gastropods Polychaetes Decapods		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	5.87		6.05		6.9		5.5		6.2		4.94		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	1600		1870		1820		1840		1840		1860		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9 221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi .2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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	OCTOBER 2018	NOVEMBER 2018	DECEMBER 2018	JANUARY 2019	FEBRUARY 2019	MARCH 2019	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.48	0.64	0.52	0.68	0.56	0.67	FCO:2007
2	Phosphorus as P	µg/g	224	178	240	310	259	218	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	PLPL-TPH
5	**Heavy Metals**								
5.1	Aluminum as Al	%	5.24	5.3	5.12	4.9	5.2	5.1	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	154	167	180	192	174	140	AAS 3111B
5.3	Manganese as Mn	µg/g	1590	1630	1346	1484	1376	1198	AAS APHA 3111 B
5.4	Iron as Fe	%	5.14	5.2	4.98	4.78	5.1	4.6	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	58	74	42	60	31	39	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	44	44	52	39	45	33	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	256	310	230	296	330	274	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	4.2	1.8	2.1	3.2	2.4	1.96	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	AAS APHA- 3112 B
6	**Benthic Organisms**								
6.1	Macrobenthos	--	Polychaetes Isopods Mysids	Bivalves Decapods Polychaete worms	Decapods Gastropods --	Gastropods Mysids --	Polychaetes Gastropods --	Crustaceans Polychaetes --	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Nematodes Bryozoans --	Foraminiferans Nematodes ---	Foraminiferans Bryozoans --	Nematodes Bryozoans --	Foraminiferans -- --	Nematodes Bryozoans --	APHA (22nd Edi) 10500-C
6.3	Population	no/m^2	294	528	556	673	824	882	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	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.19	8.08	8.15	8.1	8.24	8.17	8.12	8.09	8.16	8.13	8.1	8.06	IS3025(P11)83Re .02
2	Temperature	oC	30.5	30.3	30.4	30.2	30.6	30.3	31.1	30	30.2	30	3.01	30	IS3025(P9)84Re. 02
3	Total Suspended Solids	mg/L	369	332	356	304	312	294	228	251	182	218	250	276	IS3025(P17)84Re .02
4	BOD (3 Days @ 27 °C)	mg/L	5	BDL*	4	BDL*	5	BDL*	6.2	BDL*	8.3	BDL*	12.8	BDL*	IS 3025 (P44)1993Re.03E dition2.1
5	Dissolved Oxygen	mg/L	6.4	6	6.2	5.8	6.2	6	6.1	5.9	6.2	6.0	6.1	5.9	IS3025(P38)89Re .99
6	Salinity	ppt	34.5	34.1	34.3	34.1	34.6	34.3	34.8	35.1	35.5	35.9	35.6	35.8	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)55 20D
8	Nitrate as NO_3	µmol/L	10.4	6.2	9.37	7.79	7.4	6.2	8.2	7.2	3.45	2.12	6.84	4.7	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	5.1	3.4	1.96	1.57	2.1	2.4	1.5	1.3	1.47	0.87	1.36	1.94	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	2.8	2.4	3.71	3.34	2.7	2.9	3.6	3.3	1.75	1.59	1.58	1.35	IS3025(P34)88Cl a.2.3
11	Phosphates as PO_4	µmol/L	2.36	1.8	2.67	2.14	2.85	2.45	2.1	1.8	1.04	1.49	1.3	1.5	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	18.3	12	15.04	12.71	12.20	11.50	13.41	11.95	6.67	4.6	9.78	6.99	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	12	6	16	8	18	BDL*	11	BDL*	18	BDL*	14.3	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34814	34518	35810	35334	35511	35273	35710	35994	36394	36996	36534	36840	IS3025(P16)84Re .02
15	COD	mg/L	16	BDL*	13	BDL*	15	BDL*	21.0	10.0	26.0	7.0	15.0	BDL*	APHA(22nd Edi) 5520-D Open Reflux
A	**Flora and Fauna**														
16	Primary productivity	mgC/L /day	1.55	1.21	1.95	1.32	2.46	2.1	4.1	2.8	7.42	5.62	8.1	5.17	APHA (22nd Edi) 10200-J
B	**Phytoplankton**														
17.1	Chlorophyll	mg/m^3	1.94	1.12	2.13	1.25	2.2	1.98	2.9	2.10	3.24	2.60	3.4	2.74	APHA (22nd Edi) 10200-H
17.2	Phaeophytin	mg/m^3	2.18	0.7	0.96	0.7	1.6	0.86	1.8	1.1	2.45	1.44	2.77	1.97	APHA (22nd Edi)

H. T. Shah
Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7

Dr. Arun Bajpai
Lab Manager (Q)

															10200-H
17.3	Cell Count	No. x 10^3/L	150	106	192	106	202	124	193	89	240	73	210	60	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Rhizosolenia** *Melosira* *Nitzschia* *Biddulphia* *Coscinodiscus* **Cyclotella**	**Pleurosigma** *Navicula* *Rhizosolenia* -- **--** --	**Cyclotella sp.** *Nitzschia sp.* *Skeletonema sp.* *Cheatoceros sp.* *Pleurosigma sp.* *Biddulphia sp.* --	**Navicula sp.** *Rhizosolenia sp.* *Synedra sp.* *Fragillaria sp.* -- -- --	Thallasiosira sp. Coscinodiscus sp. Cyclotella sp. Ceratizam	Navicula sp. Biddulphia sp. Gyrosigma sp. --	*Thallasiosira sp.* Nitzschia sp. Rhizosolenia sp. Coscinodiscus sp.	*Navicula sp.* Biddulphia sp. Thallasiosira sp.	*Synedra sp.* *Coscinodiscus sp.* *Biddulphia sp.* *Navicula sp.*	*Nitzschia sp.* *Pleurosigma sp.* *Skeletonema sp.* --	*Nitzschia sp.* *Pleurosigma sp.* *Biddulphia sp.* *Coscinodiscus sp.*	*Thallasiosira sp.* *Skeletonema sp.* *Nitzschia sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	51		56		38		63		52		60		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Hydrozoans Polychaetes Cheatocerous --		Polychaetes Decapods Crustaceans Fish Larve		Ostracods Polychaetes Foraminiferans		Polychaete Foraminiferans Ostracodes Decapods		Polychaetes Bivalves Amphipods		Foraminiferans Ostracodes Bivalves		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	9.6		9.3		5.6		5.9		4.3		3.95		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	1650		1980		1820		1860		1720		1740		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22nd Edi)9221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi. 2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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 [M5 TOWARDS WESTERN SIDE OF EAST PORT – N 22°46'041" E 069°47'296"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER 2018	NOVEMBER 2018	DECEMBER 2018	JANUARY 2019	FEBRUARY 2019	MARCH 2019	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.7	0.74	0.52	0.68	0.82	0.63	FCO:2007
2	Phosphorus as P	µg/g	216	283	210	296	319	270	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	PLPL-TPH
5	**Heavy Metals**								
5.1	Aluminum as Al	%	5.2	5.18	4.9	5	4.86	5.1	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	158	163	170	192	218	158	AAS 3111B
5.3	Manganese as Mn	µg/g	1710	1599	1248	1336	1492	1206	AAS APHA 3111 B
5.4	Iron as Fe	%	5	4.92	5.1	4.97	5.16	4.82	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	62	34.6	26	48	40	21	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	56.4	50.2	64	42	33	48.4	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	344	256	296	310	347	203	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	4.6	2.7	2	3.6	3.2	1.2	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	BDL*	BDL*	0.01	BDL*	BDL*	BDL*	AAS APHA- 3112 B
6	**Benthic Organisms**								
6.1	Macrobenthos	--	Hydrozoa Gastropods Mysids	Amphipods Mysids Bivalves	Gastropods Bivalves Echinoderms	Gastropods Bivalves --	Gastropods Brachyurans --	Bivalves Gastropods --	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Bruchyrans Nematodes --	Hydrozoan Foraminiferans ---	Nematodes -- --	Foraminiferans -- --	Nematodes -- --	Foraminiferans Brachyurans --	APHA (22nd Edi) 10500-C
6.3	Population	no/m2	397	469	557	616	733	850	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 [M7 EAST PORT N 22°47'120" E 069°47'110"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.37	8.24	8.3	8.16	8.31	8.24	8.19	8.16	8.13	8.11	8.15	8.10	IS3025(P11)83Re.02
2	Temperature	oC	30.4	30.2	30.5	30.3	30.8	30.5	30.6	30.4	30.2	30.1	30.3	30	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	342	296	370	308	348	314	270	286	208	231	274	296	IS3025(P17)84Re.02
4	BOD (3 Days @ 27°C)	mg/L	7	3	8	2	5	3	7.4	BDL*	5.6	BDL*	5.9	BDL*	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.6	6.2	6.4	6.1	6.6	6.1	6.2	5.9	6.1	5.7	6.2	5.9	IS3025(P38)89Re.99
6	Salinity	ppt	34	33.8	34.8	3	34.3	34.2	34.7	34.9	35.4	35.6	35.5	35.8	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	34.5	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	7.9	5.2	6.68	5.23	6.2	5.4	7.2	6.8	5.78	4.23	8.34	6.9	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.6	1.2	1.57	1.47	1.2	1.6	1.39	0.78	1.24	1.47	1.56	1.73	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	2.8	2.4	2.98	2.41	3.1	2.4	3.5	3.1	2.36	2.08	2.51	2.3	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	2.46	2.15	1.76	1.44	2.1	1.84	2.5	1.6	1.3	1.48	1.58	1.74	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	12.3	8.8	11.23	9.11	10.50	9.40	12.24	10.81	9.38	7.78	12.41	10.93	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	28	14	21	10	18	BDL*	14.8	BDL*	16	BDL*	9.4	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34327	34218	35930	35634	35227	35108	35698	35846	36274	36480	36570	36984	IS3025(P16)84Re.02
15	COD	mg/L	22	15	25	11	18	10	26	12.0	21	7.0	15	BDL*	APHA(22ndEdi) 5520-D Open Reflux
A	**Flora and Fauna**														
16	Primary productivity	mgC/L /day	1.75	1.14	2.58	1.91	2.94	2.5	4.23	3.78	7.31	4.77	7.87	5.62	APHA (22nd Edi) 10200-J
B	**Phytoplankton**														
17.1	Chlorophyll	mg/m^3	1.72	1.26	2.52	2.4	2.82	2.24	2.41	2.02	2.69	2.31	2.5	2.28	APHA (22nd Edi) 10200-H
17.2	Phaeophytin	mg/m^3	1.86	0.502	1.49	1.03	2.36	1.96	1.86	1.3	2.27	2.12	1.2	1	APHA (22nd Edi) 10200-H

POLLUCON LABORATORIES PVT. LTD. SURAT-7

H. T. Shah
Lab Manager

Dr. Arun Bajpai
Lab Manager (Q)

17.3	Cell Count	No. x 10^3/L	151	97	178	104	270	130	187	99	201	87	231	76	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Biddulphia** *Navicula Cheatoceros Nitzschia* ***Melosira*** *Gyrosigma*	**Navicula** *Synedra Melosira* -- -- --	**Navicula sp.** *Cyclotella sp. Biddulphia sp. Surirella sp. Cheatoceros sp.* --	**Fragillaria sp.** *Rhizosolenia sp. Navicula sp.* -- -- --	Thallassiosira sp. Nitzschia sp. Coscinodiscus sp. Biddulphia sp.	Navicula sp. Cheatoceros sp. Gyrosigma sp. --	*Thallassiosira sp. Biddulphia sp. Synedra sp. Pleurosigma sp.*	*Nitzschia sp.* Gyrosigma sp. *stauroneis* --	*Cheatoceros sp. Rhizosolenia sp. Biddulphia sp. Navicula sp.*	*Nitzschia sp. Fragillaria sp. Navicula sp.* --	*Cheatoceros sp. Rhizosolenia sp. Coscinodiscus sp. Thallassiosira sp.*	*Nitzschia sp. Gyrosigma sp. Fragillaria sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	44		56		68		63		51		59		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Polychaetes Bivalves Decapods --		Copepods Mysids mollusca Echinoderms		Siphonophores Gastropods Chaetognathes		Gastropods mollusca Crustaceans --		Polychaetes Bivalves Ostracods		Gastropods Copepods Bivalves		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	7.1		7.8		6.1		5.15		3.7		3.45		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	1820		1740		1860		1800		1840		1820		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22nd Edi)9221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi.2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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 MARINE WATER [M8 RIGHT SIDE OF BOCHA CREEK N 22°45'987" E 069°43'119"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.29	8.06	8.26	8.12	8.24	8.17	8.21	8.17	8.16	8.14	8.15	8.12	IS3025(P11)83Re.02
2	Temperature	oC	30.5	30.2	30.3	30.1	31	30.8	30.9	30.6	30.1	29.9	30.2	30	IS3025(P9)84Re.02
3	Total Suspended Solids	mg/L	298	242	318	276	382	319	264	283	204	276	228	263	IS3025(P17)84Re.02
4	BOD (3 Days @ 27 °C)	mg/L	4	3	6	BDL*	3	BDL*	5.2	BDL*	7.8	BDL*	5.9	BDL*	IS 3025 (P44)1993Re.03Edition2.1
5	Dissolved Oxygen	mg/L	6.4	5.6	6.3	5.9	6.4	6	6.2	6.1	6.6	6.2	6.1	5.8	IS3025(P38)89Re.99
6	Salinity	ppt	34.3	34.1	34.4	34.1	34.1	33.9	34.5	34.7	35.3	35.7	35.6	35.9	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)5520D
8	Nitrate as NO_3	µmol/L	7.2	6	8.76	7.01	5.72	3.98	6.68	5.59	5.81	4.42	6.94	4.8	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	1.9	1.6	1.14	0.88	0.68	0.52	1.06	0.98	1.14	1.08	1.33	1.14	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	2.4	1.8	1.69	1.43	2.32	1.8	3.74	2.63	1.9	1.65	1.81	1.42	IS3025(P34)88Cla.2.3
11	Phosphates as PO_4	µmol/L	2.68	1.95	2.46	1.87	1.9	1.72	2.28	2.63	1.07	2.47	1.24	1.37	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	11.5	9.4	11.59	9.32	8.72	6.30	11.49	9.21	8.85	7.15	10.08	7.36	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	30	20	28	20	24	17	14	BDL*	19	BDL*	15.2	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34772	34596	35618	35213	35418	34832	35684	35840	36320	36619	36498	37348	IS3025(P16)84Re.02
15	COD	mg/L	20	10	18	BDL*	13	BDL*	19	7	25	6	19.8	7	APHA(22nd Edi) 5520-D Open Reflux
A	Flora and Fauna														
16	Primary productivity	mgC/L /day	1.28	1.19	2.25	1.93	3.1	2.9	4.36	3.93	7.2	6	7.87	5.06	APHA (22nd Edi) 10200-J
B	Phytoplankton														
17.1	Chlorophyll	mg/m^3	2.14	1.12	2.54	1.05	2.84	1.84	2.9	2.41	3.2	2	2.76	2.2	APHA (22nd Edi) 10200-H
17.2	Phaeophytin	mg/m^3	2.4	1.04	0.64	0.32	1.7	1.1	2.2	1.49	2.9	1.9	2	1.6	APHA (22nd Edi) 10200-H

H. T. Shah

Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7

Dr. Arun Bajpai

Lab Manager (Q)

17.3	Cell Count	No. x 10^3/L	154	89	184	96	260	170	201	73	226	84	251	79	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Rhizosolenia** *Melosira* *Navicula* *Nitzschia* **Coscinodiscus** --	**Guinardia** *Synedra* *Nitzschia* -- -- **--**	**Navicula sp.** *Thallasiosira sp.* *Cyclotella sp.* *Synedra sp.* *Coscinodiscus sp.* --	**Nitzschia sp.** *Rhizosolenia sp.* *Synedra sp.* -- -- --	Navicula sp. Melosira sp. Thallasiosira sp. Rhizosolenia sp.	Nitzschia sp. Cheatoceros sp. Fragillaria sp. --	Biddulphia sp. *Nitzschia sp.* Pleurosigma sp. *Thallasionema sp.*	Navicula sp. *Gyrosigma sp.* Synedra sp. --	*Rhizosolenia sp.* *Biddulphia sp.* *Thallasiosira sp.* *Coscinodiscus sp.*	*Synedra sp.* *Nitzschia sp.* *Thallasiosira sp.* --	*Biddulphia sp.* *Coscinodiscus sp.* *Thallasiosira sp.* *Gyrosigma sp.*	*Nitzschia sp.* *Pleurosigma sp.* *Fragillaria sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	49		60		76		65		59		42		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Polychaetes Copepods Isopods Mysids		Copepods Gastropods Bivalves Crustaceans		Ctenophores Ostracods Gastropods		Crustaceans Gastropods Decapods --		Copepods Polychaetes Bivalves		Crustaceans Ostracods Copepods		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	6.55		8.15		6.92		5.6		4.8		4.95		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	1925		2120		1860		1920		1960		1940		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi. 2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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	OCTOBER 2018	NOVEMBER 2018	DECEMBER 2018	JANUARY 2019	FEBRUARY 2019	MARCH 2019	TEST METHOD
			SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	SEDIMENT	
1	Organic Matter	%	0.51	0.56	0.48	0.59	0.64	0.69	FCO:2007
2	Phosphorus as P	µg/g	270	332	290	318	370	252	APHA(22nd Edi) 4500 C
3	Texture	--	Sandy	Sandy	Sandy	Sandy	Sandy	Sandy	--
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	PLPL-TPH
5	**Heavy Metals**								
5.1	Aluminum as Al	%	5.28	5.16	4.96	4.84	4.7	4.93	AAS APHA 3111 B
5.2	Total Chromium as Cr^{+3}	µg/g	216	298	280	230	248	218	AAS 3111B
5.3	Manganese as Mn	µg/g	1680	1534	1346	1276	1424	1240	AAS APHA 3111 B
5.4	Iron as Fe	%	5.14	4.85	5.1	5.2	4.86	4.92	AAS APHA(22nd Edi)3111 B
5.5	Nickel as Ni	µg/g	48	68	21	33	57	23.6	AAS APHA(22nd Edi)3111 B
5.6	Copper as Cu	µg/g	51	62.4	28	48	33	42.8	AAS APHA(22nd Edi)3111 B
5.7	Zinc as Zn	µg/g	286	324	260	271	302	268	AAS APHA(22nd Edi)3111 B
5.8	Lead as Pb	µg/g	4.7	3.2	2.18	3.3	2.8	1.9	AAS APHA(22nd Edi)3111 B
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	AAS APHA- 3112 B
6	**Benthic Organisms**								
6.1	Macrobenthos	--	Crustaceans Polychaetes Chaetognaths	Polychaete worms Bivalves Crustaceans	Polychaete Crustaceans Gastropods	Gastropods Echinoderms --	Gastropods Polychaetes --	Polychaetes Crustaceans --	APHA (22nd Edi) 10500-C
6.2	MeioBenthos	--	Copepods Bryozoans --	Nematodes Hydrozoan --	-- -- --	Nematodes -- --	Copepods Foraminiferans --	Copepods Nematodes --	APHA (22nd Edi) 10500-C
6.3	Population	no/m^2	265	411	559	647	824	794	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	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.19	8.06	8.24	8.11	8.17	8.15	8.12	8.09	8.2	8.17	8.15	8.1	IS3025(P11)83Re .02
2	Temperature	oC	30.1	30	30.4	30.3	30.3	30.2	30.1	30	30.1	30	30.2	30	IS3025(P9)84Re. 02
3	Total Suspended Solids	mg/L	382	316	364	304	319	287	246	281	199	218	236	253	IS3025(P17)84Re .02
4	BOD (3 Days @ 27 °C)	mg/L	7	5	6	BDL*	4	BDL*	5.0	BDL*	6.7	BDL*	5.4	BDL*	IS 3025 (P44)1993Re.03E dition2.1
5	Dissolved Oxygen	mg/L	6.6	5.9	6.5	BDL*	6.6	6.4	6.1	5.9	6.1	5.9	6.2	5.8	IS3025(P38)89Re .99
6	Salinity	ppt	34.3	33.8	34.8	34.3	35.1	34.7	34.9	35.1	35.3	35.5	35.4	35.6	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)552 0D
8	Nitrate as NO_3	µmol/L	13.4	8.2	9.09	8.76	10.4	9.6	8.1	7.14	5.75	4.38	6.2	4.63	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	2.6	2	1.78	1.43	1.96	1.54	1.14	0.88	0.96	1.18	1.28	1.34	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	4.4	3.6	3.82	2.77	2.6	1.2	3.99	3.71	2.72	1.91	2.5	2.14	IS3025(P34)88Cla .2.3
11	Phosphates as PO_4	µmol/L	2.5	2.4	1.82	1.29	2.16	1.75	2.13	1.81	1.84	1.36	1.7	1.46	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	20.4	13.8	14.69	12.96	14.96	12.34	13.23	11.72	9.43	7.47	9.98	8.11	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	35	24	28	16	16	BDL*	10	BDL*	8	BDL*	14.6	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34718	34448	35218	34972	35767	35415	35634	35410	36184	36474	36314	36679	IS3025(P16)84Re .02
15	COD	mg/L	28	22	27	BDL*	16	10	18	11.0	23	6.0	19.6	7.4	APHA(22nd Edi) 5520-D Open Reflux
A	**Flora and Fauna**														
16	Primary productivity	mgC/L /day	1.58	1.03	2.48	1.8	2.64	2.28	5.63	3.82	7.29	5.89	7.43	4.95	APHA (22nd Edi) 10200-J
B	**Phytoplankton**														
17.1	Chlorophyll	mg/m^3	1.9	1.57	1.62	1.78	2.4	1.96	3.6	2.70	3	2.54	3.6	2.79	APHA (22nd Edi) 10200-H
17.2	Phaeophytin	mg/m^3	1.1	0.58	1.28	0.42	1.7	1.02	2.24	1.92	2.56	1.13	2.16	1.74	APHA (22nd Edi)

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Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7

Dr. Arun Bajpai

Lab Manager (Q)

															10200-H
17.3	Cell Count	No. x 10^3/L	157	99	176	80	284	110	230	181	201	97	223	76	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Nitzschia** *Thallasiosira Coscinodiscus Synedra Rhizosolenia* --	**Nitzschia** *Navicula Fragillaria* -- -- --	**Navicula sp.** *Thallasiosira sp. Coscinodiscus sp. Biddulphia sp. Rhizosolenia sp. Nitzschia sp. Navicula sp.*	**Nitzschia sp.** *Fragillaria sp. Synedra sp. Gyrosigma sp.* -- -- --	**Rhizosolenia sp.** Nitzschia sp. Thallasiosira sp. --	**Cheatoceros sp.** Biddulphia sp. Cyclotella sp. --	*Navicula sp. Cheatoceros sp. Thallasionema sp.* --	*Rhizosolenia sp. Skeletonema sp.* -- --	*Cheatoceros sp. Nitzschia sp. Rhizosolenia sp. Coscinodiscus sp.*	*Navicula sp. Pleurosigma sp. Synedra sp.* --	*Nitzschia sp. Thallasiosira sp. Coscinodiscus sp. Navicula sp.*	*Nitzschia sp. Rhizosolenia sp.* -- --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	45		51		62		58		62		55		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Bivalves Polychaetes Decapods Foraminiferans		Polychaetes Gastropods Nematodes Mysids		Lamellibranches Ctenophores Polychaetes		Gastropods molluscan Bivalves --		Gastropods molluscans Bivalves		Gastropods Copepods Mysids		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	5.7		6.6		5.92		4.3		5		2.95		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	1800		1760		1860		1820		1720		1860		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi. 2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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 MARINE WATER [M12 SPM N 22°40'938" E 069°39'191"]

SR. NO.	TEST PARAMETERS	UNIT	OCTOBER 2018		NOVEMBER 2018		DECEMBER 2018		JANUARY 2019		FEBRUARY 2019		MARCH 2019		TEST METHOD
			SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	SURFACE	BOTTOM	
1	pH	--	8.25	8.11	8.24	8.05	8.35	8.17	8.19	8.14	8.17	8.13	8.15	8.12	IS3025(P11)83Re .02
2	Temperature	oC	30.3	30	30.1	29.8	30.6	30.3	30.2	30	30.2	29.9	30.2	30	IS3025(P9)84Re. 02
3	Total Suspended Solids	mg/L	296	236	286	244	252	257	210	232	213	256	228	249	IS3025(P17)84Re .02
4	BOD (3 Days @ 27°C)	mg/L	4	2	3	BDL*	BDL*	BDL*	5.0	BDL*	6.8	BDL*	4.5	BDL*	IS 3025 (P44)1993Re.03E dition2.1
5	Dissolved Oxygen	mg/L	6.8	6	6.3	5.8	6.4	6.2	6.0	5.8	6.4	5.7	6.1	5.8	IS3025(P38)89Re .99
6	Salinity	ppt	34.5	34.3	34.3	34.1	34.8	34.5	34.4	34.5	35.4	35.6	35.5	35.7	APHA (22nd Edi) 2550 B
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	APHA(22nd Edi)552 0D
8	Nitrate as NO_3	µmol/L	13.2	9.2	11.72	8.7	8.9	7.1	7.86	6.65	2.84	1.87	2.27	1.63	IS3025(P34)88
9	Nitrite as NO_2	µmol/L	3.4	2.8	1.98	1.74	1.15	2.45	1.49	1.1	0.43	0.37	0.68	0.89	IS3025(P34)88 NEDA
10	Ammonical Nitrogen as NH_3	µmol/L	4.6	4	3.39	2.87	4.6	3.9	3.85	3.54	2.37	1.99	2.2	1.93	IS3025(P34)88Cla .2.3
11	Phosphates as PO_4	µmol/L	2.95	2.16	2.36	1.82	2.5	2.41	2.23	1.86	0.98	0.9	0.84	0.72	APHA(22nd Edi) 4500 C
12	Total Nitrogen	µmol/L	21.1	16	17.09	13.31	14.65	12.45	13.21	11.29	5.64	4.23	5.15	4.45	IS3025(P34)88
13	Petroleum Hydrocarbon	µg/L	32	10	25	12	16	10	14	BDL*	18.2	BDL*	13.5	BDL*	PLPL-TPH
14	Total Dissolved Solids	mg/L	34983	34649	35860	35648	35117	34992	35528	35664	36520	36796	36718	36984	IS3025(P16)84Re .02
15	COD	mg/L	20	8	18	BDL*	10	BDL*	19	8	27	8	22.6	7	APHA(22nd Edi) 5520-D Open Reflux
A	**Flora and Fauna**														
16	Primary productivity	mgC/L /day	1.71	1.57	2.11	2.04	3.2	2.6	5.1	3.3	7.09	4.6	5.62	3.37	APHA (22nd Edi) 10200-J
B	**Phytoplankton**														
17.1	Chlorophyll	mg/m^3	1.99	1.51	2.17	1.8	2.9	2.3	3.2	2.6	3.8	2.85	3.27	2.67	APHA (22nd Edi) 10200-H
17.2	Phaeophytin	mg/m^3	1.6	1.44	1.6	1.46	2.2	1.96	2.5	1.5	2.7	1.4	2.56	1.54	APHA (22nd Edi) 10200-H

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Lab Manager

POLLUCON LABORATORIES PVT. LTD. SURAT-7

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Lab Manager (Q)

17.3	Cell Count	No. x 10^3/L	173	90	198	112	230	170	217	213	213	96	236	81	APHA (22nd Edi) 10200-H
17.4	Name of Group Number and name of group species of each group	--	**Rhizosolenia** *Nitzschia* *Melosira* *Cyclotella* *Cosmarium* --	**Amphiprora** *ceratium* *Nitzschia* -- -- --	**Rhizosolenia sp.** *Nitzschia sp.* *Synedra sp.* *Biddulphia sp.* *coratizum sp.* *Melosira sp.*	**Nitzschia sp.** *Navicula sp.* *Fragillaria sp.* -- -- --	**Rhizosolenia sp.** Navicula sp. Thallasiosira sp. Coscinodiscus sp.	**Nitzschia sp.** Cyclotella sp. Cheatoceros sp. --	*Thallasiosira sp.* *Rhizosolenia sp.* *Coscinodiscus sp.* --	*Navicula sp.* *Synedra sp.* *Fragillaria sp.* --	*Coscinodiscus sp.* *Rhizosolenia sp.* *Thallasiosira sp.* *Synedra sp.*	*Synedra sp.* *Navicula sp.* *Gyrosigma a sp.* --	*Coscinodiscus sp.* *Rhizosolenia sp.* *Fragillaria sp.* *Synedra sp.*	*Navicula sp.* *Pleurosigma sp.* *Biddulphia sp.* --	APHA (22nd Edi) 10200-H
C	**Zooplanktons**														
18.1	Abundance (Population)	noX10^3/ 100 m^3	43		40		58		45		64		53		APHA (22nd Edi) 10200-G
18.2	Name of Group Number and name of group species of each group	--	Foraminiferans Chaetognaths Gastropods --		Polychaetes Bivalves Crustaceans Copepods		Bivalves Gastropods Crustaceans		molluscan Crustaceans Gastropods --		Polychaetes molluscans		Polychaetes Foraminiferans Bivalves		APHA (22nd Edi) 10200-G
18.3	Total Biomass	ml/100 m^3	5.1		5.6		3.2		4.4		3.9		3.4		APHA (22nd Edi) 10200-G
D	**Microbiological Parameters**														
19.1	Total Bacterial Count	CFU/ml	2100		1870		1860		1850		1720		1820		IS 5402:2002
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent		APHA(22ndEdi)9221-D
19.3	Ecoli	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS:1622:1981Edi. 2.4(2003-05)
19.4	Enterococcus	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 15186 :2002
19.5	Salmonella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 5887 (P-3)
19.6	Shigella	/ml	Absent		Absent		Absent		Absent		Absent		Absent		IS : 1887 (P-7)
19.7	Vibrio	/ml	Absent		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 ETP WATER OUTLET

SR. NO.	PARAMETERS	UNIT	RESULTS OF ETP WATER OUTLET						GPCB Limit	TEST METHOD
			03/10/2018	11/05/2018	04/12/2018	04/01/2019	05/02/2019	04/03/2019		
1	Colour	Co-pt	70	50	60	50	70	80	**100**	IS3025(P4)83Re.02
2	pH	--	7.1	7.52	8.4	7.3	8.1	7.45	**6.5 TO 8.5**	IS3025(P11)83Re.02
3	Temperature	°C	32.4	30.8	31.2	30.8	31.6	31.9	**40**	IS3025(P9)84Re.02
4	Total Suspended Solids	mg/L	34	25	39	52	72	64	**100**	IS3025(P17)84Re.02
5	Total Dissolved Solids	mg/L	1024	1712	1698	1318	1560	1921	**2100**	IS3025(P16)84Re.02
6	COD	mg/L	88	92	76	94	84	68	**100**	APHA(22nd Edi) 5520-D Open Reflux
7	BOD (3 Days @ 27 °C)	mg/L	26	18	20	24	20	19	**30**	IS 3025 (P44)1993Re.03Edition2.1
8	Chloride as Cl	mg/L	429	510	529	399	489	596	**600**	IS3025(P32)88Re.99
9	Oil & Grease	mg/L	3.8	2.4	3.2	2.4	4	7.8	**10**	APHA(22nd Edi)5520D
10	Sulphate as SO_4	mg/L	72	110	98	112	156	172	**1000**	APHA(22nd Edi)4500 SO_4 E
11	Ammonical Nitrogen as NH_3	mg/L	2.7	3.4	4.6	3.2	5.2	7.2	**50**	IS3025(P34)88Cla.2.3
12	Phenolic Compound	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	**1**	IS3025(P43)92Re.03
13	Copper as Cu	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	**3**	AAS APHA(22nd Edi)3111 B
14	Lead as Pb	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	**0.1**	AAS APHA(22nd Edi)3111 B
15	Sulphide as S	mg/L	1.8	1.4	1.1	1.4	1.8	1.2	**2**	APHA(22nd Edi) 4500-S
16	Cadmium as Cd	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	**2**	AAS APHA(22nd Edi)3111 B
17	Fluoride as F	mg/L	0.75	0.65	0.45	0.5	0.6	0.5	**2**	APHA(22nd Edi) 4500 F D SPANDS

*Below detection limit

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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 – T1 TERMINAL NR.MARINE BUILDING								
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	02/10/2018	84.33	43.68	13.61	20.68	0.70	BDL*	BDL*
2	05/10/2018	92.48	57.62	21.29	42.31	0.41	BDL*	BDL*
3	09/10/2018	89.64	39.44	14.36	35.61	0.39	BDL*	BDL*
4	12/10/2018	72.66	29.46	16.42	30.44	0.33	BDL*	BDL*
5	16/10/2018	87.60	48.35	24.29	39.35	0.57	BDL*	BDL*
6	19/10/2018	79.45	37.40	10.44	38.26	0.31	BDL*	BDL*
7	23/10/2018	86.30	45.39	19.44	32.51	0.17	BDL*	BDL*
8	26/10/2018	97.29	59.24	17.55	43.24	0.72	BDL*	BDL*
9	30/10/2018	88.40	40.27	18.42	27.50	0.49	BDL*	BDL*
10	02/11/2018	88.55	38.64	14.30	23.51	0.31	BDL*	BDL*
11	06/11/2018	96.60	58.46	20.32	35.65	0.36	BDL*	BDL*
12	09/11/2018	78.56	37.57	11.56	29.26	0.22	BDL*	BDL*
13	13/11/2018	85.61	49.23	19.60	32.49	0.52	BDL*	BDL*
14	16/11/2018	73.92	31.56	13.60	24.26	0.48	BDL*	BDL*
15	19/11/2018	95.34	52.32	15.66	30.52	0.11	BDL*	BDL*
16	21/11/2018	84.38	35.35	18.48	36.63	0.34	BDL*	BDL*
17	26/11/2018	79.37	42.60	8.64	28.49	0.87	BDL*	BDL*
18	28/11/2018	90.41	39.34	12.52	33.60	0.27	BDL*	BDL*
19	03/12/2018	85.65	48.24	9.69	31.71	0.27	BDL*	BDL*
20	05/12/2018	97.52	42.64	14.54	27.73	0.46	BDL*	BDL*
21	10/12/2018	87.38	50.67	22.71	33.25	0.87	BDL*	BDL*
22	12/12/2018	79.44	34.36	12.31	39.39	0.70	BDL*	BDL*
23	17/12/2018	92.47	44.25	21.34	42.65	0.50	BDL*	BDL*
24	19/12/2018	86.58	57.39	20.39	35.92	0.82	BDL*	BDL*
25	24/12/2018	99.55	40.66	11.31	32.48	0.76	BDL*	BDL*
26	26/12/2018	87.39	37.57	25.61	40.25	0.96	BDL*	BDL*
27	31/12/2018	83.56	55.37	13.62	45.38	0.18	BDL*	BDL*
28	02/01/2019	92.66	57.55	23.42	45.76	0.63	BDL*	BDL*
29	07/01/2019	88.35	39.59	15.59	43.59	0.90	BDL*	BDL*
30	09/01/2019	98.30	42.31	12.50	35.83	1.00	BDL*	BDL*

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 PORT – T1 TERMINAL NR. (MARINE BUILDING)								
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	15/01/2019	89.40	52.44	10.24	38.64	0.37	BDL*	BDL*
32	16/01/2019	96.32	48.20	22.45	32.49	1.02	BDL*	BDL*
33	21/01/2019	86.50	36.54	14.53	46.55	0.23	BDL*	BDL*
34	23/01/2019	99.53	58.38	27.52	39.49	0.81	BDL*	BDL*
35	28/01/2019	83.64	46.55	16.25	29.43	0.97	BDL*	BDL*
36	30/01/2019	95.43	54.30	24.80	36.29	1.10	BDL*	BDL*
37	04/02/2019	76.51	32.38	13.59	39.36	0.30	BDL*	BDL*
38	06/02/2019	81.53	44.53	16.74	37.67	0.54	BDL*	BDL*
39	11/02/2019	94.37	56.48	19.88	43.45	0.74	BDL*	BDL*
40	13/02/2019	84.64	50.26	8.64	36.83	0.50	BDL*	BDL*
41	18/02/2019	90.58	33.20	11.26	38.65	0.78	BDL*	BDL*
42	20/02/2019	95.32	53.43	22.43	35.47	0.61	BDL*	BDL*
43	25/02/2019	74.60	41.65	12.48	24.27	0.93	BDL*	BDL*
44	27/02/2019	91.64	49.19	25.67	33.50	0.69	BDL*	BDL*
45	04/03/2019	77.51	42.43	22.73	36.48	0.60	BDL*	BDL*
46	06/03/2019	84.37	36.79	12.58	44.26	0.49	BDL*	BDL*
47	11/03/2019	74.36	38.23	18.22	41.63	0.39	BDL*	BDL*
48	13/03/2019	92.49	56.28	20.55	38.68	0.78	BDL*	BDL*
49	18/03/2019	69.46	32.42	15.30	35.38	0.23	BDL*	BDL*
50	20/03/2019	86.27	44.29	24.20	39.55	0.48	BDL*	BDL*
51	25/03/2019	78.30	40.25	13.64	25.41	0.63	BDL*	BDL*
52	27/03/2019	81.21	46.18	27.20	45.39	0.52	BDL*	BDL*
	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**

*Below detection limit

H. T. Shah
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
1	02/10/2018	89.34	47.50	26.40	36.30	0.79	BDL*	BDL*
2	05/10/2018	97.69	50.58	14.61	33.49	0.62	BDL*	BDL*
3	09/10/2018	84.65	36.56	21.62	39.37	0.23	BDL*	BDL*
4	12/10/2018	79.35	33.44	11.60	26.46	0.52	BDL*	BDL*
5	16/10/2018	80.30	39.46	20.61	25.62	0.63	BDL*	BDL*
6	19/10/2018	93.67	45.63	18.39	41.32	0.45	BDL*	BDL*
7	23/10/2018	77.34	30.36	10.37	30.32	0.38	BDL*	BDL*
8	26/10/2018	92.63	53.57	24.25	37.20	0.90	BDL*	BDL*
9	30/10/2018	82.46	34.56	16.36	24.42	0.36	BDL*	BDL*
10	02/11/2018	82.31	36.74	12.98	18.49	0.21	BDL*	BDL*
11	06/11/2018	91.53	48.35	18.29	30.25	0.55	BDL*	BDL*
12	09/11/2018	89.32	40.58	16.35	34.62	0.46	BDL*	BDL*
13	13/11/2018	78.42	39.63	10.56	20.63	0.41	BDL*	BDL*
14	16/11/2018	85.72	35.66	17.52	28.76	0.45	BDL*	BDL*
15	19/11/2018	67.93	41.20	7.52	24.67	0.24	BDL*	BDL*
16	21/11/2018	57.81	24.50	8.52	32.37	0.53	BDL*	BDL*
17	26/11/2018	83.55	45.66	21.64	36.77	0.73	BDL*	BDL*
18	28/11/2018	61.33	23.64	19.22	27.51	0.47	BDL*	BDL*
19	03/12/2018	96.35	55.70	14.35	36.29	0.69	BDL*	BDL*
20	05/12/2018	79.66	33.89	17.64	25.53	0.30	BDL*	BDL*
21	10/12/2018	82.41	37.65	20.41	22.53	0.60	BDL*	BDL*
22	12/12/2018	92.39	53.56	16.67	29.48	0.53	BDL*	BDL*
23	17/12/2018	65.68	30.62	25.59	35.81	0.89	BDL*	BDL*
24	19/12/2018	80.47	42.85	23.46	30.35	0.78	BDL*	BDL*
25	24/12/2018	68.64	29.51	22.45	28.25	0.62	BDL*	BDL*
26	26/12/2018	91.18	51.20	10.51	38.29	0.57	BDL*	BDL*
27	31/12/2018	89.48	36.53	7.58	34.42	0.36	BDL*	BDL*
28	02/01/2019	74.69	46.32	26.55	40.53	0.98	BDL*	BDL*
29	07/01/2019	68.37	29.46	17.61	32.36	0.65	BDL*	BDL*
30	09/01/2019	78.50	35.37	23.58	28.65	0.72	BDL*	BDL*

Continue ...

H. T. Shah
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	15/01/2019	85.60	48.62	19.31	41.26	0.87	BDL*	BDL*
32	16/01/2019	91.57	42.65	20.48	35.64	0.70	BDL*	BDL*
33	21/01/2019	60.43	24.50	8.68	38.54	0.45	BDL*	BDL*
34	23/01/2019	72.13	45.66	10.48	31.24	0.71	BDL*	BDL*
35	28/01/2019	67.50	36.32	18.20	25.50	0.44	BDL*	BDL*
36	30/01/2019	90.27	50.25	21.31	29.49	0.78	BDL*	BDL*
37	04/02/2019	54.78	23.55	7.58	32.49	0.60	BDL*	BDL*
38	06/02/2019	60.44	30.50	19.51	27.57	0.46	BDL*	BDL*
39	11/02/2019	86.36	52.23	24.57	37.57	0.97	BDL*	BDL*
40	13/02/2019	78.68	45.66	16.24	29.86	1.05	BDL*	BDL*
41	18/02/2019	69.34	28.43	15.61	24.35	0.87	BDL*	BDL*
42	20/02/2019	82.37	46.53	14.41	31.78	1.01	BDL*	BDL*
43	25/02/2019	59.81	31.49	18.59	21.28	0.52	BDL*	BDL*
44	27/02/2019	66.30	38.39	11.56	40.26	0.98	BDL*	BDL*
45	04/03/2019	73.28	39.55	19.19	40.30	0.50	BDL*	BDL*
46	06/03/2019	63.47	29.67	17.07	28.45	0.66	BDL*	BDL*
47	11/03/2019	55.35	26.78	21.26	38.75	0.36	BDL*	BDL*
48	13/03/2019	86.46	51.45	25.49	43.47	0.74	BDL*	BDL*
49	18/03/2019	51.44	20.46	8.68	25.32	0.44	BDL*	BDL*
50	20/03/2019	75.32	34.26	16.39	33.31	0.78	BDL*	BDL*
51	25/03/2019	58.68	27.36	20.57	22.50	0.39	BDL*	BDL*
52	27/03/2019	62.81	30.54	12.87	39.53	0.76	BDL*	BDL*
	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**

*Below detection limit

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	02/10/2018	62.57	31.51	18.73	24.53	0.40	BDL*	BDL*
2	05/10/2018	84.35	44.38	11.35	29.67	0.55	BDL*	BDL*
3	09/10/2018	79.63	35.34	16.22	31.22	0.20	BDL*	BDL*
4	12/10/2018	57.24	27.55	13.52	22.43	0.46	BDL*	BDL*
5	16/10/2018	72.80	38.44	10.83	30.58	0.41	BDL*	BDL*
6	19/10/2018	67.89	30.42	8.65	25.69	0.26	BDL*	BDL*
7	23/10/2018	58.64	23.50	12.37	19.40	0.33	BDL*	BDL*
8	26/10/2018	71.58	38.63	15.62	26.19	0.50	BDL*	BDL*
9	30/10/2018	65.65	29.38	9.61	20.60	0.22	BDL*	BDL*
10	02/11/2018	63.77	27.26	7.64	16.26	0.14	BDL*	BDL*
11	06/11/2018	80.35	43.62	12.46	20.25	0.33	BDL*	BDL*
12	09/11/2018	70.43	33.23	6.81	23.70	0.17	BDL*	BDL*
13	13/11/2018	69.32	30.45	8.46	18.64	0.50	BDL*	BDL*
14	16/11/2018	56.38	23.51	11.37	22.48	0.29	BDL*	BDL*
15	21/11/2018	53.45	20.65	13.47	26.83	0.42	BDL*	BDL*
16	26/11/2018	73.64	39.29	16.50	19.53	0.64	BDL*	BDL*
17	28/11/2018	58.42	26.88	17.26	21.24	0.37	BDL*	BDL*
18	03/12/2018	80.24	44.50	6.56	25.71	0.39	BDL*	BDL*
19	05/12/2018	68.32	29.36	19.59	21.60	0.21	BDL*	BDL*
20	10/12/2018	76.34	31.67	13.64	18.65	0.33	BDL*	BDL*
21	12/12/2018	61.25	38.82	10.19	24.61	0.44	BDL*	BDL*
22	17/12/2018	58.35	24.35	8.92	27.60	0.61	BDL*	BDL*
23	19/12/2018	89.32	48.62	12.48	20.37	0.56	BDL*	BDL*
24	24/12/2018	63.57	24.69	17.55	17.69	0.65	BDL*	BDL*
25	26/12/2018	82.68	46.31	14.46	22.68	0.73	BDL*	BDL*
26	31/12/2018	67.87	31.29	9.56	30.23	0.48	BDL*	BDL*
27	02/01/2019	65.56	37.35	9.64	30.34	0.77	BDL*	BDL*
28	07/01/2019	76.51	34.58	11.41	27.70	0.57	BDL*	BDL*
29	09/01/2019	69.32	30.75	18.67	20.46	0.85	BDL*	BDL*
30	15/01/2019	70.20	39.63	7.54	15.63	0.38	BDL*	BDL*

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	16/01/2019	81.27	32.56	13.61	23.92	0.66	BDL*	BDL*
32	21/01/2019	74.35	29.57	10.41	33.55	0.55	BDL*	BDL*
33	23/01/2019	91.39	51.53	8.51	24.72	0.36	BDL*	BDL*
34	28/01/2019	62.34	27.51	14.41	17.66	0.50	BDL*	BDL*
35	30/01/2019	85.45	33.57	19.30	26.62	0.41	BDL*	BDL*
36	04/02/2019	62.47	26.37	10.36	28.69	0.84	BDL*	BDL*
37	06/02/2019	70.53	37.52	13.37	23.74	0.73	BDL*	BDL*
38	11/02/2019	54.68	22.38	16.50	25.49	0.40	BDL*	BDL*
39	13/02/2019	63.59	34.24	19.38	18.69	0.65	BDL*	BDL*
40	18/02/2019	58.64	24.86	17.53	17.60	1.09	BDL*	BDL*
41	20/02/2019	76.49	33.48	11.36	22.70	0.48	BDL*	BDL*
42	25/02/2019	53.40	23.43	15.19	29.27	0.76	BDL*	BDL*
43	27/02/2019	84.28	45.30	7.54	26.54	0.47	BDL*	BDL*
44	04/03/2019	65.65	35.33	14.52	33.49	0.64	BDL*	BDL*
45	06/03/2019	54.35	25.62	21.54	21.75	0.82	BDL*	BDL*
46	11/03/2019	66.24	33.69	15.65	24.40	0.53	BDL*	BDL*
47	13/03/2019	50.22	23.47	18.39	28.52	0.26	BDL*	BDL*
48	18/03/2019	56.86	27.55	11.85	32.50	0.62	BDL*	BDL*
49	20/03/2019	70.42	41.22	12.36	25.79	0.33	BDL*	BDL*
50	25/03/2019	51.28	24.52	17.50	34.57	0.54	BDL*	BDL*
51	27/03/2019	75.59	39.62	8.91	29.50	0.34	BDL*	BDL*
	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**

*Below detection limit

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 DG 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	02/10/2018	71.67	26.35	15.66	28.39	0.53	BDL*	BDL*
2	05/10/2018	63.62	38.23	19.61	37.34	0.29	BDL*	BDL*
3	09/10/2018	75.64	33.71	11.66	26.32	0.57	BDL*	BDL*
4	12/10/2018	50.32	20.45	8.28	18.35	0.42	BDL*	BDL*
5	16/10/2018	65.70	30.50	12.41	34.55	0.50	BDL*	BDL*
6	19/10/2018	57.40	27.35	16.21	21.31	0.22	BDL*	BDL*
7	23/10/2018	68.20	41.62	6.56	24.70	0.26	BDL*	BDL*
8	26/10/2018	85.46	50.32	13.32	29.36	0.69	BDL*	BDL*
9	30/10/2018	73.38	25.68	10.24	16.37	0.50	BDL*	BDL*
10	02/11/2018	73.41	40.26	8.40	13.59	0.40	BDL*	BDL*
11	06/11/2018	85.32	45.44	11.45	23.61	0.44	BDL*	BDL*
12	09/11/2018	54.62	26.44	14.54	17.58	0.15	BDL*	BDL*
13	13/11/2018	64.31	35.26	20.22	28.40	0.31	BDL*	BDL*
14	16/11/2018	50.35	20.40	6.62	14.65	0.25	BDL*	BDL*
15	19/11/2018	86.12	48.66	18.57	35.26	0.18	BDL*	BDL*
16	21/11/2018	75.86	31.62	15.45	30.62	0.30	BDL*	BDL*
17	26/11/2018	69.43	38.44	19.29	25.51	0.57	BDL*	BDL*
18	28/11/2018	79.63	34.51	9.63	19.67	0.66	BDL*	BDL*
19	03/12/2018	60.76	31.66	12.66	20.84	0.23	BDL*	BDL*
20	05/12/2018	81.62	34.64	9.27	17.63	0.58	BDL*	BDL*
21	10/12/2018	70.60	29.42	18.85	30.45	0.47	BDL*	BDL*
22	12/12/2018	55.90	42.87	6.55	36.55	0.80	BDL*	BDL*
23	17/12/2018	85.78	39.39	13.69	31.61	0.55	BDL*	BDL*
24	19/12/2018	93.82	53.63	10.68	26.39	0.66	BDL*	BDL*
25	24/12/2018	88.60	37.28	8.62	21.66	0.52	BDL*	BDL*
26	26/12/2018	77.17	33.44	16.61	32.60	0.86	BDL*	BDL*
27	31/12/2018	94.32	52.47	19.51	38.46	0.26	BDL*	BDL*
28	02/01/2019	98.69	51.52	15.40	35.33	0.69	BDL*	BDL*
29	07/01/2019	82.58	36.46	7.22	39.28	1.03	BDL*	BDL*
30	09/01/2019	92.38	46.84	9.21	24.57	0.64	BDL*	BDL*

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 DG 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	15/01/2019	76.30	56.32	13.38	21.60	0.29	BDL*	BDL*
32	16/01/2019	85.32	38.24	11.35	29.25	0.86	BDL*	BDL*
33	21/01/2019	79.66	33.64	23.37	42.71	0.32	BDL*	BDL*
34	23/01/2019	87.64	55.74	16.34	36.89	1.07	BDL*	BDL*
35	28/01/2019	75.60	42.17	21.59	40.35	0.74	BDL*	BDL*
36	30/01/2019	80.47	39.31	20.36	33.33	0.42	BDL*	BDL*
37	04/02/2019	69.64	29.50	20.40	37.40	0.41	BDL*	BDL*
38	06/02/2019	75.62	40.55	6.61	32.65	0.96	BDL*	BDL*
39	11/02/2019	59.32	34.51	13.64	29.51	0.85	BDL*	BDL*
40	13/02/2019	94.53	55.49	11.58	43.90	0.37	BDL*	BDL*
41	18/02/2019	80.96	36.46	8.78	20.43	0.90	BDL*	BDL*
42	20/02/2019	72.68	30.66	18.42	28.33	0.55	BDL*	BDL*
43	25/02/2019	66.25	33.56	21.57	33.73	0.94	BDL*	BDL*
44	27/02/2019	76.83	39.48	14.18	30.29	0.89	BDL*	BDL*
45	04/03/2019	85.32	49.45	10.49	27.52	0.56	BDL*	BDL*
46	06/03/2019	74.82	32.44	7.65	23.47	0.71	BDL*	BDL*
47	11/03/2019	67.63	30.42	23.43	36.48	0.62	BDL*	BDL*
48	13/03/2019	55.68	33.68	15.70	32.52	0.69	BDL*	BDL*
49	18/03/2019	62.49	24.37	21.37	42.50	0.32	BDL*	BDL*
50	20/03/2019	90.41	39.39	19.49	30.56	0.44	BDL*	BDL*
51	25/03/2019	83.32	44.24	24.26	38.37	0.74	BDL*	BDL*
52	27/03/2019	69.45	35.46	16.25	34.33	0.55	BDL*	BDL*
	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**

*Below detection limit

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	T1 TERMINAL NR.MARINE BUILDING					
		Result [Leq dB(A)]					
	Sampling Date & Time	16/10/2018	16/11/2018	14/12/2018	04/01/2019	25/02/2019	18/03/2019
1	6:00-7:00	67.2	67.3	63.1	68.4	65.8	68.1
2	7:00-8:00	66.5	66.4	68.7	65.2	69.4	62.8
3	8:00-9:00	63.9	62.4	69.1	66.8	61.4	63.4
4	9:00-10:00	66.5	64.5	62.8	70.2	62.5	69.9
5	10:00-11:00	61.7	61.6	65.8	62.8	68.4	72.4
6	11:00-12:00	66.2	64.3	70.4	68.3	65.2	74.1
7	12:00-13:00	68.7	65.7	69.7	63.7	60.4	70.1
8	13:00-14:00	70.6	68.2	65.7	62.9	67.4	66.4
9	14:00-15:00	71.9	72.5	63.1	68.5	63.4	68.4
10	15:00-16:00	70.3	67.9	62.8	65.1	62.4	62.8
11	16:00-17:00	62.3	62.9	68.4	70.3	68.1	65.6
12	17:00-18:00	64.7	65.6	65.5	71.8	61.4	68.8
13	18:00-19:00	64.6	64.6	69.1	69.4	60.8	64.1
14	19:00-20:00	63.6	65.7	62.8	62.8	69.4	63.4
15	20:00-21:00	64.9	67.7	65.0	65.1	70.6	68.9
16	21:00-22:00	70.1	73.0	66.7	62.5	72.4	66.8
Day Time Limit*		75 Leq dB(A)					

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	T1 TERMINAL NR.MARINE BUILDING					
		Result [Leq dB(A)]					
1	Sampling Date & Time	16/10/2018 & 17/10/2018	16/11/2018 & 17/11/2018	14/12/2018 & 15/12/2018	04/01/2019 & 05/01/2019	25/02/2019 & 26/02/2019	18/03/2019 & 19/03/2019
2	22:00-23:00	69.5	67.8	63.8	63.1	63.1	65.1
3	23:00-00:00	66.5	64.4	65.7	61.8	65.3	60.8
4	00:00-01:00	64.4	66.9	64.1	65.1	66.3	68.4
5	01:00-02:00	61.9	61.6	62.8	68.7	62.4	67.4
6	02:00-03:00	58.3	60.8	63.7	65.4	62.7	68.4
7	03:00-04:00	66.1	65.6	63.9	62.9	68.3	65.1
8	04:00-05:00	62.8	60.8	69.8	69.4	65.3	62.5
9	05:00-06:00	64.7	66.6	62.7	68.5	66.2	66.1
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	NEAR FIRE STATION					
		Result [Leq dB(A)]					
	Sampling Date & Time	12/10/2018	20/11/2018	04/12/2018	16/01/2019	04/02/2019	11/03/2019
1	6:00-7:00	62.0	62.3	65.4	62.5	68.4	68.1
2	7:00-8:00	63.8	61.2	66.3	68.4	62.1	62.7
3	8:00-9:00	69.2	69.3	66.9	72.4	65.4	65.1
4	9:00-10:00	67.5	69.1	67.4	74.1	73.1	65.9
5	10:00-11:00	63.4	62.5	63.2	70.4	64.1	68.2
6	11:00-12:00	61.8	64.5	62.4	69.9	68.1	63.7
7	12:00-13:00	68.1	70.7	67.4	63.4	62.4	65.4
8	13:00-14:00	62.5	61.7	65.3	60.4	68.4	62.8
9	14:00-15:00	61.1	61.5	62.5	62.4	62.4	69.1
10	15:00-16:00	67.1	64.9	68.4	64.5	69.4	67.1
11	16:00-17:00	69.0	71.4	68.3	65.1	61.4	63.4
12	17:00-18:00	67.7	67.2	68.7	63.4	60.4	69.1
13	18:00-19:00	64.6	65.4	64.3	62.5	62.7	71.1
14	19:00-20:00	64.7	66.3	62.7	63.4	68.4	68.1
15	20:00-21:00	65.2	63.3	65.8	65.2	64.3	65.2
16	21:00-22:00	61.4	64.5	63.6	66.8	61.5	68.1
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	12/10/2018 & 13/10/2018	20/11/2018 & 21/11/2018	04/12/2018 & 05/12/2018	16/01/2019 & 17/01/2019	04/02/2019 & 05/02/2019	11/03/2019 & 12/03/2019
2	22:00-23:00	68.0	68.4	64.1	63.2	67.3	65.1
3	23:00-00:00	59.8	60.1	63.4	59.4	64.2	68.7
4	00:00-01:00	67.6	66.3	62.1	60.3	65.3	59.4
5	01:00-02:00	60.8	59.6	60.4	60.3	62.1	60.8
6	02:00-03:00	62.8	65.8	68.4	65.3	67.3	63.1
7	03:00-04:00	65.6	65.1	63.4	62.3	66.3	62.4
8	04:00-05:00	64.9	67.5	65.4	60.2	63.9	60.4
9	05:00-06:00	60.8	58.7	67.1	62.4	61.5	60.8
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	ADANI HOUSE					
		Result [Leq dB(A)]					
	Sampling Date & Time	02/10/2018	13/11/2018	18/12/2018	02/01/2019	15/02/2019	01/03/2019
1	6:00-7:00	65.0	62.6	60.3	60.3	62.5	65.4
2	7:00-8:00	67.7	68.1	63.4	63.4	68.4	62.8
3	8:00-9:00	67.1	68.7	62.3	62.3	68.1	68.1
4	9:00-10:00	73.0	71.8	67.4	67.4	63.4	72.1
5	10:00-11:00	72.4	71.3	65.6	65.6	72.4	71.5
6	11:00-12:00	64.6	62.8	68.4	68.4	70.4	69.4
7	12:00-13:00	60.3	59.5	70.4	70.4	70.9	65.2
8	13:00-14:00	65.5	69.0	65.3	65.3	68.1	62.8
9	14:00-15:00	64.4	67.4	69.4	69.4	62.4	62.8
10	15:00-16:00	62.5	65.3	69.7	69.7	65.1	62.1
11	16:00-17:00	71.1	72.8	67.3	67.3	62.8	65.1
12	17:00-18:00	69.9	72.0	65.3	65.3	66.8	69.1
13	18:00-19:00	70.9	70.0	63.8	63.8	69.4	63.4
14	19:00-20:00	63.1	60.9	64.3	64.3	62.1	65.1
15	20:00-21:00	57.9	56.0	67.4	67.4	68.4	61.8
16	21:00-22:00	64.9	62.4	63.8	63.8	68.2	60.4
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	02/10/2018 & 03/10/2018	13/11/2018 & 14/11/2018	18/12/2018 & 19/12/2018	02/01/2019 & 03/01/2019	15/02/2019 & 16/02/2019	01/03/2019 & 02/03/2019
2	22:00-23:00	67.8	69.5	60.4	67.4	60.4	62.5
3	23:00-00:00	66.8	64.4	65.1	68.3	65.1	65.1
4	00:00-01:00	64.3	66.8	65.4	63.2	65.4	65.7
5	01:00-02:00	63.8	64.0	61.8	60.1	61.8	60.8
6	02:00-03:00	62.3	61.2	63.4	60.4	63.4	60.7
7	03:00-04:00	62.0	61.2	62.4	62.4	62.4	62.4
8	04:00-05:00	61.3	60.1	65.7	65.3	65.7	58.1
9	05:00-06:00	61.3	63.8	67.1	63.6	67.1	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 DG HOUSE					
		Result [Leq dB(A)]					
	Sampling Date & Time	05/10/2018	23/11/2018	21/12/2018	10/01/2019	27/02/2019	07/03/2019
1	6:00-7:00	56.7	56.0	58.1	62.7	58.4	61.2
2	7:00-8:00	59.2	59.2	60.1	65.2	60.4	68.7
3	8:00-9:00	62.2	65.1	59.7	61.4	69.7	65.2
4	9:00-10:00	65.4	66.7	63.4	60.8	64.0	64.3
5	10:00-11:00	66.1	67.3	65.7	65.2	61.5	63.8
6	11:00-12:00	65.3	65.6	69.7	63.1	62.4	69.9
7	12:00-13:00	69.1	71.3	65.1	61.8	61.8	62.7
8	13:00-14:00	69.8	71.4	62.4	65.9	64.7	62.3
9	14:00-15:00	64.3	65.6	68.7	68.2	62.8	65.1
10	15:00-16:00	61.8	62.5	68.4	67.4	61.8	65.4
11	16:00-17:00	65.4	67.4	67.1	64.3	63.4	65.3
12	17:00-18:00	66.8	64.5	65.8	63.5	61.8	68.1
13	18:00-19:00	60.8	62.2	63.8	65.5	67.4	64.2
14	19:00-20:00	64.7	62.1	66.1	66.1	61.9	62.8
15	20:00-21:00	59.2	62.5	69.1	61.4	65.1	65.1
16	21:00-22:00	67.0	67.5	65.8	65.2	62.4	63.4
Day Time Limit*		75 Leq dB(A)					

Result of Noise level monitoring [Night Time]

SR. NO.	Name of Location	CT-3 DG HOUSE					
		Result [Leq dB(A)]					
1	Sampling Date & Time	05/10/2018 & 06/10/2018	23/11/2018 & 24/11/2018	21/12/2018 & 22/12/2018	10/01/2019 & 11/01/2019	27/02/2019 & 28/02/2019	07/03/2019 & 08/03/2019
2	22:00-23:00	62.0	60.9	68.7	65.1	65.1	63.1
3	23:00-00:00	64.7	66.9	65.1	59.8	59.8	68.4
4	00:00-01:00	58.7	60.5	62.8	57.4	57.4	64.1
5	01:00-02:00	64.5	66.3	68.4	60.4	60.4	60.4
6	02:00-03:00	63.2	66.0	64.9	61.4	61.4	62.8
7	03:00-04:00	66.3	66.0	69.1	58.7	58.7	64.7
8	04:00-05:00	66.1	67.7	67.5	58.1	58.1	66.1
9	05:00-06:00	59.0	58.2	68.2	60.4	60.4	63.7
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
				OCTOBER 2018				
1	Particulate Matter	mg/Nm^3	**150**	19.37	--	16.83	--	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	3.94	--	5.91	--	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	23.70	--	34.60	--	IS:11255 (Part-VII):2005
				NOVEMBER 2018				
1	Particulate Matter	mg/Nm^3	**150**	23.54	--	19.63	14.28	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	2.93	--	6.68	4.86	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	28.49	--	39.45	32.79	IS:11255 (Part-VII):2005
				DECEMBER 2018				
1	Particulate Matter	mg/Nm^3	**150**	20.40	--	16.38	--	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	3.89	--	5.44	--	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	31.19	--	35.67	--	IS:11255 (Part-VII):2005
				JANUARY 2019				
1	Particulate Matter	mg/Nm^3	**150**	24.57	--	--	18.33	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	4.70	--	--	5.67	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	34.60	--	--	38.27	IS:11255 (Part-VII):2005
				FEBRUARY 2019				
1	Particulate Matter	mg/Nm^3	**150**	18.75	16.51	20.62	--	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	5.22	4.81	6.60	--	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	32.35	28.65	38.65	--	IS:11255 (Part-VII):2005
				MARCH 2019				
1	Particulate Matter	mg/Nm^3	**150**	16.83	--	24.62	--	IS:11255 (Part-I):1985
2	Sulfur dioxide	ppm	**100**	4.64	--	5.66	--	IS:11255 (Part-II):1985
3	Oxides of Nitrogen	ppm	**50**	30.44	--	35.59	--	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)

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.

Dr. Arun Bajpai
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:
OCTOBER 2018 TO MARCH 2019

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
			LIQUID TERMINAL PUMP HOUSE-1	LIQUID TERMINAL NEAR ENCLOSURE – 3	NEAR LIQUID TERMINAL ETP OFFICE	
	GPS Location		N 22° 44.554' E 069° 41.453'	N 22° 44.554' E 069° 41.453'	N 22° 44.554' E 069° 41.453'	
	Sampling Date		31/12/2018	31/12/2018	31/12/2018	
1	pH	--	7.42	8.14	7.79	IS3025(P11)83Re.02
2	Salinity	ppt	12.45	1.28	17.33	APHA 2520B
3	Oil & Grease	mg/L	BDL*	BDL*	2.4	APHA(22ndEdi)5520D
4	Hydrocarbon	mg/L	BDL*	BDL*	BDL*	GC/GC-MS
5	Lead as Pb	mg/L	0.094	0.96	0.031	AAS APHA(22ndEdi)3111 B
6	Arsenic as As	mg/L	BDL*	BDL*	BDL*	AAS APHA 3114 B
7	Nickel as Ni	mg/L	BDL*	BDL*	BDL*	AAS APHA(22ndEdi)3111 B
8	Total Chromium as Cr	mg/L	BDL*	BDL*	BDL*	AAS 3111B
9	Cadmium as Cd	mg/L	0.014	BDL*	BDL*	AAS APHA(22ndEdi)3111 B
10	Mercury as Hg	mg/L	BDL*	BDL*	BDL*	AAS APHA- 3112 B
11	Zinc as Zn	mg/L	2.10	BDL*	0.072	AAS APHA(22ndEdi)3111 B
12	Copper as Cu	mg/L	BDL*	0.84	BDL*	AAS APHA(22ndEdi)3111 B
13	Iron as Fe	mg/L	9.8	0.74	0.25	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	1.02	1.05	0.9	--

*BDL: Below Detection Limit

POLLUCON LABORATORIES PVT. LTD. SURAT-7.

H. T. Shah
Lab Manager

Dr. Arun Bajpai
Lab Manager (Q)

SR. NO	TEST PARAMETERS	UNIT	RESULTS		TEST METHOD
			LIQUID TERMINAL PUMP HOUSE-2	LIQUID TERMINAL PUMP HOUSE-3	
	GPS Location		N 22° 44.554' E 069° 41.453'	N 22° 44.554' E 069° 41.453'	
	Sampling Date		31/12/2018	31/12/2018	
1	pH	--	7.80	7.97	IS3025(P11)83Re.02
2	Salinity	ppt	1.26	6.54	APHA 2520B
3	Oil & Grease	mg/L	BDL*	2.0	APHA(22ndEdi)5520D
4	Hydrocarbon	mg/L	BDL*	BDL*	GC/GC-MS
5	Lead as Pb	mg/L	0.075	0.14	AAS APHA(22ndEdi)3111 B
6	Arsenic as As	mg/L	BDL*	BDL*	AAS APHA 3114 B
7	Nickel as Ni	mg/L	BDL*	BDL*	AAS APHA(22ndEdi)3111 B
8	Total Chromium as Cr	mg/L	BDL*	BDL*	AAS 3111B
9	Cadmium as Cd	mg/L	0.044	0.058	AAS APHA(22ndEdi)3111 B
10	Mercury as Hg	mg/L	BDL*	BDL*	AAS APHA- 3112 B
11	Zinc as Zn	mg/L	1.84	0.17	AAS APHA(22ndEdi)3111 B
12	Copper as Cu	mg/L	0.92	BDL*	AAS APHA(22ndEdi)3111 B
13	Iron as Fe	mg/L	7.2	1.10	AAS APHA(22ndEdi)3111 B
14	Insecticides/Pesticides	mg/L	Absent	Absent	GC/GC-MS
15	Depth of Water Level from Ground Level	meter	0.98	0.95	--

*BDL: Below Detection Limit

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 – 2

Details of Greenbelt development at APSEZ, Mundra

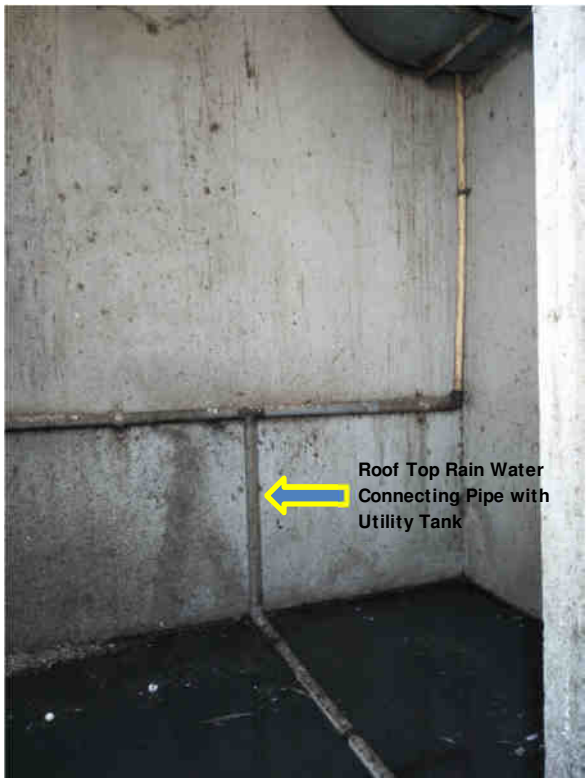
LOCATION	Total Green Zone Detail Till Up to March - 2019				
	Area (In Ha.)	Trees (Nos.)	Palm (Nos.)	Shrubs (SQM)	Lawn (SQM)
SV COLONY	69.53	32480.00	7298.00	68327.00	95019.00
PORT & NON SEZ	79.87	139992.00	19205.00	74210.78	61295.18
SEZ	114.72	227835.00	17302.00	220583.60	28162.03
MITAP	2.48	8168.00	33.00	3340.00	4036.00
WEST PORT	86.04	186827.00	51342.00	24112.00	22854.15
AGRI PARK	8.94	17244.00	1332.00	5400.00	2121.44
SOUTH PORT	14.25	25530.00	3470.00	3882.00	3327.26
Samundra Township	55.63	52481.00	11818.00	20078.07	46571.67
Productive Farming (Vadala Farm)	23.79	27976.00	0.00	0.00	0.00
TOTAL (APSEZL)	**455.23**	**718533.00**	**111800.00**	**419933.45**	**263386.73**

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 – 3

❖ Roof Top Rain Water Harvesting System



Location: Tug Berth Building (Mundra Port Terminal)

ANNEXURE – 4

Adani Foundation, Mundra

adani Foundation

ANNUAL REPORT 2018-19

For a better tomorrow

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

Our Journey

The year 2018-19 has passed off with passion and courage to work for the commitment given to the community. It is essential that sustained growth is achieved at rural level along with the industrial development. This can be made possible by involving more and more people in the rural development programme.

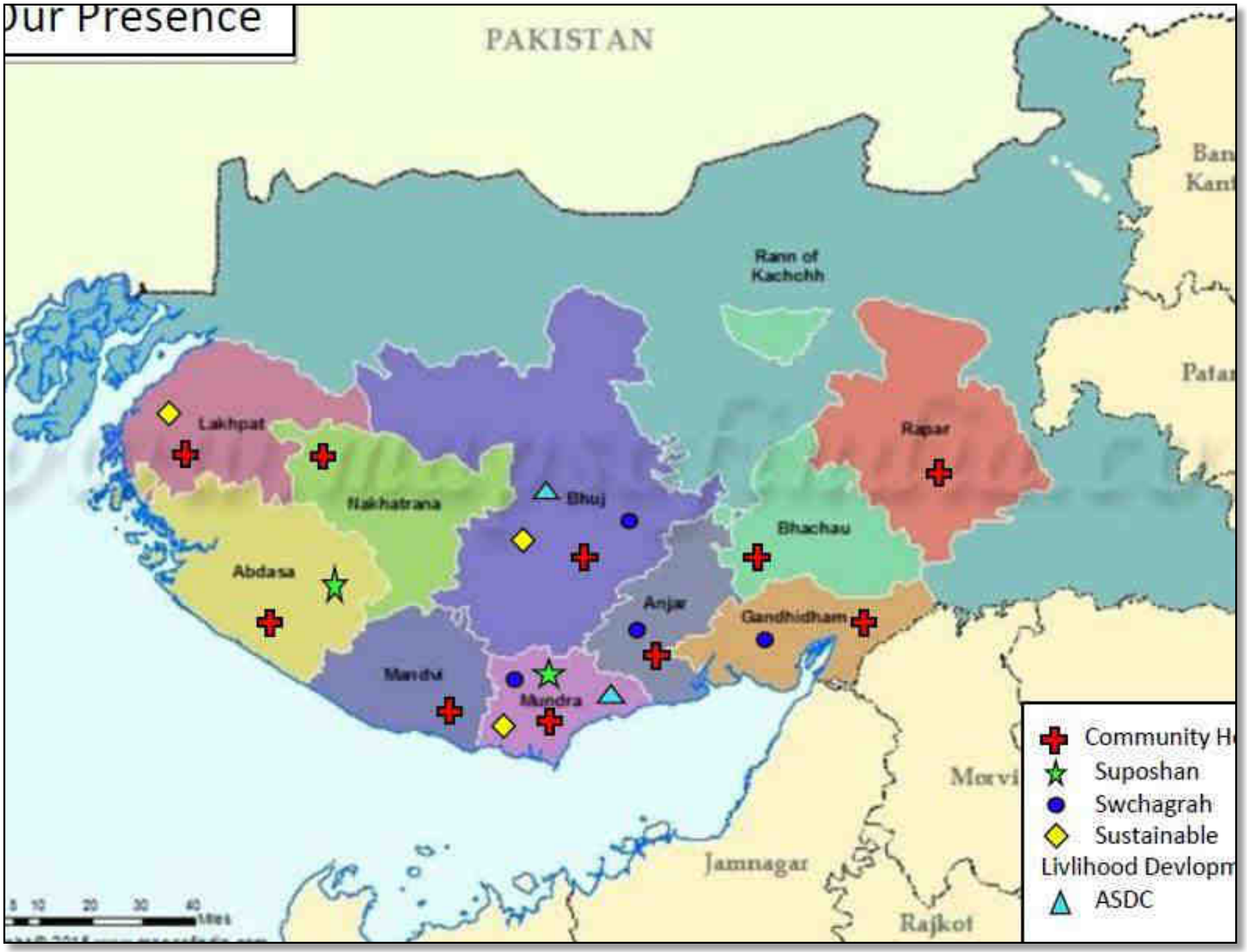
Since 1996, The Adani Foundation Mundra is committed to the cause of the deprived and underprivileged. It has been working relentlessly across 6 Talukas, covering 81 villages, to uplift the lives of more than 42,000 families with a multi-faceted approach.

This year conceded with more streamline projects of Education i.e. Utthan – to enhance primary education of 17 schools of Mundra, milestone achievement in malnourishment project, Launched Swachhagraha in four talukas and 400 schools of Kutchh, considerable impact created by fisherman amenities projects and new era defined in agriculture projects i.e. tissue culture and fodder sustainability .

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

Thanks to Mr. Rakshit Shah and Mr. Avinash Rai for being mentor of the team Always !

Our Achievement would not be possible without the ultimate support by Mr. P N Roy Chaudhry, Executive Director - AF and plentiful faith and passionate support by Dr. (Mrs.) Priti G Adani, Chairperson– Adani Foundation


Our Presence
PAKISTAN
Rann of Kachchh
Lakhpat
Nakhatrana
Bhuj
Abdasa
Anjar
Bhachau
Rapar
Gandhidham
Mandvi
Mundra
Jamnagar
Rajkot
Community H
Suposhan
Swchagrah
Sustainable
Livlihood Devlopm
ASDC

INDEX

Education

Beneficiaries Detail

- 2598 Students : 17 Schools Utthan
- 2300 Enrollment Kit : 118 Schools
- 704 Students : Dignity of Workforce
- 345 Mothers : Mother's meet
- 5542 Students : 116 Institute Udaan
- 387 Students : Adani Vidya Mandir
- 206 Teachers : Guruvandana- I,II,III,IV

Project Utthan

Project Utthan : Adani foundation has been promoting various educational and human initiatives in education, community health, sustainable livelihood and Rural Infrastructure.

In this context with an aim to enhance the quality of primary education in Kutch district, Adani foundation adopted 17 government school located at Mundra Taluka under the project 'UTTHAN' a drive of quality education.

Adani foundation is expected to achieve visible and measurable important in scholastic area.

Adani foundation will be focusing to bring the positive evidences of change in the personal, behavior and academic development of the students.

Kick Start of "Utthan"

School improvement and teachers development is a multilayered approach. Therefore, school reform and initiative need to be carefully planned and executed by involving all stakeholders. In the process of implementing school improvement programme, teachers play critical role in institutionalizing change initiative.

A number of activities have been taken into account bring about change and enhance quality education in schools by Government, NGO and CSR,

From Year 2018 – Government of Gujrat has given responsibility through memorandum of understanding of 17 Schools for academic and overall development of school under Project "Uthhan" to Adani Foundation. Many workshops and training programmes are organized to improve the quality of education and support government schools.

In Utthan, main focus on upbringing of students (Priya Vidhyarthi) to the minimum level of reading, writing and counting (Vachan, Lekhan and Ganan). For making this mission successful, para teacher is appointed for each school.

Apart from this, English is introduced from standard first to create strong base. Also distributed science kit, sports kit, music kit to all 17 schools along with library cupboard and 100 books.

Smart class is given to all 17 schools with proper training to teachers for optimum utilization.

Objective of "Utthan"

- To improve basic knowledge of Math, Languages, English and Computer among students of Govt. schools.
- To Raise Minimum Level of weak students

Output of "Utthan"

- Increase enrolment ratio of students to 100%
- 100% regular present of students in school
- To improve their arithmetic, reading capacity in various languages, English etc.
- To increase confidence level of students
- Involvement of local community, village leaders and local Govt. through various activities

Outcome of "Utthan"

- Students of class 1th to 7th in government schools will take interest in activity based learning.
- Community and teachers will be positive and satisfy from this education project.
- Increase interest of students in school, they develop knowledge and understand importance of library.
- Education friendly environment development in school as well as in community.

Expected impact of "Utthan"

- Vachan, Ganan and Lekhan strengthening in Priya students
- Education department of Gujarat government will include activity based learning in regular course curriculum.

Implementation Partners of "Utthan"

DPEO/TEPO/BRC will provide guidance for implementation and experts will visit on an interval of 6 months to evaluate the project.

Proposed Activities "Utthan"

- Training of Government School Staff
- Reading, Writing and Maths improvement as per Gunotsav Data
- Development of Teaching Learning Material
- English Language
- Role Model Activity in assembly
- Reading Corner Activities
- Monitoring and Evaluation

Shala Praveshotsav

To motivate children for schooling by providing the welcome kit / education kit and to create conducive children for " joyful learning" Environment for children for Learning during shala Praveshotsav Govt. has wide spread network of 111 Govt. primary schools in total 62 villages of Mundra Taluka, 3 villages of in Anjar taluka, YMC school, AVMB and two villages of Mandvi Taluka (118 Schools) every year on an average 2550 to 2700 children gets enrolled in 1st std in Taluka For 2018-2019 total 2300 children got enrolled & Adani foundation provided the "Enrollment kit" to all new enrollee in Taluka

Mother's Meet

To motivate parents to maintain regularity of school, health hygiene and cleanliness we scheduled 3 mothers meet per week, which is really beneficial for student's overall growth. We arrange quiz completion for mother's to update their general knowledge.

udaan
get inspired

Summary of year 2018-19 for Project "UDAAN"						
NO.	MONTH	SCHOOL/ COLLEGE	BOYS	GIRLS	TEACHERS	TOTAL
1	Apr -18	27	1381	515	108	2004
2	May -18	31	1107	827	105	2039
3	June - 18	30	1333	579	107	2019
4	July - 18	29	1280	727	116	2123
5	Aug -18	29	1256	770	109	2135
6	Sep - 18	28	1317	606	107	2030
7	Oct -18	29	1318	682	107	2107
8	Nov - 18	26	1045	575	87	1707
9	Dec - 18	33	1052	928	110	2090
10	Jan - 19	31	1250	763	113	2126
11	Feb - 19	31	1196	577	96	1869
12	Mar - 19	31	1274	585	104	1963
Total		355	14809	8134	1269	24212
	Local 2018-19	201	5543	3710	467	9720
					Total	33932

Project UDAAN

Mundra has created a position for itself by creating capacities in Port Handling, Edible Oil Refining and Power Generation. With a vision to familiarize, educate and inspire the future generation to become successful business leader, engineers, managers and other professionals, the Adani Foundation organizes Education Exposure visits to Mundra for High schools and educational institutes in Various parts of Gujrat.

Total 3270 educational institutes has visited and 236032 beneficiaries of the project till date and 33932 beneficiaries during current year.

Adani Vidya Mandir, Bhadreshwar

Class	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1st	53	40	45	41	38	40	40
2nd	26	68	46	41	39	37	37
3rd	27	40	73	45	37	39	39
4th		39	48	70	44	36	36
5th			37	46	58	39	39
6th			37	36	46	58	58
7th			34	37	35	44	44
8th			39	34	36	34	34
9th				38	38	30	30
10th					23	27	30
Total	106	187	359	387	394	384	387

In Bhadreshwar, Mundra, the Adani Vidyamandir has completely revolutionized the education scenario. Only the children of families with an income of less than 1.5 lakh are admitted to this school. Along with quality education, the school also focuses on providing nutritious food, uniforms and other services to the children for free. Currently, 387 students, from Std. 1 to Std. 10 are studying in the school. Out of these 134 children come from the fisher folk community. Many students are the first generation in their families to attend school.

AVMB Std.-10 Second Batch Result 2018-19

Adani Vidya Mandir Bhadreshwar achievement in Gujrat Board Standard 10th Examination Result 92% (25 students have passed the examination out of 27). Adani Foundation will take all responsibility of further study of students with respect to their interest.

AVMB STD - 10 SECOND BATCH RESULT		
Year 2017-2018		
SR NO	GRADE	STUDENTS
1	Above 80 %	1
2	Above 70 %	3
3	Above 60 %	5
4	Above 50 %	9
5	Above 40 %	7
6	Fail	2
	TOTAL	27

ENVIRONMENT SUSTANABILITY

The Environment Impact Assessment (EIA) Notification, 2006, issued under the Environment (Protection) Act, 1986, as amended from time to time, prescribes the process for granting prior environment clearance (EC) in respect of cevoain development projects/activities listed out in the Schedule to the Notification.

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 radious villages from SEZ Boundaries.

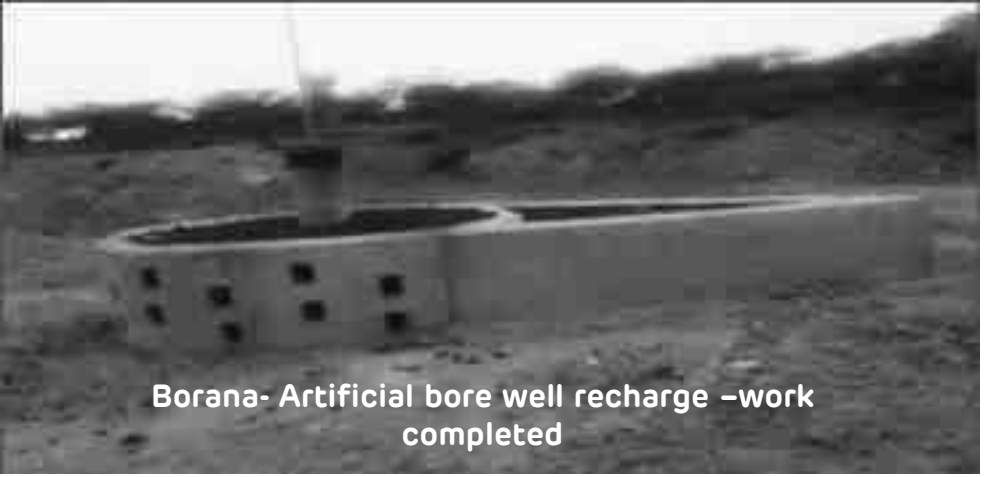
To make connections between human actions and the level of biological diversity found within a habitat and/or ecosystem, this year we launch project "Sanrakshan" in coordination with GUIDE. MOU has been signed with Dr. Thivakaran – GUIDE for conservation of five spices of mangroves.

SUJLAM SUFLAM JAL ABHIYAN

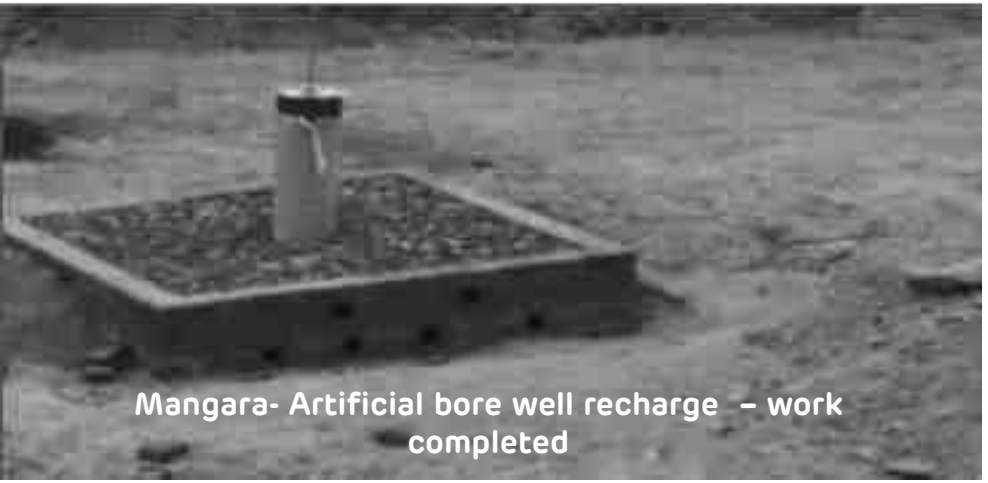
The state government announced its 31-day water conservation drive called 'Sujlam Suflam Jal Abhiyan'. The campaign was launched on "Gujarat Gaurav Din" on May 1, which is the foundation day of Gujarat state. Moreover, the government aims to revive 32 rivers in the state and also to create storage capacity in existing village pond.

Inauguration by GOG Hon'ble Minister, MLA and DM Kutch and other guest day on 1st may at Gundala village taluka Mundra by Adani foundation, Mundra

During 1st may to 31st may AF Mundra had completed deepening work in 26 pond works as per given target by District Collector Kutch in 19 villages . Total excavation done 51723 Cum. Total storage capacity created 51.72 million liters. These works done as per government guidelines.



Borana- Artificial bore well recharge –work completed



Mangara- Artificial bore well recharge – work completed

Dhrub- pond deepening work – work completed

PARTICIPATORY GROUND WATER MANAGEMENT

At the turn of millennium, the state watched with growing alarm the steady depletion of its ground water and launched massive drive to achieve water security in Mundra region. As a part of pre monsoon activities with ACT (Arid Communities and Technologies – NGO) we have carried out following work. But, due to negligible rainfall we are not able to find out outcome of this project.

PROJECT "SANRAKSHAN" - BIODIVERSITY

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).

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.

Table 1: NURSERY STATUS AS OF SEPTEMBER 2018

Sr. No.	SPECIES	LOCATION (FROM)	SITE	DATE OF ARRIVAL IN BHUJ	DATE OF SOWING	NO. OF SEED-BAGS ESTABLISHED	NO. OF SEEDS IN EACH BAG	TOTAL NO. OF SEEDS SOWN	APPROX. SURVIVAL RATE TILL DATE
1	*Aegiceros corniculatum*	Parangipettai		Sept 21	Sept 25	2000	2	4000	
		Kandla							
2	*Excoecaria agallocha*	Pondicherry		Sept 22	Sept 26	4000	10	40000	
3	*Rhizophora apiculata*	Machilipatnam		Sept 22	Sept 26	4000	1	4000	
4	*Ceriops decantra*	Parangipettai		Sept 21	Sept 25				
		Machilipatnam		Sept 22	Sept 26				
5	*Bruguiera gymnorhiza*								
6	*Xylocarpus moluccensis*	Machilipatnam		Sept 22	Sept 26	1360	1	1360	
7	*Bruguiera cylindrica*	Machilipatnam		Sept 22	Sept 26	1500	1	1500	
8	*Ceriops tagal*	Jamnagar		Sept 15					

Community Health Mundra

Project Details	Beneficiaries (Nos.)	Remarks
Mobile Van	19092	OPD Numbers
Rural Clinic	22256	OPD Numbers
Senior Citizen	10161	Transactions
Medical Camps	4384	Patients
Awareness Sessions	987	Participants
Needy Patients Support	1022	OPD/IPD
Shakti Raksha Project	624	Breast n cervix Cancer
Dialysis	5	Patients (2 times a week)
Suposhan	17025	Mundra and Bitta

Total beneficiaries : 75556

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

Adani Foundation relentlessly working for community in health core area through various kind of activities i.e. Mobile Dispensaries, Rural Clinics, Special Innovative Projects - Health Card to Senior Citizens, "SuPoshan"- Fighting to Mal nourishment in Mundra and support to dialysis patients projects. Adani Foundation also organizes special medical camps during disease outbreak.

Mobile Dispensaries & Rural Clinics

The population of Mundra block is spread over various villages. Due to inadequate transportation facilities, the villagers have to face many hardships even for reaching to the doctor in case of common diseases.
The medical expenses and zero earning per day add surplus to their hardships.
To help them in the above mentioned health related problems, the service of mobile medical van has been started by the Adani Foundation in Mundra block. In big villages, rural dispensaries have been started considering their population and area.
The Adani Foundation runs mobile health care units. Main objective of Mobile Van is to reduce travel time, hardships and expenses. Mobile health care units cover 34 villages and 05 fishermen settlements. Around 109 types of general and life saving medicines are available in these units. It has turned out to be a boon for women and children as the service is availed at their door - step.

Month	Mobile Van	Rural Clinic
Apr-18	1508	1466
May-18	1397	1491
Jun-18	1236	1533
Jul-18	1523	2166
Aug-18	1512	2103
Sep-18	1796	1726
Oct-18	1832	2068
Nov-18	1386	1628
Dec-18	1897	2187
Jan-19	1684	2013
Feb-19	1743	2037
Mar-19	1578	1821
Total	19092	22256

Mobile Dispensaries & Rural Clinics

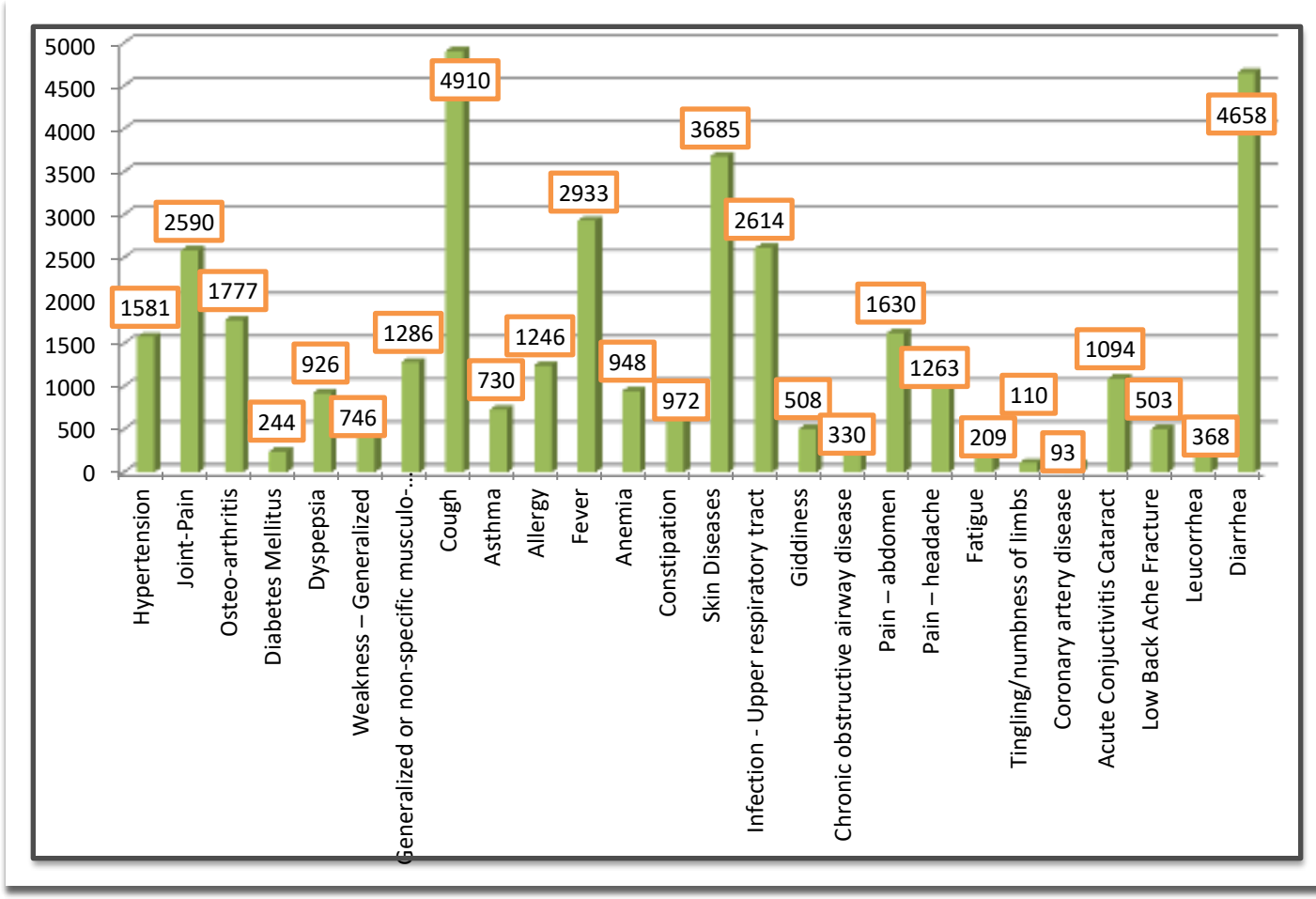
The Adani Foundation operates Rural Dispensaries in 08 villages of Mundra block, 03 villages of Anjar block and 01 village of Mandvi block along with one at Rangoli gate. At these dispensaries, health services are provided free of charge for two hours daily by a doctor and a volunteer.

Sr.No	Villages Name	Total
1	Rangoli Gate	510
2	Luni	6,203
3	Wandh	1,272
4	Siracha	3,794
5	Vadala	1,513
6	Bhadreshwar	1,411
7	Tuna	743
8	Vandi	1,443
9	Rampar	519
10	Tunda	831
11	Tragadi	893
12	Navinal	1,732
13	Labour Colony	53
Total		22,256

Mobile Dispensaries & Rural Clinics

Diagnosis	MV	RC	Total
Hypertension	664	917	1581
Joint-Pain	978	1612	2590
Osteo-arthritis	979	798	1777
Diabetes Mellitus	72	172	244
Dyspepsia	699	227	926
Weakness – Generalized	164	582	746
Generalized or non-specific musculo-skeletal pain	430	856	1286
Cough	2478	2432	4910
Asthma	292	438	730
Allergy	266	980	1246
Fever	1404	1529	2933
Anemia	525	423	948
Constipation	406	566	972
Skin Diseases	1980	1705	3685
Infection - Upper respiratory tract	899	1715	2614
Giddiness	220	288	508
Chronic obstructive airway disease	36	294	330
Pain – abdomen	703	927	1630
Pain – headache	589	674	1263
Fatigue	93	116	209
Tingling/numbness of limbs	25	85	110
Coronary artery disease	16	77	93
Acute Conjuctivitis Cataract	831	263	1094
Low Back Ache Fracture	333	170	503
Leucorrhea	298	70	368
Diarrhea	2134	2524	4658
Total	**17514**	**20440**	**37954**

MV & RC Disease specific pattern reported in the month April-18 to March-19



Health Cards to Senior Citizens

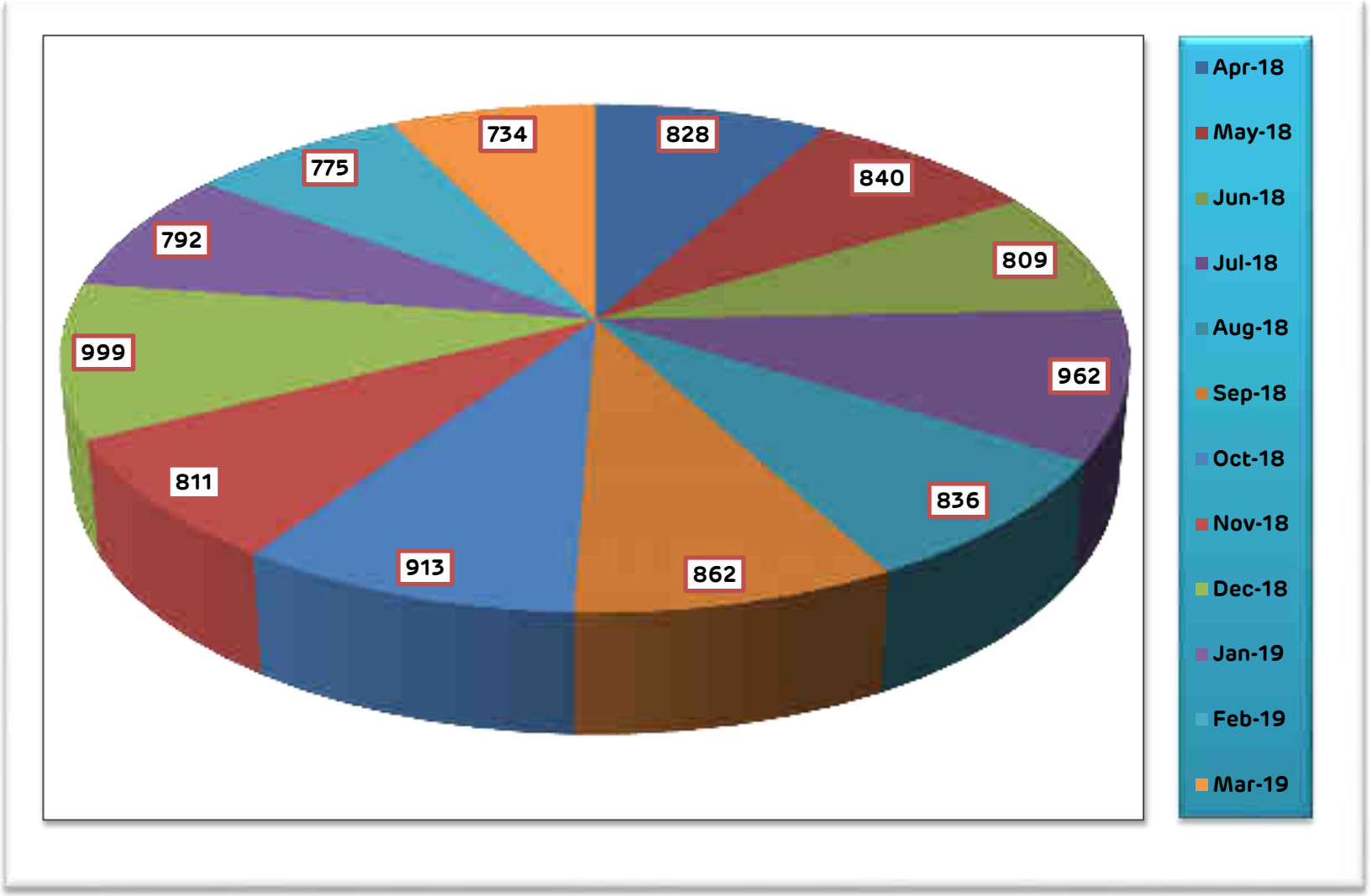
The major junctures of human life are - childhood, adulthood and old age. The first phase is well looked after by the parents and second phase is of self-reliant but the last phase is a dependent one. The needs of old people are less looked after. When people become old, they start living a life of aloofness and solitude. Therefore, the Adani Foundation has started the Adani Health Programme for the aged to look after their health. To address the health care issues related to ageing, AF launched a 3 year long pilot project – 'Adani Vadil Swasthya Yojna' on 20th February 2011 at Mundra and further extended the same for the next three years i.e. up to 2017. Under this Programme, the individuals aged 60 years and above are benefitted. Health Cards are issued to them with the purpose of providing adequate and timely treatment. The families consisting of aged ones with a yearly income of Rs. 2 lacs or more get a Blue Card. The Blue Card holders can avail diagnosis facility and treatment at a subsidized rate in the Adani hospitals, Mundra. The families with a yearly income of less than Rs. 2 lacs are issued a Green Card. Green Card holder aged people get treatment for illness in Adani hospitals, Mundra with an aid up to the limit of Rs. 50,000/- within a period of 3 years.

During the year 2018-19, total 10161 transactions were done by 8599 card holders of 66 villages of Mundra Taluka. They received cash less medical services under this project

Scheme is continue since eight years The third phase of this scheme was started in last year. The limit for the beneficiary was set to 30000/- within a period of 3 years. the senior citizens get emergency medical care at Adani Hospital, Mundra and they are referred to GAIMS

Sr.Citizen card utilization status April-18 to March-19

Month	OPD/IPD
Apr-18	828
May-18	840
Jun-18	809
Jul-18	962
Aug-18	836
Sep-18	862
Oct-18	913
Nov-18	811
Dec-18	999
Jan-19	792
Feb-19	775
Mar-19	734
Total	**10161**



Suposhan

Suposhan Project endeavors to address the issue of vicious cycle of Malnutrition and Anemia with a life cycle approach that includes community based management. The project is more focused on preventive measures.

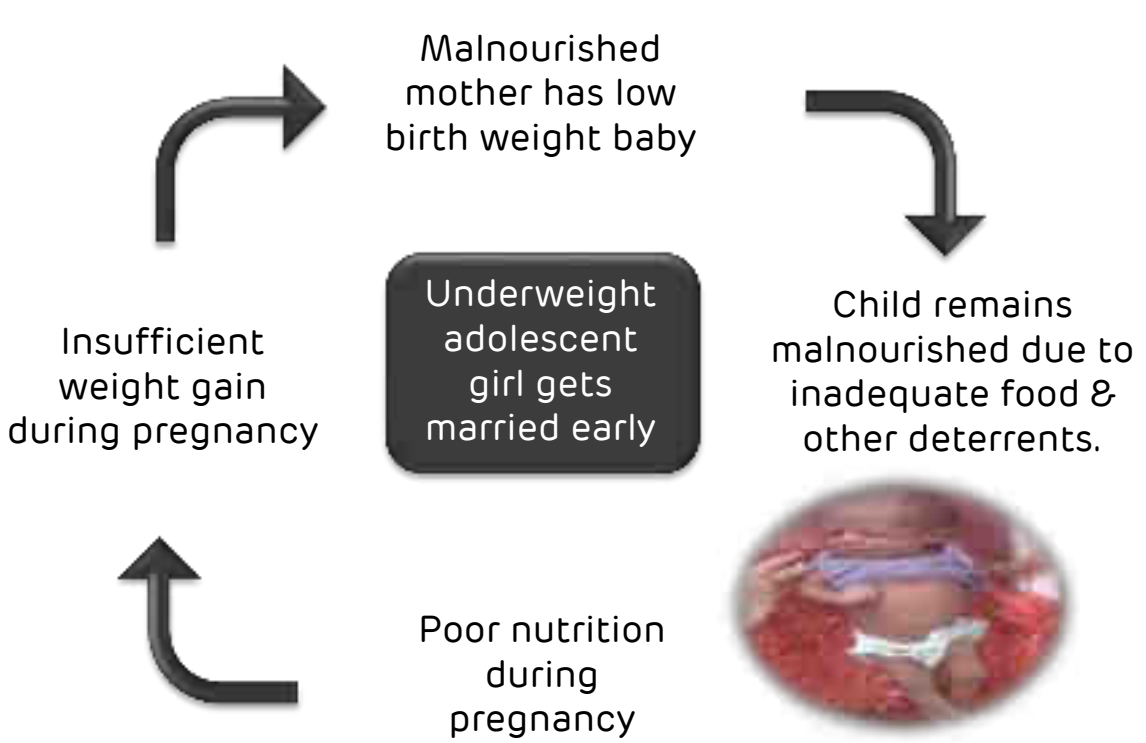
Objective of the Project is to reduce occurrence of malnutrition and anemia. For successful implementation of the project, "Sangini – Village Health Volunteer" plays major role in the Project.

Mundra : 61 Villages

Bitta : 7 Villages

Beneficiaries : 17025

No	Detail	Mundra	Bitta	Total
1	Anthropometric(Children)	5901	647	6548
2	Adolescent – HB Testing	2950	395	3345
3	RPA – HB Testing	5884	1109	6993
4	SAM / MAM to NORMAL	104	35	139
5	FGD	737	228	965



A child's entire life is determined in large measures by the food given to him/her during his/her first five years because childhood is the period of rapid growth and development. Nutrition is one of the most influencing factors in this period. Malnutrition substantially raises the risk of infant and child deaths, and increases the vulnerability to a variety of diseases in later life.

Project Suposhan is initiated with the Motive ….

Curb malnutrition amongst Children, Adolescent girls and Women in our CSR villages.

- **To reduce malnutrition and anaemia amongst Children 95 % & adolescent girls and pregnant & lactating women by 70 % in three years**
- **Reduction IMR and MMR**
- **Support Awareness & Cover 100 % Vaccination taken by Child & women**.
- **<u>Interventions with ICDS and Taluka health Office</u>**

  - CMTC Center started again after our written request to DDO Office
  - Distribution of EDF(Energy Dense Food) by THO to 23 Children who are in SAM Category

Community Engagement Activity

Suposhan Saptah

The birth of a healthy newborn child is determined by the health of the mother. Mother's health, in turn, has its basis on her health status during adolescence. The health of a society, as a whole, thus depends on the health of the women, in all stages of their lives. Adani Foundation acknowledges this field of health and aims to address women's health, through their entire life cycle. These efforts have culminated in Project Suposhan, Adani Foundation Health initiative. Project aims to generate awareness in communities and facilitate the strengthening of the health systems and healthcare delivery platforms, with a specific focus on the mother and child. Project focuses on increasing health literacy in communities for mothers, child and adolescent health services through trained community health workers (Sangini), creating effective referral linkages to higher services. SuPoshan "Food Guidance Week" celebration systematized in all 61 villages in Mundra Taluka from 13th Nov – 20th Nov. Suposhan Food competition was organized in coordination with ICDS block and Supervisors, Sarpanch, ASHA workers and women leaders. The reason behind celebrating "Suposhan Food Guidance Week" is to make people aware about the importance of nourishment so that everyone is able to live healthy life. It involves community by · The importance of Nutrition and Balanced Diet · Importance of locally available food. · Preparing own variety nutritious dishes, · Folk songs on nutritious, · Slogans with actions, · Spreading awareness on different schemes, · Vaccination · Kitchen garden and · Exclusive Beast Feeding

Specialty camp, General Camp & Surgical Health Camp

Sr.no.	Place	Villages Name	Total Patinets
1	Jat Malek Muslim & Maheshari Samuha Sadi At Mundra	Mundra	178
2	Maleria Camp Sukhpar Mundra	Mundra	36
3	Karva E Mustfa Hospital Health Camp	Mundra	50
4	Mahesh Nagar Primary School	Mundra	190
5	Muslim Jamat Samuh Sadi, Luni	Luni	40
6	Rotary Hall, Mundra Surgical Mega Camp	Mundra	185
7	Mithani Labour colony Health camp	Dhrub	80
8	Shri Swaminarayan Mandir-Baroi Boad	Baroi	191
9	Mithani Labour colony Health camp	Dhrub	105
10	Jain Derasar, Oshwal Seri	Mundra	56
11	Bava Gor Pir Uras Luni	Luni	525
12	Mundra Kadva Patidar Samajvadi Health Camp	Mundra	92
13	Nana Kapaya Primary school health camp with Rotry club	Nana Kapaya	170
14	Luni Maheshwari Samaj Samuh lagan	Luni	517
15	Bukhari pir uras	Mundra	106
16	Activity Hall Gundala	Gundala	65
17	Ashlambhai Labour colony Health camp	Dhrub	315
18	sonal Bij Health Facility	Zarpara	2
19	Ayushman bharat camp Zarpara Panchyat	Zarpara	19
20	Kapilbhai Labour colony Health camp	Dhrub	140
21	Surgical Mega Camp- Art-comace college	Mundra	109
22	Ayushman bharat camp Art-comace college	Mundra	28
23	Juna Bandar Health camp	Mundra	105
24	Eye checkup camp with THO & Rotry	Mundra	388
25	Vallabha vidyalay Health camp	Dhrab	485
26	General health camp	Juna bandar	107
Total...			**4384**

Urinary stone – Dialysis Treatment

Drinking water of Mundra contains high Fluoride (amount of salt). Hence, the proportion of patients with urinary stone and kidney failure is more . A project for patients who need dialysis is thus initiated so that the poor patients can receive the treatment at subsidized rates in the nearby, well-equipped hospitals. The main objective of providing dialysis treatment is to help the extremely needy patients to live a healthy life.

Total 5 Patients were being supported for regular dialysis (twice in a week) by participatory approach.

Health Awareness season Programme

Awareness generation program play crucial role to creak and achieve social transformation for same to create awareness about Health and critical disease various kind of session had been organized.

Sr.no.	Session Topic	Villages Name	Total Beneficiaries
1	Woman Health	Bocha	35
2	Brest & Cervical Cancer & Woman Health	Lifra	20
3	Brest & Cervical Cancer & Woman Health	Desalpar	25
4	Woman Health	Dhrub	28
5	Woman Health	Mundra	125
6	Health & Hygine awareness session	Mota Kandagara	51
7	Anaemic & Suposhan	Samaghogha	50
8	Beast Censor Awareness	Nani Bhujpur	40
9	Gyneac Awareness	Mundra	28
10	Beast Censor Awareness	Dhrub	30
11	Health & Hygiene awareness session	Pragpar-2	20
12	Health & Hygiene awareness session	Wandh	155
13	Swain flu awareness season	Nana kapaya	390
Total....			**987**

Community Health Bhuj

- 5274 Patient Care and Coordination
- 48 Health Camps 25000 beneficiaries
- 543 Dead body referred by carry van
- 272 Ayushman Gold Card facilitation
- 631 Needy patient support
- 3560 Mahiti Setu
- 1137 Students School health Camps
- 36417 Direct Beneficiaries
- Covered 293 Villages

Gujarat Adani Institute of Medical Sciences

Gujarat Adani Institute of Medical Science is the first Medical College of Kutch region. It started in partnership with Adani Group and Government of Gujrat in the year 2009. This college was affiliated by the Medical council of India in the year 2014 for the MBBS with 150 seats per year. Gujarat Adani Institute of Medical Science is affiliate with the first digital university "Krantiguru Shyamji Krishna Verma Kutch University". In GAIMS, currently 750 students are studying, The GAIMS Medical College is situated in heart of Bhuj city on a large plot of 27 acres.

A teaching hospital (G K General Hospital) with 700 beds is established with GAIMS in which patients of Kutch are getting subsidized medical facilities. The Hostel facility is also available for the students in the campus only. The accommodation facility is given to the staff of GAIMS.

- Adani Foundation Team has initiated coordination with GKGH hospital since 2014 and established a reception area for the smooth patient coordination and preparation for the social networking program.
- Adani Foundation organized **48 General Health Camps and Speciality Camps in various interior villages of Kutch in coordination with GKGH which created magical impact and benefitted 25000 patients.** Adani Foundation Bhuj Health team has also organized more than Eleven awareness camps and village level meetings at 293 villages of Kutch regarding services of GKGH.
- Dead body medical van – Dignity to death is one of the noble initiatives taken up by the Adani Foundation. If any death occurs in GKGH, dead bodies are shifted to the native village of the concerned in the Kutch District free of cost. Total 543 dead bodies privileged till now to different locations in Kutch.

Patent Care and coordination

Sr. No.	Month	Total Patient Special Care in OPD and IPD level
1	April to June	1190
2	July to September	1507
3	October to December	1505
4	January to March	1072

In the financial year 18-19 we specially care total 5274 patients from our sites Mundra,bitta and tuna,

Ayushman Yojana

As soon as Government announced for Ayushman Yojana, we started process to enroll Golden card to the eligible families by organizing camps at village level in each taluka

Sr. No.	Month	Total no's ayushman card enrolment
1	December	145
2	January	20
3	February	42
4	March	65
	Total	272

Shakti Raksha – Preventive and Curative Breast and Survical Cancer

Adani hospital Mundra, Taluka health office, Indian Red Cross society and Adani foundation has initiated Shakti Raksha Project in which special gynecologist camp for detection of breast n survival camp and thalassemia testing for pregnant women at CHC MUNDRA. In first phase we have covered all PHC and susceptible cases has been referred for pep test and mammogram at GKGH, Bhuj.

In this project we have covered 103 villages of Mundra and Bhuj this year with curative measures. Most medicine will provided by Taluka health office.

We have covered total 624 patients and 120 cases were referred to GKGH Bhuj. In which two cases diagnosed with breast lump (not malignant).

Sr.No	Place	Gaynec	Thelesmia testing	Total Beneficiary	GAMIS Refar Patients
1	Mundra CHC	62	34	118	25
2	Zarpara PHC	26	6	32	5
3	Moti Bhujpur PHC	54	15	86	18
4	Mota Kandagara PHC	42	11	53	10
5	Nani Tumbadi PHC	55	14	69	12
6	Vanki PHC	48	7	55	8
7	Ratadiya PHC	79	11	90	17
8	Bhadreshwar PHC	52	14	66	11
9	Adani Hospital Mundra	183	0	183	11
10	GEB PHC sub center	23	0	23	3
Total....		**624**	**112**	**775**	**120**

School Health Camp

``Safe child``

Adani Foundation is regularly organizing health camps in primary government school with support of GKGH. Current year we have carried out check up of 1137 students in Bhuj Taluka.

Month	Nos of camps	Nos of School students
August	1	219
September	2	308
November	2	410
December	1	200
Total	6	1137

Arogya Saptah (8th – 14th August 2018)

Adani foundation, Adani Hospital and GAIMS have Jointly Celebrated "Arogya Saptah" 8th to 14th August-2018 in Respect of 72th Independence of our country. Celebration included multi specialty camps, Workshops, truckers health check up, surgical camp on foundation day and adolescent fair at different part of district. Collector, DDO, Minister, MLA and other dignitaries from NGOs had remained present. Objective of the program was to avail health benefits at GKGH and also at Adani Hospital Mundra and Approximately 4500 people will be direct beneficiaries of the program. (2144 Direct beneficiaries)

Day	Date	Event Name	Detail about Event	Beneficiaries
1	8th August 2018	Specialty Mega Camp	Specialist doctors i.e. Gynaecologist, Paediatrician, Nephrologists and general surgeon from GKGH had extended their services.	218
2	9th August 2018	Cervical/Brest cancer Screening & Awareness camp	In SOS gada village screening camp organize with preventive awareness session. 17 women critically suggested for further check up at GKGH.	113
3	10th August 2018	Haemoglobin Testing camp	Haemoglobin testing and awareness for de warming of 917 adolescent girls at Rapar village.	917
4	11th August 2018	1. Surgical Mega Camp, Mundra 2. Roa accident Awareness programme, Nakhtrana	1. Specialist Doctors from Adani hospital Mundra and Medical officers of Adani foundation had extended their services. 2. On occasion of Adani foundation ay session for Road accident awareness and safety including primary health check up camp was organized at Nakhatrana.	223 172
5	12th August 2018	Class-4 Staff CPR and first aid training	Class-4 Staff CPR and first aid training was organize in campus of G K general hospital for capacity building of staff and their motivation.	181
6	13th August 2018	Adolescent fair, Gadhashisha	Adolescent fair was organized at Gadhashisha high school in which lady gynaecologist had cleared doubts of the adolescent girls and given information.	170
7	14th August 2018	Asha Worker workshop	Capacity building workshop was organized for ASHA workers of urban and rural bhuj.	150

Arogya Saptah (19th – 28th January 2019)

Adani foundation, Adani Hospital and GAIMS have Jointly Celebrated "Arogya Saptah" 19th – 28th January 2019 in Respect of Republic day our country. Celebration included multi specialty camps, Workshops, truckers health check up, surgical camp on foundation day and adolescent fair at different part of district. Collector, DDO, Minister, MLA and other dignitaries from NGOs had remained present. Objective of the program was to avail health benefits at GKGH and also at Adani Hospital Mundra and Approximately 4500 people will be direct beneficiaries of the program. (Direct beneficiaries – 1342)

Day	Date	Event Name	Detail about Event	Beneficiaries
1	19th January 2019	Workshop for Counseling for Overcome Exam fear.	Workshop Dr.Prutha Deshai (Psychiatrist) she explained about how to reduce Exam Fear and Stress.	250
2	20th January 2019	Cataract Detraction Camp	Cataract Detection Camp organized at khavda village. In this camp 12 patients were referred in GAIMS hospital Bhuj for further treatment.	322
3	20th January 2019	Surgical Camp Mundra	Specialist Doctors from Adani Hospital Mundra and Medical officers of Adani foundation had extended their services.	78
4	21st January 2019	Medical Checkup Camp Swaminarayan Temple	All Shankhyogini Women from Swaminarayan Temple Bhuj were examined by gynecologist and Total blood check up was organized.	209
5	22nd January 2019	Infection Control Awareness Training	Conducted Training on infection control and antibiotic medicine by Dr Gurudas Khilnani and Dr. Kashyap Buch .	170
6	23rd January 2019	Anganwadi worker and Asha Training	Training of ASHA and Anganwadi worker conducted by Dr. Hashmukh Chauhan and Dr. Shardul chorasiya.	25
7	24th January 2019	Multi Specialty Health Camp	Multi speciality Camp was organized at Rapar in which Gynec, Eye Specialist, physician and orthopaedic Doctors had extended their services	203
8	25th January 2019	Medical Checkup camp of journalist and family	This unique initiative covered all journalists of Kutchh for health check up and awareness sessions	85

Glimpse of health week







Mahiti Setu

Sr. No.	Month	Total
1	November	814
2	December	814
3	January	764
4	February	889
5	March	279
		3560

''Mahiti Setu''

Objective of Community resource center is to leverage the Government Schemes and making them accessible to community – It's a sustainable community connect!

Mahiti Setu has created trust and easy access to various government schemes – outreach will increase with time and awareness.

SUSTAINABLE LIVELIHOOD DEVELOPMENT PROGRAM

Empowering lives and broadening their scope for economic opportunities, Adani Foundation's initiatives introduced under 'Sustainable Livelihood Development Program', have been founded on community based approaches. In the villages at Mundra Taluka, several communities are economically side-lined and weaker that depend on a sole income source or are unemployed. Sustainable livelihood projects have been launched to cater financial independence through building local partnerships, providing diverse livelihood avenues, inculcate the attitude to establish savings, equipping to earn and updating local skills by making use of existing resources to encourage self-reliant lifestyles. Participation is encouraged by launching specific projects for fishermen communities, farmers and cattle owners, youth and women.

Fisherman Amenities work

- 391 Students : Education Support
- 134 Stunners : Adani Vidya Mandir *
- 16 Fisherman : Alternate livelihood
- 78 Fisherwomen : Linkages for schemes
- 1312 Fisherman : Community Engagement
- 1086 Fisherman : Potable water provision
- 6261 Mandays : Mangroves Plantation *
- 231 Fisherman : Capacity Building
- <u>3280 Direct Beneficiaries</u>

166 Fisherman for mangroves planation

AVMB beneficiaries can count seprately

Education

Education is one of the most important stepping stones to bring about a unified development in any community. The Adani Foundation, through its rigorous surveys and assessments, could understand that it was education which should be taken up to bring about a real change in the status of the fisher folk communities. Following are some of the major education initiatives taken up by the foundation:

Balvadi		
Sr.	Village & Bandar	Children
1	Juna bandar	55
2	Luni	25
3	Zapara-Chhacha	27
4	Bavadi bandar	30
	Total	137

Vidya Deep Yojana

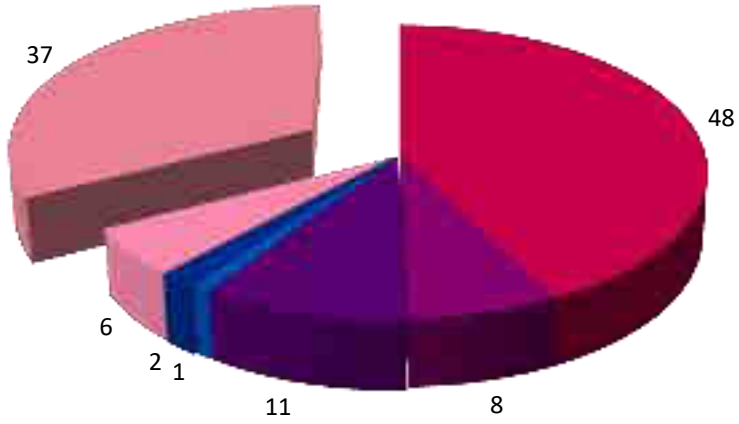
A great amount of efforts were put in developing school preparedness programmes by empowering 'Balwadis' at Fisher folk settlements. Under the Machhimar Vidya Deep Yojana, Adani Foundation constructed four Balwadis for kids between the age group of 2.5 years to 5 years at different settlements. The programme is inclusive of nutritious food, awareness on health, hygiene, cleanliness, discipline, regularity and development of basic age appropriate concepts.

Vidya Sahay Yojana- Scholarship Support

Participatory scholarship support for fisherman children studying in SMJ high school Luni and to above 12th standards Students . 80 percentage support given by Adani foundation and 20 percentage support by parents! They willingly agree for the same.. We also encourage them for technical education for good job opportunities.. Total 66 students has been benefitted.

This year 68 students were given book support and 8 students were given cycle support for higher secondary study.

Education Analysis



Rather than learn their children, fishermen joined them in their traditional business due to lack of awareness. But Since Adani foundation has started various kind of education initiative like Balwadi , Scholarship support, Cycle support, Book support, free education in AVMB, Transportation support, skill development training ,we bring them in the Ocean of education. By the job placement and motivation we can transform 37 fishermen youth life who have good job and others one continue their further study as below.

Machhimar Arogya Yojana

A healthy person can work well and earn for his family. Hence it is necessary to provide medical facilities to cure and prevent them and to provide then the treatment of diseases prevailing among the people specially women; children and elderly person, especially due the lack of balanced nutritious diet.

Mobile Health Care Unit - the mobile dispensaries have been run by the Adani Foundation since 2009. The mobile dispensary is available not only in the Vasahats/Settlements but also near the coast where the fishermen, can avail the facilities as and when needed. **Total average 560 fishermen were benefitted by Mobile Dispensary during last half year**.

1. Apart from this, a number of subsidiary initiatives such as health awareness camps, medical check-ups, etc. are conducted by the Adani Foundation at frequent intervals, to provide the fisher folk community with the much needed and required information and assistance.
2. Medical Financial Support –Adani Foundation has extended financial assistance to more than **114 financially challenged patients** from the Fisher Folk Community in case of medical urgency during this year.
3. Health Card for Senior Citizen Project – This is one of the major and prominent and the most innovative project of the Adani Foundation. Under this scheme Health Cards were given to the to Senior Poverty Stricken Citizens to provide them financial support to combat with their health related needs. The project for the senior citizens is popularly known as **Vadil Swasthya Yojana and till date 350 senior citizens** from fisher folk community are enrolled in the scheme. Most of them keep these cards in their wallets with other important documents and cards.

Machhimar Shudhh Jal Yojana

This scheme of providing potable water has helped in reducing the drudgery of women and contributed largely towards general wellbeing.
Water tank platforms have been constructed and tanks have been set up in order to provide clean potable drinking water to the community. Daily 1,18,000 Litres of water is supplied at different settlements.

Potable Water		
Sr.	Vasahat	Total liters/ day
1	Juna Bandar (By APSEZ)	30,000
2	Luni Bandar	15,000
3	Randh Bandar	25,000
4	Bavadi Bandar	15,000
5	Veera Bandar (By AKBTPL)	10,000
6	Ghavarvaro Bandar (By AKBTPL)	8,000
7	Kutdi Bandar (By MSPVL)	15,000
	Total	1,18,000

Linkages with various Departments

Coordination with coast guard, Marine Department and Fisher folk for smooth Port operations Regular Meetings with fisherman for various innovate technology for fishing

Machhimar Kaushalya Vardhan Yojana

Apart from providing formal education, special programmes were conducted to enhance youth employability. Based on the need of assessment, a number of trades were introduced by the Adani Skill Development Centre in Mundra, where the fisher folk youth could join and get vocational training for a number of technical and non-technical skills.

Sr. No	Course Name	No of Students
1	Mud work Zarpara	45
2	Dori work, Navinal	20
3	Checker Cum RTG Crane Operator	03
	Total	**68**

Machhimar Ajivika Uparjan Yojana

The 'Ajivika Uparjan Yojana' was implemented to promote and support alternative livelihoods among the Fisher folk communities during the non-fishing months. The Foundation introduced 'Mangrove Nursery Development and Plantation' in the area as an alternate income generating activity for the people of the region. Both men and women received training on Mangrove plantation, moss cleaning, etc. as per requirements. The Foundation provided them with employment equivalent to 6261 man–days. In addition to this, employment worth of 35787 man-days has been provided till date. The Foundation has also supported Pagadiya fishermen as painting laborers by providing them with employment and job in various field.

Innovative Project : Solar Tent Dryer

CIFT (Central Institute of Fisheries Technology) has been conducting a prototype study on Solar tent dryers with improved technology at their head quarters in Kochi, which is expected to be completed within a span of another three months. They may be able to upscale or replicate the technology once the study is completed. In all probability, they will provide the designs for the solar tent dryer for drying Bombay duck and / or Acetus Indicus with financial estimate by the first quarter of next year. Meanwhile the team from the HQ and Veravel centre can visit Mundra region for initial site visit and feasibility studies. CIFT requested our team to visit CIFT HQ at Kochi during coming months to assess the prototype model and understand more on other CIFT developed hybrid dryers

Fisherman Cricket league

Adani foundation, MUNDRA organized Cricket Tournament " Sixth Adani Premiere League among Fishermen community to promote healthy Sportsmanship and harmonically transparent relationship. The Tournament had been played for 13 days at SVC (Shanti Vihar Cricket Ground) by 6 matches per Days with full of Audience, Total 65 Teams with 780 Fishermen youth were participated with 550Rs. Contribution per teams from Mundra, Anjar and Mandvi Block. The Final Match was played on 9.07.2018 and Pir Saheb (Religious Mentor), Rakshit sir (Executive Director- APSEZ), Dr.A.k Vatsani (Deputy collector ,Bhuj) Mr. Mahesh Dafda (Assistant Director of Fisheries, Bhuj), Mrs. Pankti Shah(Unit CSR Head) ,AF staff and Fishermen Leaders remained present. The Final Match was so interesting and Salaya team becomes winner over Luni Team and more than 1200 Audience from various villages were present. The winner's trophy, Runners-up Trophy, Man of the Series, Man of the Match, Best Baller, and Best Bats-Man Trophy has been given to the Respective Teams and players. The 25000Rs, 15000Rs, 2100Rs, 1100Rs, and 500Rs, 500Rs Prize given to the above Respective Teams and Players from the Teams contribution.

Sea weed culture

Sea weed culture as alternate livelihood for fishermen has been started as pilot base with Vivekananda Research and Training Institute.

To create Fishermen alternate livelihood seaweed raft have been installed at Juna Bandar. After successful results we will support for more raft to fisherman as off season employment.

Natural sea weed which is available at Luni coast and being obstacle in fish net is collected and linkages with VRTI for selling.

Sorting Sieve : Time Saving for Fisher Women

During bulk fishing catch fisher women remain engage whole day to sort out fishes by hand this is time consuming and panic for them so, we provide wooden sorting sieve to sort out small fishes, which make them free from finger pain and time saving.

Adani foundation Mundra, Fisheries Department GOG & CMFRI(Central Marine Fisheries Research Institute) had organized sessions for alternate livelihood for fisher women, importance of savings, bank account and also usage of sieve for Fish sorting work along with 78 wooden sorting sieve distribution. Dr. Imelda Joseph, head & principal scientist of CMFRI, Cochin, Dr. Diu incharge of CMFRI, Veraval and their team had given guidance to all fisher women of Juna Bandar for alternate livelihood possibilities with examples.

Fisherman Ramatotsav

To Development of physical and mental Development of youth Ramotsav week Program was organized at various Vasahat i.e Junabandar, Luni, Zarapara, Bavdi Bandar and Navinal for 1st to 10 th standers .

This year Total 485 children were participated and all were facilitated with school bag as well as 1st ,2nd and 3rd prize from each game.

Fisherman Student Ramtotsav Programme-2018-19					
Date- 07-02-2019 to 16-02-2019					
Sr.No	Fishermen vasahat	Date	Students	Attendants	Total
1	Navinal	07-02-2019	47	150	197
2	Zarpara	08-02-2019	94	250	344
3	Zarpara(Chacha)	08-02-2019	81	300	381
4	Bavdibandar	11-02-2019	69	200	269
5	Lunibandar	12-02-2019	60	200	260
6	Junabandar	15-02-2019	134	350	484
Total			485	1450	1935

Agriculture & Animal Husbandry

- 755 Acre – 164 Farmers Drip Irrigation
- 380 Acre – 212 Farmers Maize Cultivation
- 56 Acre - 140 Farmers NB21
- 24 farmers Organic Farming
- 21 Numbers Bio gas Provision
- 387 IG Support and Sadhay Sahay
- 142 Central Govt. Scheme Beneficiaries
- 154 Pension Scheme Linkages
- 132 Women Empowerment Project
- **1364 Direct Beneficiaries**

Drive for Technology to use in agriculture

Adani Foundation puts efforts in Mundra block for consistent betterment in livelihood sector. The organization has carried out remarkable activities in the agricultural and animal husbandry sectors.

- We have initiated Programme for Awareness of Farmers in collaboration with KVK. The outreach is approximate 80 farmers of 5 villages
- 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.

Agriculture Programme		
Sr.no	Village Name	Member
1	Zarapara	40
2	Zarapara	42
3	Siracha-	26
4	Navinal	22
5	Dhrub	141
		271

Fodder Cultivation

The organization provides fodder during the time of scarcity and the last 3 months of summer every year. During this period, fodder is regularly sent to every village with the help of the local people. This has given stability to the families who earn their livelihood through animal husbandry.

In order to meet the demand of fodder, the Adani Foundation purchases it from the regional farmers. This gives them fair rates in return.

This year we have given 1,78,000 man fodder worth Rs. 402.00 Lacs approximately at Mundra, Lakhpat, Anjar, Abdasa and Rapar Taluka

But, For this Critical Condition some Sustainable Solution is required to find out

Fodder is the main issue as rainfall is very less in this region. Adani Foundation is working intensively in direction of fodder sustainability in three ways

1. Individual Fodder Cultivation Support – NB21 demonstration – Supported 140 Farmers of Dhrub and Zarpara
2. Drip Irrigation support Linkages with Fodder – First phase we will support drip irrigation in 22 villages and this linkages will help to convince them for NB21 at least in one acre land

3. Village Level Fodder Cultivation : Participatory Approach
   (a) Winter crop Cultivation – Support to 180 Individual (Supported for seeds of Makai for 180 acre land)
   (b) Winter Crop Cultivation – Support to Group of Farmers (200 acre of land with 32 farmers)

We are also planning for grassland development at Village Zarpara and Siracha in Gauchar with mutual understanding with Gram Panchayat.

Win win situation of this project

- Cost saving initiative: Financial saving by Rs. 7.23 lac in three months. (15%)
- Assured of green fodder and supply
- Empowerment of farmers by providing livelihood
- Increase of Green fodder cover
- Milk productivity enhancement
- Fulfilment of double the farmer income concept of Govt. of India
- Crop rotation increases the soil fertility

PROJECT "DRIP IRRIGATION"

- **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.

- **Villages of Drip Support**

Keeping in view the situation and request comes from community, once again **Drip irrigation support is planned in three phase. As a part of first phase, we are considering 22 potential villages. We have covered 164 farmers and 755 acre drip irrigation area.**

Biogas

Biogas is a clean, non-polluting and low cost fuel. It contains about 55 to 75 percent methane, which is inflammable. Bio gas can be produced from cattle dung, human waste and other organic matter by a process called "Anaerobic digestion" which takes place in a biogas plant. The digested effluent, which comes out of the plant, is enriched manure.

The Multiple benefits of the biogas have changed many lives in rural areas. During this year 21 plants have been constructed. We are providing support addition to Government support to the beneficiary. (Under bio-gas scheme of government, the total cost is Rs.33, 500 out of which Rs.15, 000 will be granted by the government and out of the pending amount of Rs.18, 500 sum of Rs.10, 000 will be contributed by the Adani Foundation. The beneficiary will have to pay only Rs. 8, 500). Beneficiary women use the time, saved from cooking and fuelwood collection, to take up an additional economic activities.

Representation of Adani Foundation was invited as Guest of honor by Krishi Vigyan Kendra in 'Scientific Advisory Committee Meeting" . Main Objective of meeting was to study about present agricultural Scenario of Kutchh and new CROP Patter. Representative from ICAR ,GOG and Various NGO were present. We made presentation of our activities for sustainable agriculture in this forum.

Agriculture Fair

Adani Foundation has Participated in District Level Agriculture Fair for three days in first week of January. We had show case various activities of Adani Foundation in field of Fodder Sustainability, Bio Gas Support, Cattle care, water conservation and Biodiversity.

Adani Foundation was felicitated award for " To Develop Unique Model for Fodder Sustainability in Kutchh".

State Minister Mr. Vasanbhai Ahir has inaugurated this event. By this platform we could able to connect with approximately 12000 farmers of Kutchh District by providing guidance for NB21 and Maize Cultivation. We have also given information about Saheli Mahila Gruh Udyog and could also our products i.e. Eco Friendly bags, Banana Wafers and Washing powder.

Tissue Culture

Date is the Amrut Fal of Kutchh and Mainly best quality available in some villages in Mundra Taluka. To maintain quality uniformity Adani Foundation is planning for cultivate 4000 tissue cultured plants of elite varieties to the farmers of project area. For this, we will select best offshoots of elite plants from farmers fields in coordination with farmers groups. The selected planting materials will be given to identify tissue culture laboratory for developing tissue culture plants in 3 years. Hence, whole program is coordinating farmers participation basis having four party i.e. Tissue culture laboratory, Adani Foundation, KVK and farmers committee of project area. Major functions of all parties are as under;

• **TC Lab: Develop TC plantlets of elite varieties** • **Adani foundation: Financial support** • **KVK : Technical support to the program**

Farmers committee : Provide best planting materials for developing TC plants & contribution in distribution & provide nominal cost of plants. Hence, the farmers contribution in the program is 10 Lakh.

Ground work for this project is completed during current financial year i.e. Registration of 200 farmers, series of meeting with KVK and Anand University

Project Swavlamban

Project Swavlamban Launched with blessings of differently abled people of MUNDRA TALUKA.

Our objective is

- To increase awareness about Government schemes for Divyang people, widows and senior citizens and coordinate them with Social Welfare Department, GoG
- After getting income generation equipment support - Proper training provision to make them self-reliant in true sense!!
- Adani Foundation is playing the role of facilitator in case of tie up with Government Scheme for Widows, Senior Citizens and Handicapped people. The identity cards are issued for the handicapped in coordination with Bhuj Samaj Suraksha Khata which is beneficial for them to get specific kit for their disability type. This year 154 beneficiaries linked up with pension scheme.
- The financial benefit of the senior citizen Yojana is Rs. 500 per month and the widow scheme is of Rs. 1250 per month. Jilla Samaj Suraksha Officer and team remain present every time.

No	Type	Beneficiaries	Financial benefit
1	Disabled	409	10,00,000
2	Widow	92	3,25,000
3	Senior Citizen	32	1,75,000
	Total	533	15,00,000

Women Empowerment Projects

- In Kutch, the situation of women is miserable. Women are totally dependent on male members of family for their needs. Consumption of liquor is one of the main culprits in Kutch. Due to this evil prevalent among men many women are suffering.
- Considering this situation, We have started our training program with two major women's group of Villages near Adani Power and Adani Ports. Both the groups of women (**132 women in total)** successfully completed their training for preparing washing powder, phenyl, liquid for cleaning utensils and hand wash etc.
- We have selected 12 women groups having 132 members total, as per their ability for different work i.e. accounting, banking, leadership, marketing, administration etc.
- As a further step to bring sustainability, we thought to start a shop "Saheli Mahila Gruh Udyog" at Shantivan Colony.
- Main Perishable/ Non perishable items by Saheli are

1. Washing Powder
2. Phynayle
3. Dish wash liquid
4. Pickle of Bijora
5. Suf handicraft
6. Ahir Handicraft

Women Empowerment Projects
Step towards socio economic development

No	Village	Group	Members	Saving Amount	Work
1	Mota Kandagra	Jay Mekran	18	100	Stitching
2	Mota Kandagra	Jay Momai	10	200	Stitching
3	Navinal	Vishwas	14	100	Stitching/Dori
4	Navinal	Chamunda	10	100	Phynayle making
5	Baroi	Adhar	12	100	Perishable items
6	Sadau	Vishwasi	16	100	Dhadki, Frames
7	Shekhadia	Sonal	12	200	Washing Powder
8	Mota Kapaya	Tejasvi	10	100	Eco friendly bags
9	Mundra	Meghdhanushya	18	100	Mud work
10	Mundra	Aaarambh	20		Suf Handicraft
			132	1100	

Glimpse of Women Empowerment Projects

SHG Meetings in various Villages regarding record check , Loan , Interest detail also collect information for their hidden Skill.

Adani Foundation launched programme AAARAMBH to revive the dying art form of Suf in a ceremony in Mundra, Kutch. Under this project, Adani Foundation will facilitate the training of about 30 women in the handicraft and also help them with market linkages to ensure sustained livelihood for them. On the occasion, Adani Foundation also launched a website made by the women themselves to market their products.

Suf handicraft was practiced in Kutchh District, Gujarat. Due to lack of patrons this handicraft has been dwindling. Suf handicraft is painstaking embroidery based on the shape of a triangle. Suf is counted on the wrap and weft of the cloth in a surface satin stitch worked from the back. Each artisan imagines her design and then counts it out in reverse.

International Women's Day

International Women's Day Celebration Mundra

International Women's Day has been celebrated by the Adani Foundation, Mundra with Integrated Child Development Scheme. Chief Guest of the event was Mr. Komal Singh (Commandant Coast Guard) and Ms. Ami Rakshit Shah (APS School) .Distinguished Guest Mr. Vayda (Taluka Development Officer, Mundra)

On this momentous occasion the supervisors of ICDS were felicitated for their noble work. Adani Foundation also honored Eight women entrepreneurs who were supported by the Adani Foundation, Mundra for income generation.

The Adani Foundation Mundra was also facilitated by the ICDS for their remarkable work in field of women empowerment and Suposhan as well.

Additionally, In coordination with DDO, Kutchh Pradhanmantri Mandhan Yojana form filled up for @ 225 women – who will give benefit of pension of Rs. 3500 per month after age of 60 years. Our Suposhan Sangini remained present and guided about nutrition.

As a Matter of Celebration , Same Day ICDS Mundra got state level Mata Yashoda award at Gandhinagar for best Anganwadi work.

Total 300 women attended the programme with great enthusiasm and Zeal.

International Women's Day Celebration Bhuj

International Women's Day has been celebrated by the Adani Foundation, Bhuj with SOS Gada Village, Bhuj Engineering College as well as Army force Bhuj. Chief Guest of the event was Dr. Kunika Patel (Gynecologist GAIMS) and Dr. Rajendra Harnagar (Gynecologist GAIMS) and Distinguished Guest was Mr. Mishra (Airport Authority, Bhuj)

As a part of Bhuj and Lakhpat CSR celebration International Women's Day in Various place Bhuj Engineering collage, SOS village and Bhuj Airport. Awareness for Breast and cervical cancer, and health - hygiene. Total 230 women are benefitted in this awareness session. Also discussed about various psychological issues during menopause age and its solution.

RURAL INFRASTRUCTURE DEVELOPMENT

Building a strong community relationship is the key to progress of Adani Foundation. The programs such as Education, Health and Sustainable livelihood development play a very important role in building this strong relationship with the community. These three programs are incomplete without the inclusion of the Rural Infrastructure Development program.

This year on path of sustainability, we have taken some steps as follows...

Under Dignity of Drivers Project, Adani Foundation has constructed Resting Shed for Drivers entering in SEZ Premises. Total 50 beds are constructed, drinking water and sanitation plus recreational – TV Facilities and will be charged minimum. Adani Foundation has handed over the project to ASSET Department – SEZ as a revenue generation model.

In this ceremony Mr. Avinash Rai (CEO- APSEZ), Mr. Rakshit Shah(Executive Director – APSEZ), Mr. Pritpal Sinh (Head – SEZ Operation) and other transporters remained present.

RID – Dignity of Workforce

Present condition of migrated labour community of Adani port, power and Willmar is really matter of concern. They are living in pathetic condition. It is true that we cannot achieve our goal of development until we support to up bring lives of this community. Basic needs of this labour force needs to be address. In labour Vasahats they are not getting facility of pure drinking water, proper living condition, sanitation or proper living atmosphere. To build up trust and transparency in labour community, union labours and Smooth business operations and to create more efficiency by providing better living conditions Adani Foundation has constructed 45 Toilet block and proper bathing place for labours.

Work Completed

- ✓ Road repairing various vasahat
- ✓ Open shed at Juna Bandar
- ✓ Sand Filling plot at JUNA BANDAR
- ✓ Concrete Step ladder at Juna Bandar
- ✓ House construction at Shekhadia
- ✓ Two approach road 5000 meter Zarpara Fishermen and 5000 meter Luni Pagadiya
- ✓ Drinking water storage tank 5000 ltr capacity bavdi Bandar -2, Juna Bandar -2, Kutdi Bandar -1
- ✓ water pipe line installation at Wandi village 2000meter.
- ✓ Basic amenities at Rampar Village Paver block 6000 LTR Storage tank and Boundary wall at community place.
- ✓ Additional civil work in community hall
- ✓ Open shed Gundiyali
- ✓ Boundary wall in common place at Tragadi.

Gathering Shed at Juna Bandatr

Balvadi Room Veera Bandar

Zarpara- strengthening of Road


An initiative by
adani
Foundation
Swachhagraha
सच्छाग्रह
सच्छता का सत्याग्रह

Swachhagraha

Adani Foundation has launched project "Swachhagraha" Swachhata ka Satyagraha in the year 2015, to support the 'Swachh Bharat Abhiyan'. Falling in line with our Honorable Prime Minister's call for a Clean India, we launched this mass movement towards making our Nation litter free.

The programme draws inspiration from one of the largest mass movements - Satyagraha, which catalyzed action by winning over people's hearts through tremendous patience and resolve, instilling dignity and self-respect among our people. Swachhagraha aims to engage people and bring about a behavior change, where people get involved 'to create a culture of cleanliness'. Swachhagraha is inculcating behavior change education in cleanliness, sanitation, personal hygiene and civic consciousness amongst young minds.

Presently the Swachhagraha project is being implemented in 3000+ schools across 17 States. So far 3500+ teachers have been trained in behavior change education in schools, ranging from elite private schools to government municipal schools. The programme has directly involved over 57000+ students who have further reached out to their peers, parents and community through a variety of planned action projects and campaigns.

Mundra site- Adani Foundation launched Swachhagraha in 4 Blocks of Kutch District (Mundra, Anjar, Gandhidham, Bhuj). The Swachhagraha programme was launched in Bhujwith participation of over 450 Schools in Swachhagraha Prerak's Training Workshop with support of District Education Department, Kutch District. The programme was launched by Mrs. Shilin R. Adani, Trustee (Adani Foundation); Mr. Prabhav Joshi(DDO, Kutch), Mr. V.S.Gadhavi, (Director, Adani Foundation); Mrs. Sushama Oza, (Director, Adani Foundation); Mrs. Ami Rakshit Shah (Adani Public School); Mr. (Rakesh Vyas – DEO, Kutch); Mr. Sanjay Parmar (DPEO, Kutch) on 1st October 2018.

SWACHHAGRAHA - ACTIVITIES

Swachhagraha Marathon : Run Against Depression

Gujarat Adani Institute of Medical Sciences G K General Hospital and Student Counsel Organized the Bhuj Marathon. Theme of the marathon was Run against Depression and Swachhagraha.
Total more than 800 participants took part in this marathon with enthusiasm and zeal.

International Coastal Clean up Day

Mundra Adani foundation MUNDRA has celebrated swachhagraha related International Coastal Clean up Day celebrated with Coast Guard" with theme swachhagraha.. School students, Coast Guard staff and Adani foundation staff had cleaned Mandvi beach and give a message of swachhagraha.. At the end information given about swachhagraha project

Adani Skill Development Centre

Adani Skill Development Centre (ASDC) is playing a pivotal role in implementing sustainable development in the state.

Several miscellaneous industries exist in Kutch district. Adani Skill Development Centre has started a center in Mundra block so that the needs of these industries are fulfilled, the local youth is enrolled in various training / skill courses and the distance between the both is minimized.

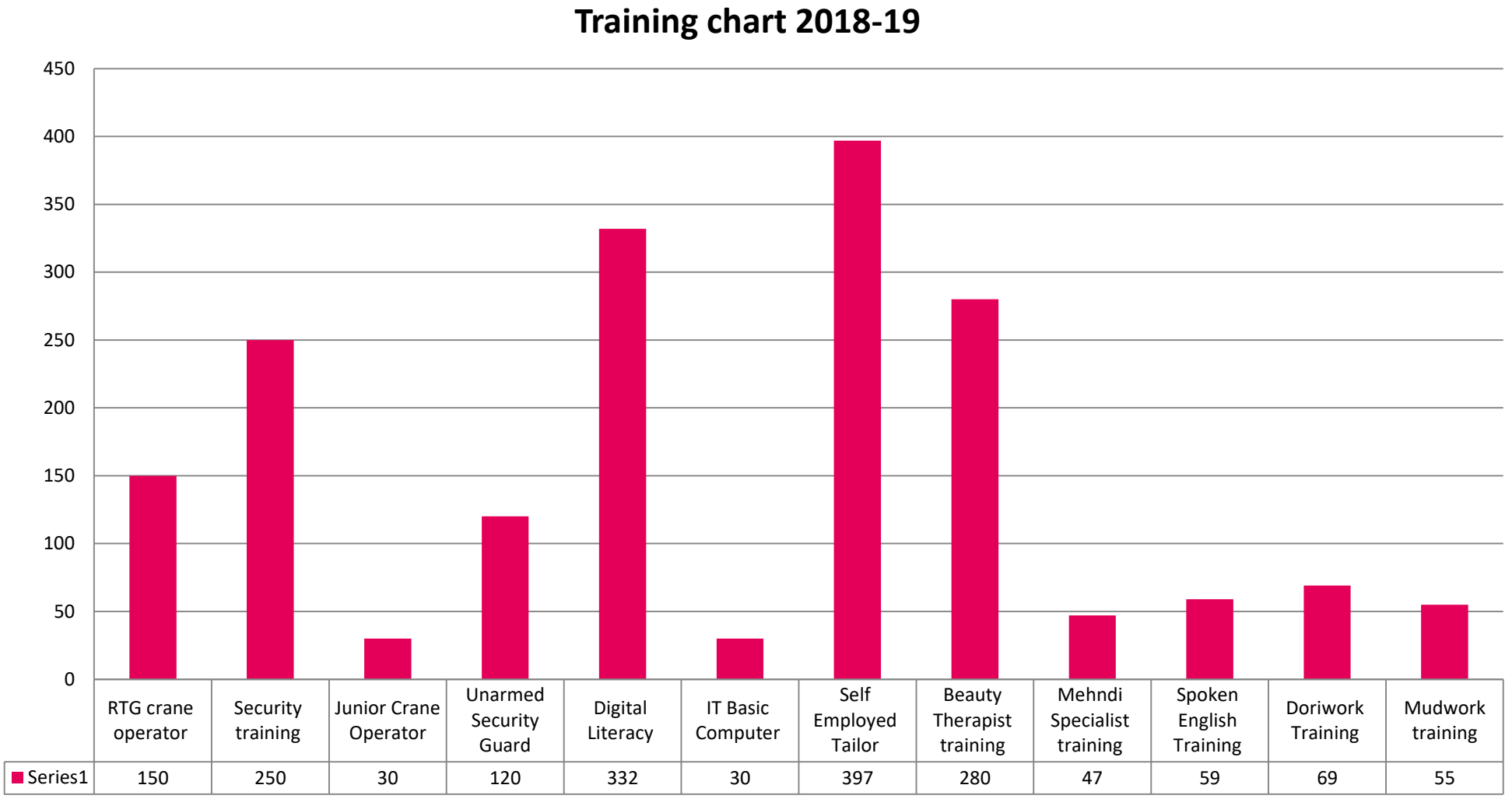
The objective of this center is to impart different kinds of training to the students of 10th, 12th, college or ITI from surrounding areas. Thus, various employment-oriented trainings are organized to optimize the skills, art and knowledge through proper guidance and direction.

During this year Total 1819 people is given various trainings to enhance socio economic development.

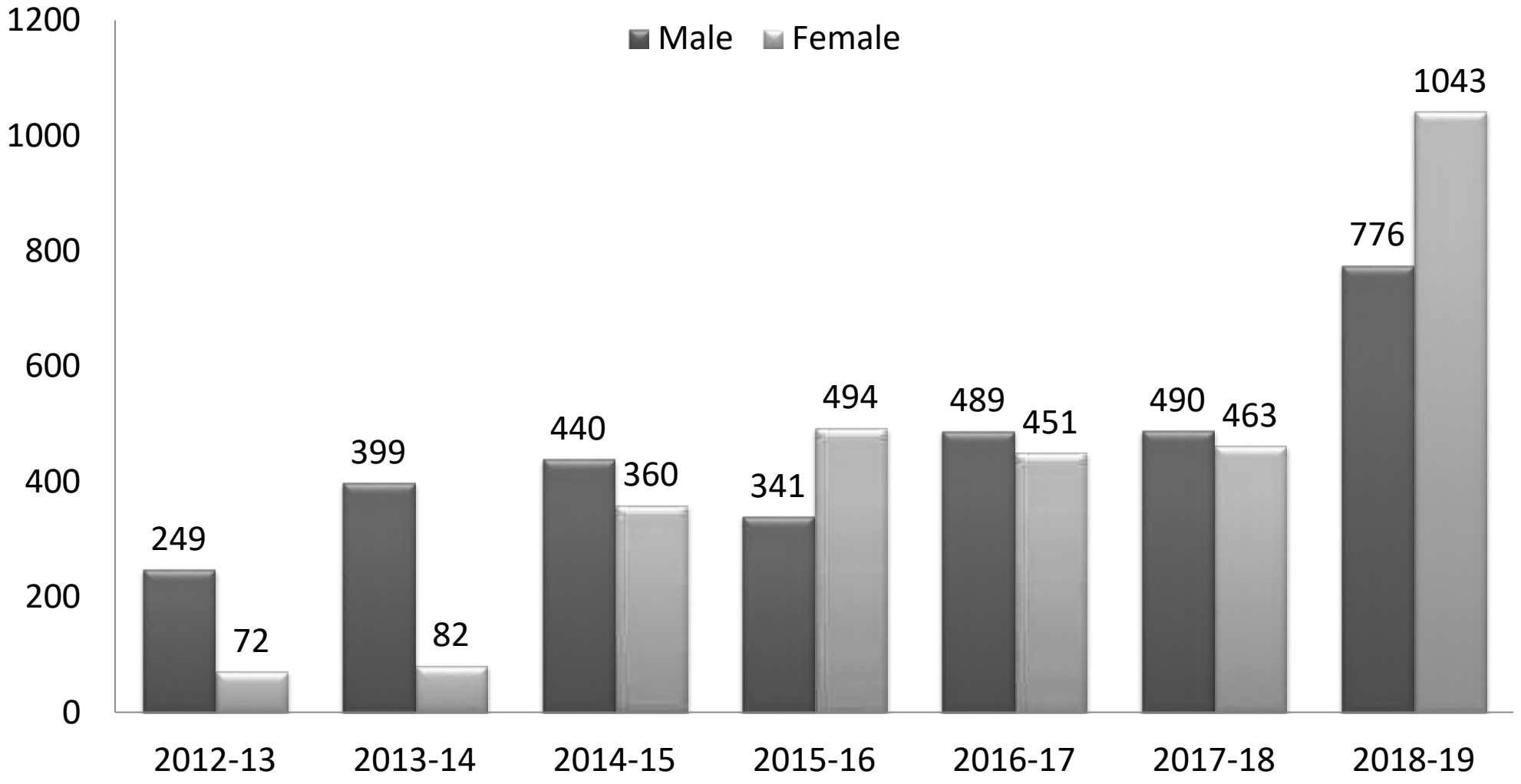
Out of which 1294 People are getting employment or Self Employment and average income up to Rs. 5200 per month. Digital literacy training is very helpful in coordinating with today's Digital world....

In the year 2018-19, ASDC trained 1819 candidates at Mundra.

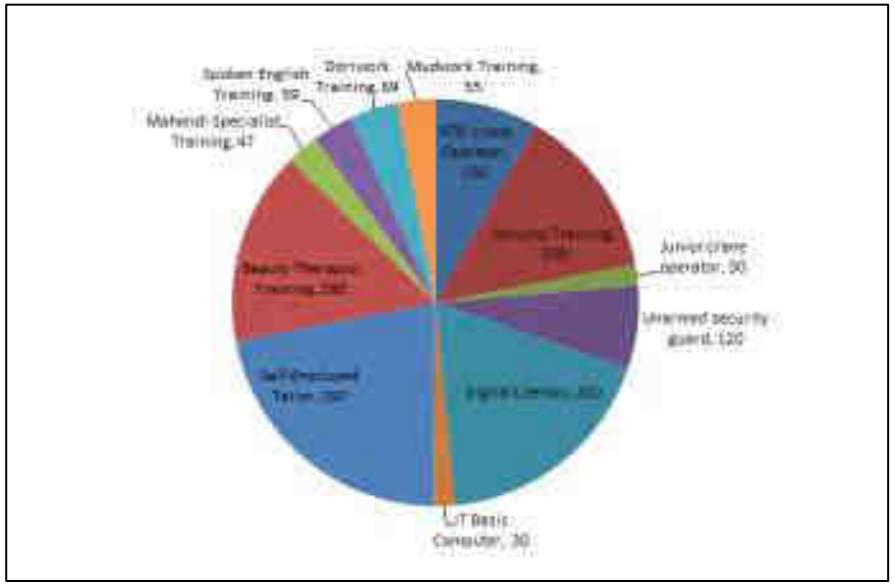
THE YEAR IN REVIEW : KEY HIGHLIGHTS



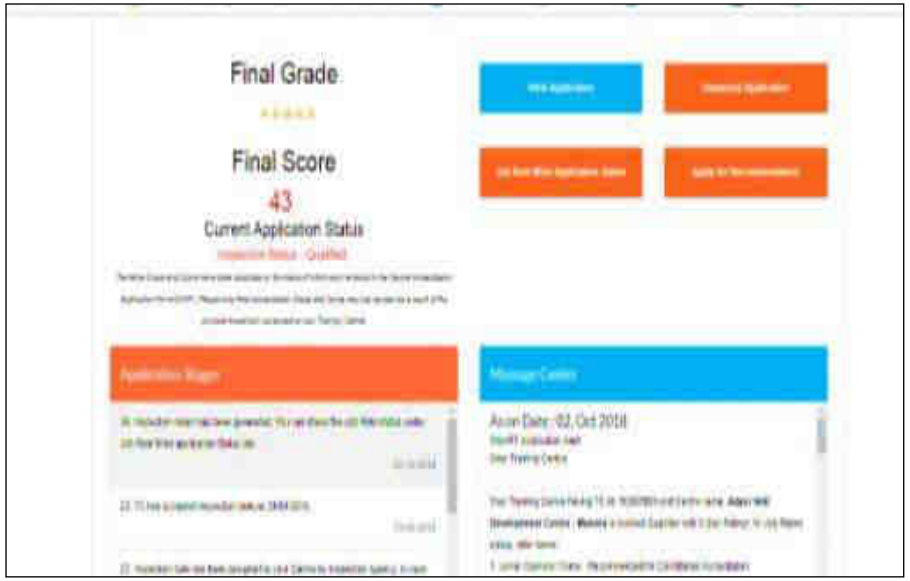
OUR PROGRESS MUNDRA



DETAILS OF VARIOUS TRAINING UNDERTAKEN



Adani skill development centre Mundra Placement figures of ASDC. Total 1294 people are getting employment after training with approximate ROI Rs. 5200 per month.



Adani skill development centre Mundra is qualified in NSDC with 5 star rating for job role junior crane operator and unarmed security guard.

LAUNCHED "SAKSHAM" CENTER AT BAROI GUEST HOUSE

ASDC-Baroi (Mundra):- Adani skill development Center (ASDC) launched 'SAKSHAM' center at Baroi guest house in Mundra on 16th June 2018 to provide skill development training to youth in the Mundra.

An initiative of Adani foundation, the center in the Mundra city will benefit about more than 500 candidates every year in Beauty &Wellness course.

The center will provide skill development training to the youths in the age group of 14-40years initially in Beauty & Wellness course. Total enrolled for this training were 90 students.

LAUNCHED "DIGITAL LITERACY" AT UTHHAN VILLAGES

Adani Skill Development center, Mundra has started digital literacy class in local village. 40 girls and boy are participated in first session. All village people are happy for this training in phase. We have also arrange evening batches to cover all people of various village.

Digital literacy training done through laptops and Tablets:-

1). The course duration is 26 days and number of hours is 52.

2). Per day training delivery hour is 2.

3). This is completely based on demonstrative and practical training methodologies.

4). The delivery is intended to be done through Desktops and Tablets

5). Attaching Also cover for payment banking topics .

LAUNCHED "JUNIOR CRANE OPERATOR" COURSE UNDER PMKVY

On 6th December 2018 launching program was organized at Adani house for (1) Junior Operator crane (2) Unarmed Security guard

Total 30 beneficiaries identified and registered for Junior operator crane PMKVY portal. Mr. Vasant Gadhavi Sir (Director of Adani Foundation), Mr. Avinash Rai (CEO,APSEZ), Mr. Rakshit sir (ED APSEZ), and all HOD remained present and all motivated by their speech.

STARTED UNARMED SECURITY GUARD COURSE UNDER PMKVY

Adani Skill Development Centre, Mundra received 120 candidates target of Unarmed Security guard training of PMKVY (NSDC). We have started 2 batch with 60 candidates of Unarmed security guard training at Adani Security training school at Mundra.

Adani Skill Development Centre - Bhuj

One more feather added in Cap of Project Saksham – Adani Skill Development Center started in Bhuj.

PMKVY certification received with Four Star Rating in October 2018.

We have started Adani Skill Development Center at Campus of Gujrat Adani Institute of Medical Sciences with a main stream course of "General Duty Assistant". After that we started digital literacy, beauty and wellness plus stitching courses.

ASDC Bhuj got overwhelming response of district administration for organizing special batch for widows and coordinating for their placements.

We got prodigious rejoinder during training of visually impaired and hearing impaired students at Navchetan Andhjan Mandal Madhapar.

By the unique activities and coordination, ASDC Bhuj received huge amount of appreciation from media.

Total 663 Beneficiaries have taken training out of which 432 people are doing job or self employment.

In the year 2018-19, ASDC trained 663 candidates at Bhuj.

Training Details	Qtr.–1	Qtr.–2	Qtr.–3	Qtr.–4	Total
Digital Literacy	0	27	58	175	260
General Duty Assistant	59	55	83	00	197
Spoken English	0	14	0	0	14
Beauty & Wellness	0	35	18	79	132
Banking Related Training	0	0	0	60	60
Total	**59**	**131**	**159**	**295**	**663**

Event Celebration

Teacher's Day Celebration : Guru Vandana

- Teacher's day Celebration - Guruvandana' Program was organized under esteemed presence of Shri Prabhav Joshi (District Development Officer) and teachers of 106 government primary schools with great enthusiasm.
- Objective of the programme was "healthy mind resides in a healthy body which is why a health checkup is scheduled for all the teachers which included BMI, BP, RBS, HB and vision test. Health check was done by Adani hospital Mundra.
- Followed by a motivational speech by Dr. Darshana Dhodakiya who is the Director of Bhasha Bhavan of Gujarati Subject, Throwing light on the principle that teachers cannot be trained in to be coming a teacher, but they are teachers because they actually are born teachers.
- Soft skill training by Ms. Riddhi Trivedi who is a highly skilled trainer from ASDC and would explain us the importance and need of soft skills. A highly thought provoking drama by students of 'Shekhadiya' school. And last but not the least session taken by Mr. Jatin Upadhyay.

Utthan :
Review and setting tone

To review and propel the Project Utthan was scheduled on 18th February 2019 at Kamandpur Primary School and Dhrub. Distinguished Guest of the Programme was Mr. Prabhav Joshi – District Development Officer, Kutch , Mr. Rakshit Shah - ED, Mundra , Shri Vasant Gadhavi, Director - Adani Foundation. SMC members of the School and villagers were gathered in Kamandpur Primary School.

DDO appreciated this unique initiative taken by Adani Foundation to enhance the level of Primary education of Kutch district. He is happy for the concept of Mothers' meet which is the keen area of this project for sending students on regular basis. He requested to all the mothers to send their ward in school daily. He especially recognized the installation of Smart Classroom in all the 17 School.

SMC members were highly appreciated the material support and introduction of English language in classes- 1 to 4 by the teachers which were appointed by Adani foundation. Principal briefed the project and shared his satisfaction towards this project on behalf of 17 School Principal.

Villagers are accepted Project Utthan with open handed and broad minded. Around 130 people were witnessed of this program.

Uthhan : Anganwadi Upgradation

Under Project Utthan and part of early intervention Adani Foundation has upgraded Anganwadi infrastructure. To inauguration of the upgraded Anganwadi was scheduled on 18th February 2019 at Dhrub. Distinguished Guest of the Programme was Mr. Prabhav Joshi – District Development Officer, Kutch , Mr. Rakshit Shah - ED, Mundra , Shri Vasant Gadhavi, Director - Adani Foundation. ICDS members remained present to motivate the Anganwadi supervisors.

Coastal Week Celebration with Indian Coast Guard

During celebration of coastal week - Safety and Security awareness program for fishermen while fishing as well as health check up camp and fishermen shed inauguration program was organized at Juna Badar with collaboration of Indian coast guard department. In this occasion Mamlatdar of Mundra, Commandant of coast guard and Mr. Ashvin Zinzuvadiya (Media : Kutchh Mitra) were present. Mainly they emphasized on national security as well as Personnel security in their speech.

Health camp was organized with support of Adani Hospital Mundra. Total 107 patients were benefitted by health check up camp and prize distributed to winner of Ramaotsav program.

Fisher Folk Amenities..

Adani foundation, MUNDRA organized Cricket Tournament " Sixth Adani Premiere League among Fishermen community to promote healthy Sportsmanship and harmonically transparent relationship. The Tournament had been played for 13 days at SVC (Shanti Vihar Cricket Ground) by 6 matches per Days with full of Audience, Total 65 Teams with 780 Fishermen youth were participated with 550Rs. Contribution per teams from Mundra, Anjar and Mandvi Block. The Final Match was played on 9.07.2018 and Pir Saheb (Religious Mentor), Rakshit sir (Executive Director- APSEZ), Dr. A.k Vatsani (Deputy collector ,Bhuj) Mr.Mahesh Dafda (Assistant Director of Fisheries, Bhuj), Mrs. Pankti Shah(Unit CSR Head) ,AF staff and Fishermen Leaders remained present. The Final Match was so interesting and Salaya team becomes winner over Luni Team and more than 1200 Audience from various villages were present. The winner's trophy, Runners-up Trophy, Man of the Series, Man of the Match, Best Baller, and Best Bats-Man Trophy has been given to the Respective Teams and players. The 25000Rs, 15000Rs, 2100Rs, 1100Rs, and 500Rs, 500Rs Prize given to the above Respective Teams and Players from the Teams contribution.

Celebration of World Environment Day at High School, Moti Khakhar

- Plantation of 1111 trees in Moti Khakhar high school ground in coordination with forest department : Moti Khakhar is a Village in Mundra Taluka .It is located 19 KM from Mundra. School is constructed in year 2008 and it is with large ground. Principal requested Adani Foundation to support for tree plantation in area. As per size of ground we can plant more than 1000 plants. In addition, Soil condition is also appropriate. Adani Foundation contacted Forest Department for Tree plantation before monsoon and Forest Department supported for 4000 plants. After getting support from Forest Department – Adani Foundation supported for Drip and Fence for protection of plantation. On 5th June 2018, Adani Foundation Mundra planted 1111 trees at Moti Khakhar. Function was scheduled by Gram Panchayat. Mr. Vyas (District Education Officer),Mr. Anjan (DCF, Mundra), Mr. Saxena (COO, APSEZ),AF Team, students of the school and Village leaders remained present

Talent Hunt:
International Disability Day

Adani Foundation is working intensively for differently abled in Mundra Taluka since 4 years in coordination with District Social Welfare Department. Till date we could able to support more than 560 Divyang in Mundra Taluka .

In celebration of International disability day, Adani Foundation organized Music and Painting competition at Taluka Level and Zone Level.

For Winner s of Zone level – District level competition was organized on 3rd December 2018.

With the blessings of almighty, divine Start of the program with blessings speech of District social Defense officer and Laljibhai Prajapati of Navchetan Andhjan Mandal.

Total 675 people from different institutes remained present in inaugural session. All Divyang participants remained present with full preparation.

Some glimpse of the programme Second session of Talent Hunt - International Disability Day was prize distribution with musical celebration. District Collector Ms. Remya Mohan IAS, Mr. Prabhav Joshi IAS, Rakesh Vyas DEO, Mr Arvind District Social welfare officer remained present. Mr. Rakshit bhai Shah ED, APSEZ was with us throughout the program. All four categories got 3 prizes. District social defense officer had given certificate of appreciation to Adani Foundation Mundra..

Talent Hunt : International Disability Day Glimpse











Divine feeling towards Mata no Madh!!

Mata no Madh is a village in Lakhpat Taluka of Kutch district, Gujarat, India. The village lies surrounded by hills on both banks of a small stream and has a temple dedicated to Ashapura Mata, the household deity of former Jadeja rulers of Cutch State. She is also considered patron deity of Kutch. Many people are used to reach this Ashapura temple by feet from different parts of India. G K General hospital has organized health facility through at 10 locations on way of Mata Na Madh during Navaratri 5th to 11th oct.. In addition to medical facility, This health shibir will provide awareness of swachhagraha, swine flu and Beti bachavo as well The concept given by Shri Gadhvi Sir and implementation will be taken care by Dr. Chintan and Adani foundation health team.



Employee Volunteering Programme

In a move first of its kind employees of the Adani Group have adopted all the students of the Vallabh Vidyalaya school in Mundra in their Employee Volunteering Programme (EVP). All the 704 children in the school are from families of migrant labourers working in various industries in and around Mundra. Children from migrant labourer families in addition to resource constraints at home also bear the disadvantage of unfamiliarity with local language and culture inhibiting participation in school.

Vallabh Vidyalaya by passes the language barrier as the medium of instruction is in Hindi and mostly the kids are from Hindi speaking families. "Thanks to Adani EVP financial resource constraint will be substantially relieved", Dharmendra Bhai who created the school from one shed institution gratefully acknowledged.

Energised by the inspiring leadership of Adani Foundation's Chairperson Dr. Priti Adani the Group employees handed over a collective cheque in an impressive function at the school premises. One student of Std. VII joyfully expressed, "Your benevolence will have indelible imprints and impact on our lives. Will remember you ever."

Employee Volunteering Programme

Adani Group is deeply involved in all round social and economic development of the areas in and around Mundra. Adani EVP is context driven and employees have taken part in teaching, improving Aanganwadis, giving impetus to national Swachhata Mission and blood donation. The journey continues

Employee Volunteering Programme

Dignity of workforce day was organized jointly of APSEZ (Adani ports n SEZ Limited), AWL(Adani Wilmar Limited), MSPVL (Mundra Solar Pvt Limited) Adani Hospital and Adani foundation at labour colony with medical camp and handing over of sanitation. more than 32 employees have volunteered in this event.

1. Total OPD by Medical camp at Labour colony-315

2. Blanket Distribution to 800 workers

In this event Mr. Sharad Sharna Head-AWL with staff, Bhaktbandhu DGM HR and Admin staff (APSEZ), Mr. Ganesh Sharma Head HR, President - Kutch Labour Union and Adani foundation team remained.

Inauguration of Skill Development training program for Schedule cast beneficiaries

Another milestone reached on 28th Dec 2018, ASDC launched its program for schedule caste in the state of Gujarat. This program will train candidates in various vocational training educational course like Self employed tailor and Beauty & Wellness. Total 60 women/Girls participated in this training. This course is sponsored by Department of Social justice and Empowerment . It was inaugurated in the esteemed presence of Mr. V. S Gadhavi sir (Executive Director ASDC), Mr. Rakshitbhai Shah (ED of APSEZ, Mundra), Mr. K D Kapdiya (Director of Department of social justice and Empowerment), Mr. B P Soyantar (Dep. Director of Social justice and Empowerment, Gandhinagar), Mr. Dhangaru (Dep. Director of Social justice and Empowerment, Bhuj), Mr. Jatin Trivedi (HOD of ASDC), Mrs. Pankti Shah (Unit CSR Head of AF Mundra), Mr. Javaid Akhatar (HR Manager of ASDC).




SWACHHAGRAHA :
At Gujrat Adani Institute of Medical Sciences

"Swachhagraha " – Project launched at Adani G K General Hospital to embed values of cleanliness in minds of the staff and community as well. Separate staff member is also appointed by HO team for the same. Mr. Gadhavi had launched swachhagraha by presenting insignia to Dr. Bhadarka' (Head, Adani GKGH).

SAMVEDANA :
Series of Motivational Sessions

To motivate and felicitate paramedical and nursing staff motivational session was organized with help of Ms. Hiral Pandya which is critical requirement of GKGH. She talked about behavior aspect as well as compassionate approach to patients.

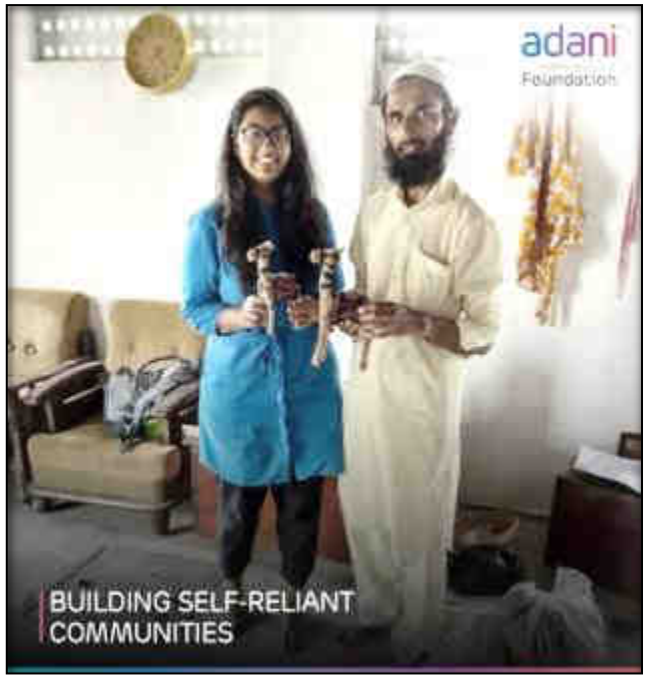
NAMDA ON REVIVAL PATH

Even as a breakthrough is waiting to happen, five trainees were enrolled on Tuesday 5th Dec 17 by Adani Skill Development Centre (ASDC) for the age-old Namda craft, a dying art form of Kutchh district in Gujarat. First initiative of its kind, the skill development training on Namda is aimed at preparing a future generation of artisans for the historic art form.

Adani Foundation, the CSR wing of Adani Group had vowed to save Namda from extinction and bring back its past glory. Originally innovated by an artisan of Mughal Era in the 11th Century India, Namda craft was primarily practiced by the Pinjara and Mansuri communities and Sama Muslims native to Kutchh. Sans proper encouragement, marketing avenues and promotion, the art suffered a major setback with artisans gradually switching over to other professions for livelihood earning.

Till recently, when the Adani Foundation, Mundra team members approached Mansuri Karimbhai Umar bhai, perhaps the sole survivor of the craft in Kutchh, Namda was dying a natural death. As a good corporate citizen, the Adani Group initiated a move to protect the art form, as well to make it popular and sustainable.

The first step towards the enormous goal of reviving Namda, the training programme kicked started with lots of positivity and enthusiasm among the trainees, who are committed to put best efforts for bringing back the past glory for this craft. And the best part of the initiative is that, the Namda survivor himself would train the future-artisans.



GREAT ACHIEVEMENT IS....

KARIM MANSOORI ONCE AN ORDINARY NAMDA ARTISAN IS NOW AN ENTERPRENUAR. THE ADANI FOUNDATION FEELS CONTENTIN REVIVING THE DYING NAMDA ART FORM AND SUPPORTING MANSURI IN STARTING HIS OWN BUSINESS.

HIS JOURNEY IS OFF TO TO A FLYING START AND WE WISH HIM ALL THE BEST.

Beneficiaries Speaks

Utthan : Enhancing Quality of Education !!

Navinal is a small village of Mundra Taluka. The village boasts of the works done by the goodwill of the Mahajans.The village is inhabited by approximately 1000 people. Rameshbhai Sathwara , his wife Champaben along with their three sons are one of the families residing over here. Rameshbhai is a greengrocer and lives a contended life with his family. The eldest son 14 year old Haresh and the middle one 10 year old Lalji study with devotion and bring good result with god's grace and the blessings of the elders of the family. Their final result would bring a new ray of hope for the parents every year.

But the youngest son, Sanjay studying in class 3 could not read or write. Even after a lot of efforts nothing could not make him read and write. He himself did not even feel like reading or writing. It was meaningless to drag him into learning without his own willingness. The teachers also accepted Sanjay as a dull boy and didn't pay much attention.

But one August morning became august for this boy as it brought a bright ray of hope for him.

A new teacher who had come to teach students like Sanjay talked to Sanjay in his Kutchi mother tongue and this attitude of this teacher made the little boy go wonderstruck. The new teacher made them sing a lot of poems, showed a lot of colourful books and told them a lot of stories. Her attitude interested Sanjay and he willingly came ahead. He sat in the first raw and told the teacher about a lot of things including the beehive outside his home, his parents and elder brothers. What appealed Sanjay the most was the constant attention paid by the new teacher to him. The next day led Sanjay to the special classroom made for the students like him.

Thus, every morning became a new, exciting morning for him.

And today, the innovative rangoli making in shape of alphabets using the fallen tree leaves interested him so much that he got interested in writing letters. This interest led him to write alphabets and later words. Moreover, he got interested in co-curricular activities like reciting poems and colouring the pictures.

The factor that attracted him the most was the loving teacher and this teacher is Hansbai Gadhvi. A resident of Mundra itself Hansbai, studied at Adani Public School. She provides her services to Adani Foundation's Utthan programme.

The Utthan project is the result of the agreement under which Shri Bhupendra bhai Chudasama, the Minister of Education of Gujarat assigned the responsibility of improving the quality of Education to the Adani Foundation. And the responsibility has religiously been accepted by Shri V.S.Gadhvi Sir for the 17 government primary school. Shri Gadhvi Sir has taken it as a mission for the foundation to lead the below average students to the upper level. The teachers having command over Hindi, English and Kutchi have been providing their services in these schools.

The Utthan Project initiated in August 2018 has been heartily welcomed and appreciated by the students, parents and teachers of this area. Under this project, the children who are weak at reading, writing and basic calculation are taught in such innovative ways that their foundation becomes strong and they can come into mainstream level of their class.

The best characteristic of this project is introducing English language from the class 1. Talking about the co-curricular activities, these schools have been facilitated by libraries, smart class rooms and sports equipment.

The efforts are made with a hope that these children get the benefit of this teaching mission and move towards a happy, bright and prosperous future.

Utthan : Enhancing Quality of Education !!

"Her eyes today had a shine so different, so divine, probably astral... was the shine real or an illusion? Or it was a simple result reflecting the efforts put in?"

These are the words of Siddhi Shah who is one of the teachers working as Utthan Sahayak in the Utthan project. She works in the Zarpara village, a village where the chief occupation is agriculture and this works as the chief reason behind the irregularity of children in attending school.

The area in and around Zarpara is quite vast and looking at this only the Government has approved 6 Government Primary Schools. But the scenario on the education side is still dismal. There is a long way to go to achieve the desired results. The teachers like Siddhi Shah who work as Utthan Sahayak have their role here. They play a key role in leading the children to school and bringing their academic level up.

Let's talk about what Siddhi Shah has to say about one such girl Prgna who studies in the Khoyadi Government Primary School.

Pragna's father Haribhai is in agriculture field and rearing cattle. This work cannot be carried ahead without the support given by the wife and thus the mother Malsriben too is busy helping the husband in his daily work along with shouldering the responsibilities of performing the household chores of a joint family and bringing up of her own three children. Hence, she finds it difficult to monitor the schooling of her children.

Pragna herself did not have much interest in studies and being the only girl child of the family, Pragna didn't take going to school seriously.

Siddhiben Shah would check the attendance registers daily and would go to meet the parents of those children who do not come to school regularly.

Pragna's irregular attendance was noticed by Siddhiben Shah and she decided to visit her home.

Once she visited her mother Malsriben and persuaded to send Prgna at school. This worked and Prgna started coming regularly. To her surprise, Siddhiben found that Pragna who was not at all interested in reading and writing could do Maths sums excellently well. Siddhiben used her interest in Maths and led her to reading and writing. Under Siddhiben's guidance, Pragna started with letters, words and with the passage of time she acquired fluency in reading flawlessly. It was like a test for the teacher and Pragna's reading fluently and with interest was the fruit the teacher's hard work bore.

And today when in the Saturday morning assembly, Siddhiben saw Pragna reading the newspaper fluently, she realized that it was her hard work that had borne fruit.

Siddhiben Shah is basically a computer engineer but her love for social work, especially in schools brought her to work in Utthan. The students studying in Adani Foundation and in the schools under the Utthan Project salute her dedication.

Swavlamban :
Pathways to become Self Reliant !!

Mina Ben is resident of Baroi village. She is widow and living with his two children who are studying in school. Adani foundation is coordinating with Jilla samaj Surakha department for availing various benefits of Government of Gujarat to widow women, differently abled and senior citizens of Mundra, Mandvi and Anjar Taluka. We did all procedure for Mina Ben for regular pension scheme.

Mina Ben was ready n passionate to start Gruh Udyog with loan support with 40 percent subsidy by Vajpayee Bankable scheme "With our efforts she got loan and now she will start Gruh Udyog of " Aggarbatti " with pre defined marketing linkages with Ashapura temple trust.

Swavlamban : Pathways to become Self Reliant !!

Adam Bhai Bayad is living at Moti Khakhar Village He is differently abled and having wife and two children in his family. He is having one skill of mobile and computer repairing.

As per his request we allotted him one cabin for income generation. Now he is started to sale Mobile, Mobile accessories. Additionally he started repairing mobile and computer. By hard work he started earning considerable amount. Adam Bhai says "due to this support my children can study well and my quality of life is enhanced

Parvina ben is Divyang but strong lady. She is educated and use to work as a teacher primary school. She was using sticks to reach school. Adani Foundation had given support of tricycle for her comfortable transport.

She says "Adani Foundation is working as a great facilitator for needy people. This is true social work which has created very good imprint in heart of village people. God bless !

Swavlamban : Pathways to become Self Reliant !!

As the wheels of her sewing machine keep moving, so as the dreams of a better life and empowerment enthuse Bhanuben overcome the physical deformities which came in the form an injury in the spinal cord during childhood. Both her legs were malfunctioned forcing dependence on calipers for movements.

Bhanuben Gangji Patariya of Bhujpur village lost her father when she was just 15 years old, and had very little understanding of the materialistic world and struggle of life. Poverty in the family compelled Bhanuben to drop school and do small odd household jobs of fellow villagers and sometimes accompany her mother as daily labour.

The sudden transition in life, from most adorable darling of her father to an unnoticed and uncared human being in the society, often disturbed the innocent mind of Bhanuben.

Few months back, Bhanuben had enrolled at Adani Skill Development Centre for stitching training, which she could successfully complete within the deadline due to a strong will power and aspiration to win over all odds in life. During her training period only she learnt about AF's Project Swavlamban and expressed the desire to be part of it.

Followed by proper counselling and guidance for self-sustainability, AF donated her one wheel chair and a sewing machine which helped Bhanuben change her life and build the self-confidence of stitching a bright future for her family. Now she earns an average of Rs. 2500 a month which takes care of the basic livelihood needs of her family.

Wearing a smile of satisfaction on her face and the pride of being self-sufficient, Bhanuben expresses her heart-felt gratitude to AF for standing by her during this critical juncture of life. She has become a ambassador to spread the message of all good works by AF in her locality. She is yet, another success story in the saga of sustainable CSR by AF.

Swavlamban : Pathways to become Self Reliant !!

Her name is Sanjuben. Residing in Vadala village with her Divyang husband and 9 years old son. Her husband is working at one shop and trying for two ends meet. During Divyang Mahiti card Vitran by Mamlatdar office she came to know about project Swavlamban. She meet Kalyan Gadhvi who is community mobilizer in Adani foundation. Kalyanbhai had given information n support for Divyang pension scheme.

Since two years couple is getting pension which amount can be used for further study of their son. Additionally, Adani foundation supported her for tricycle in coordination with district social welfare department. Sanjuben is daily using tricycle to give tiffin to her husband. Small linkage can bring life transformation !!!

Spruha : Motivating fisher folk for bright future !!

Fakir Mamad Hasan Vagher

24 year old from poor fisherman family was selected by AF To provide cricket coaching last year. he has completed successful training at Rajkot YB sport academy with excellent performance even in Kutch 23 selection. The YB academy organized honor ceremony and invited AF. On this occasion dignitaries and more than 400 peoples were present and they all appreciated noble support by Adani Foundation.

Fakir Mamad saying that he was playing on behalf of other team and earn RS 500 to 600 but after cricket coaching he get status and honor in Kutch cricket even in society and earn Rs 1500 to 2500 for each match.

Spruha : Motivating fisher folk for bright future !!

Mamad Sakil Osman Ghani Adani Vidya Mandir – Bhadreshwar 'A High Leap by a Poor Child from the Fisher folk Community.....Towards Engineering Studies.....Through Adani Vidya Mandir' 2017-18 Name: Mamad Sakil Osman Ghani Father's Name: Osman Ghani Mother's Name: Halimaben Family: Brother (1) + Sisters (4) & Parents; total 8 members Occupation: Fishing Village: Luni; Taluka: Mundra; District: Kutchh In modern times along with its importance, education has also made changes in our lifestyle.

Adani Vidya Mandir, Bhadreshwar, is like a lighthouse giving a ray of hope in remote areas. It was established to provide education to children from socio-economically backward communities. The school provides high-quality education, nutritious food as well other kinds of facilities so that children's self-respect increases through the education. Speaking of students, Mamad Sakil was enrolled in the Std. 7, in 2014-15 in the Adani Vidya Mandir, Bhadreshwar. His father, Osman Ghani, is a fisherman. His family of eight members consists of his mother, his father, a brother and four sisters. They live in Luni Bandar.

From the beginning it was seen that he was a quiet, straightforward, humble and cultured boy. He also exhibits behavior with moral values. Everyone helped the family socio-economically. In the Adani Foundation with the help of Vijayhai and Ishwarbhai noted details of the family and found that nobody was educated. In such times of rising prices and inflation it is difficult to raise so many children. So the school management decided to take over and fulfil his basic necessities. Efforts for this child's educational success were made including counselling and guidance.

During his first year in the school, he participated in the running competition in the Khel Mahakumbh and came first in the district. In this way, he began to progress in not just education but also other areas. He started getting promoted to the next standard every year and eventually he reached Std. 10. With the help of the school in various ways and his own hard work, he successfully cleared Std. 10 with 77%. He stood second in the school. Now, the journey of his life has really started. He has started to see new and inconceivable dreams for his future career. Now, the Adani Foundation will be holding his hand to fulfil his dreams.

After completing studies of the Std. 10, he was gifted an android phone by the school principal, Smt. Lali madam, as he needed new technology to get admission for further studies. In this way all the obstacles have been removed from his career path. He has now taken admission in mechanical engineering in Bhuj Polytechnic, and the Adani Foundation has paid his entire fee. A new innings has started in his life. With his hard work he is making progress step-by-step. He has set a good example for other students. And we all hope that he will eventually become a strong financial support to his family.

Adani Vadil Swasthaya Yojana: Holding Hands !!

Every human being has specific periods of the life wherein the childhood is for fun and the adulthood is spent for the family; remains old age to take care of health

Adani Foundation is holded hands of the senior citizens of Mundra

Manubha and his wife stay alone. Their son and daughters stay separately. They earn their living by grazing cattle. Manubha is having **respiratory disorder.** The source of income is very meager and that to dependent on rain. He had to borrow money from family friends or at times take on interest for taking basic treatment. His wife Shantaba also has blood sugar and hence she also requires medical assistance at times. The couple took **Adani Foundations'** ***Senior Citizen Health Card*** in 2015 by which they are able to save good amount, which was their medical expense every month.

"Adani Foundations' Senior Citizen Health Card is like a cure to our emotional, physical and psychological problem; in the times when we are completely lonely and handicap at age."....Says both of them while weeping.

Adani Vadil Swasthaya Yojana: Holding Hands !!

Adani Foundation at Bhuj is aware of its social responsibilities to the surrounding community. Madhapar is a village approximately 28 km away from Bhuj wherein resides Aseembhai who was financially, health-wise and socially unstable until he availed help from AF at G K General Hospital Bhuj. Aseembhai settled in Madhapar 30 years ago. before 8 years, he lost his wife to heart attack.

His parents passed away when he was 3 years of age and the only surviving relative he could call his own was his brother who was also mentally-challenged. His problems did not end there as e suffered from high blood pressure and stress induced thyroid which required he took medication as long as he lived.

Slowly his body stopped reacting to the medicines and these did not work. One He got convulsions as a side effect of over dose of medicine. His neighbors took him to Adani G K G H Hospital. Adani Foundation staff took very good care of Aseembhai. For one month he admitted to hospital and daily staff members ask about his health.

When he got discharged he said

"Adani is Like my Second Son.. I get the services even without asking for it"

Saksham Superhero's : Skill Development

My father is a working as a mechanic in ST workshop and his income was not sufficient for live life better so my mother also was working in different fields. I also was trying to find job for support to my family financially. One of my friends suggested me to visit Adani Skill Development Centre – Bhuj and join General Duty Assistant. When I visited center I got all the GDA related information from the staff, I took admission. During this course I learnt lots of Medical related things from the faculty I also was taught about Personality Development, Computer basics, Basic English, Interview Skills. During my practical for 1(one) month in GAIMS, I got chance to work in 4(four) wards. During my practical I learnt many things. After completing GDA course ASDC SAKSHAM is arrange interview At Adani GAIMS Hospital Bhuj. I attended interview and I was selected for physiotherapy section. I was offered monthly salary Rs.10000/- and join the job. After joining this job, I am glad that now I am a working woman and more then that I can help my family financially. With this job my life has become better than before. I would like to thanks Adani Skill Development Centre to give me this Opportunity and for making me SAKSHAM.

22 years old Dhanabai has completed Self Employed tailor course from ASDC in the month of June 2018. Now she start her own tailoring business at home and doing stitch ladies clothes.
At present she is earning Rs.6000/- Monthly.

Saksham Superhero's : Skill Development

Bhand Navin Devjibhai is very fond of financial autonomy and self-sufficiency, a principle of life which he has got by virtue of his skill development training at Adani Skill Development Centre (ASDC), Mundra. A Commerce graduate from Mundra village, in the year 2017 Navin had enrolled himself at ASDC for the IT-Basic Computer training. He was unemployed and lacked the minimum confidence of facing any job interview as per his qualification.

As part of the well-designed training curriculum at ASDC, the 21-year old youth learnt skills of public speaking, professional manners, facing interviews etc. along with core subject of IT basic computer. The training helped Navin immensely and fetched him a company job with lucrative Rs. 10,000/- per month salary. Happy with his financial autonomy, he is now in a comfortable position to support his parents and three brothers.

My name is Ashok Maheswari from shedata village, Mundra.
My father is no more in this world so I was trying to find job for support to my family financially. One of my friends suggested me to visit Adani Skill Development Centre – Mundra and I have joined Checker cum RTG crane operator training for 3 months. After successfully my training I sent my resume in various port. One day I received call from aani port at katupalli in Chennai and I attended interview and I was selected for RTG crane Operator. And today my salary 20,000/- per month.

So, I can help my family financially. With this job my life has become better than before. I would like to thanks Adani Skill Development Centre to give me this Opportunity and for making me SAKSHAM.

Saksham Superhero's : Skill Development

Manisha Patel, from Mundra, has completed Std. 12. Her parents are laborers, earning minimum wages. Manisha had always been a bright student in school, wanting to learn new things. Feeling restricted in life, she dreamt of doing something different. She wanted to have a successful career and be recognized by society. Hence, when she was advised by a close friend to join ASDC's Beauty & Wellness course, which is an NSDC certified course, she grabbed the opportunity. She came to the course with a fresh mind and ready to absorb all the knowledge. She actively participated in all activities. She was full of curiosity and questions, and this attitude enhanced her skills. She was extremely happy when the trainer appreciated her enthusiasm upon completion of the training.

She was delighted to open her beauty parlor. She had also undergone extra training in specific soft skills and business manners in order to handle customers. With these skills, she manages customers like a pro and runs her salon smoothly. Her family members, including her in-laws, were initially hesitant to let her join the course but soon relented upon seeing her enthusiasm and zeal for learning. They are quite proud of what she has achieved in such a short time.

Manisha and Shree Beauty Parlor are synonymous with high-standard beauty and wellness services in the Mundra locality. Her quality services and reasonable prices have increased her popularity and helped in attracting more customers. Today, she earns Rs. 12,000-15,000 per month. Her trainer, Ms. Rekha says, "She and many other candidates who completed their training at ASDC are ambassadors of Saksham. They strive to learn and grow by beating all odds. I am proud to be given this opportunity to groom and create skilled beauticians who can handle the ever-increasing standards of beauty treatments in a city like Mundra. I wish them the very best!"

Saksham Superhero's : Skill Development

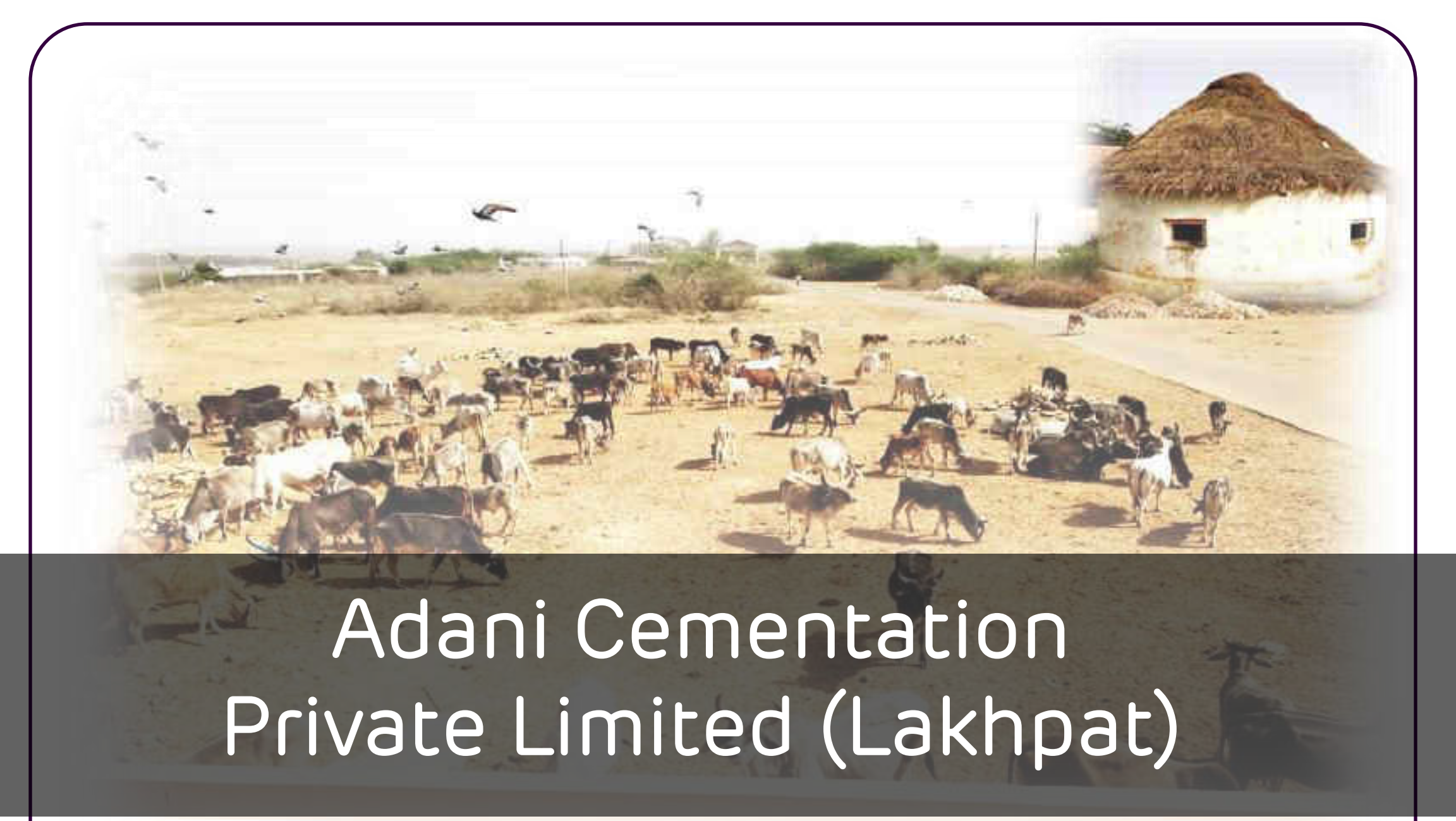
Lilbai koli- A youngest widow of the general duty assistant (GDA) batch from Adani skill development center (ASDC) Bhuj is an epitome of courage and confidence. She is 22 years old with a one and half year old baby, and lives in a Mirjapur village, Bhuj.

She is 12th pass with Arts stream and used to love drawing and painting as her hobby. Her parents work as laborers and her sister cooks at home. She got married in 2016 and lost her husband in 2018.The most tragic thing is that she didn't even know the exact reason of her husband's sudden death. Happiness is transient, she faced many problems starting with loosing her husband, becoming single parent and loosing financial support from her in-laws which resulted in returning to her parents home.

When asked about her future plan she says "Talking about remarriage is a taboo in our village and culture. I want to be strong enough to work hard and give my son a healthy and happy Life".

Presently, Lilmai is pursuing her ,On the Job Training in G.K General Hospital. A girl who has never seen hospital is now learning technicalities of patient care in emergency ward.

A young novice is all set to become a successful patient care assistant with a single goal in life i.e 'To become economically stable enough to educate her child'. Lilbai expresses huge gratitude to Adani Foundation and ASDC Bhuj for giving her opportunity to study GDA course and help her get the job so that she no longer have to depend on anyone's help for herself or her child's future.



Adani Cementation Private Limited (Lakhpat)

Adani Cementation Private Limited (Lakhpat)

Adani Cementation Limited (ACL) proposes to setup an integrated cement project as Lakhpat Cement Works which includes Limestone Mine in 251.9 ha area, Cement Plant of rated production capacity of 10MMTPA Clinker and 3MMTPA of OPC/ PPC/ PSC/ COMPOSITE CEMENT in three phases, and a berthing jetty of 15MMTPA traffic capacity in phase wise manner in Taluka Lakhpat of District Kutch (Gujarat).

Project Public hearing will be in month of May 2019. For Smooth Execution of the Project we have started Participatory Rural Appraisal and Village Development Committee formation at three nearest villages (Koriyani, Kapurashi and Mundhvay) of our upcoming cement plant.

Adani Cementation Private Limited (Lakhpat)

Kutchh is the biggest district in India and Lakhpat is far away from Bhuj which is main city of Kutchh. Health facilities are very poor as District hospital is around 150 Kms Away. Main livelihood is animal husbandry and daily wedge labour. Except GMDC , no big industrial set up is in Taluka.

Critical Issues are as under

1. Poor Health Facilities
2. Quality of Primary Education
3. Infrastructure of School
4. Livelihood options
5. Fodder and water Scarcity
6. Malnourishment

Adani Foundation will make five years plan to mitigate the issues with priories suggested by Village Development Committees. Detailed PRA including Demographic survey is taken up and submitted.

Adani Green Energy (MP)Limited (Nakhtrana)

Adani Green Energy (MP) Limited (Nakhtrana)

Adani Green Energy(MP) Limited (AGEMPL) proposes to setup an integrated wind energy project as Green Energy Works which includes Limestone 750 Mw, Through approx. 1250 windmill at Dayapar to Nakhtrana in District Kutch (Gujarat).

For Smooth Execution of the Project we have started Participatory Rural Appraisal and Village Development Committee formation at three nearest villages (Ratadiya, Muru and Ambara) of our upcoming Wind Energy Project.

Adani Green Energy (MP)Limited (Nakhtrana)

Kutchh is the biggest district in India and Ratadiya (Nakhtrana) is 70 Km away from Bhuj which is main city of Kutchh. Health facilities are very poor as District hospital is around 70 Km Away. Main livelihood is Agriculture, animal husbandry and daily wedge labour. In Nakhatrana, No big industrial set up is in Taluka.

Critical Issues are as under

1. Poor Health Facilities
2. Quality of Primary Education
3. Infrastructure of School
4. Livelihood options
5. water Scarcity
6. Malnourishment

Adani Foundation will make five years plan to mitigate the issues with priories suggested by Village Development Committees. Detailed PRA including Demographic survey is taken up and submitted.

Awards and Accolades

We are glad to announce our latest accolade- the Eminent Award 2018 platinum category presented at the Ek Kaam Desh Ke Naam award ceremony on 25th March , 2019 at New Delhi. The award was bestowed upon Adani Ports and SEZ Ltd, Mundra, for outstanding achievement in Corporate Social Responsibility, specifically " Adani Vadil Swasthaya Yojana - Health card to senior citizen ". The award was presented by Sh. Anil Baijal - Retired IAS & 21st Lieutenant Governor of New Delhi and was received by the Community health team of Adani Foundation, the CSR arm of the Adani Group.

Pleasure to share that

Adani Foundation have received

appreciation letter from

Mr. Vijay Rupani (Chief Minister, Government of Gujrat) for

commendable work for Project

Swavlamban in District Kutchh

વિજય રૂપાણી

મુખ્યમંત્રી, ગુજરાત રાજ્ય

Apro/Jm/2019/01/29/vj

તા. ૨૯-૦૧-૨૦૧૯

સ્નેહી શ્રી પંક્તિબેન,

નમસ્કાર.

વિશ્વ દિવ્યાંગ દિનની ઉજવણી અને અદાણી ફાઉન્ડેશન મુંદરા દ્વારા સ્વાવલંબન પ્રોજેક્ટના દિવ્યાંગાભિમુખ વિવિધ-કાર્યક્રમ અને પ્રવૃત્તિઓનો CD સહ અહેવાલ પ્રાપ્ત થયો. ધન્યવાદ.

સમાજમાં નિરાધાર-અસહાય અને દિવ્યાંગ વ્યક્તિઓનો હાથ પકડી, હામ અને સહકાર આપી, એમને જીવનની મુખ્યધારામાં લાવવાની ધરપત આપવી એ જ સાચી સેવા.

સુરક્ષા અને સહયોગમાં સરકાર તો ખડેપગે રહે જ છે ત્યારે સમાજસેવી સંસ્થાઓની સંવેદનશીલ સક્રિયતા સોનામાં સુગંધનું કાર્ય કરે છે. સૌને ધન્યવાદ. લાભાર્થી અને સ્પર્ધામાં વિજયી સૌ દિવ્યાંગોને પણ અભિનંદન.

આપનો,

(વિજય રૂપાણી)

To,
Smt. Panktiben Shah, *CSR Head*
Adani Foundation
Adani House, Port Road, Mundra, Kutch- 370 421.
Email: info@adanifoundation.com

Awards and Accolades

To,

Adani Group

Sub : Letter of Appreciation

Dear,

I am sending this letter to extend my appreciation towards you and your whole team for your contribution in "Sujalam Sufalam Jal Abhiyan – 2018" campaign of Government of Gujarat in a short span of time and that too in an efficient way. I must say that you have got a dedicated team professional in their approach with their dedication and sincerity.

*you and your team have completed **26** works of **Mundra Taluka** under this campaign activities like deepening of water tanks, desilting of checkdams, desilting of reservoir etc. by contributing 100% as corporate social responsibility.*

I once again would like to congratulate you all on the successful completion of Sujalam Sufalam Jal Abhiyan – 2018 and appreciate you for your generosity and support.

Warm Regards,

(Remya Mohan)
Collector - Kachchh

Letter of Appreciation

I feel immensely proud to share with all the readers that our mission to provide a platform to widows and make them skilled and employable through which they can generate livelihood has been a successful one. Adani Skill Development Centre provided General Duty Assistant training to widows in alignment with the objectives of the Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) scheme of Government of India.

In India, the ratio of women trainees in skill companies is no less than male trainees. The government scheme Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) has managed to create awareness in remote areas of Gujarat, the result of which is the successful completion of SSDC certified General Duty Assistant course conducted by ASDC.

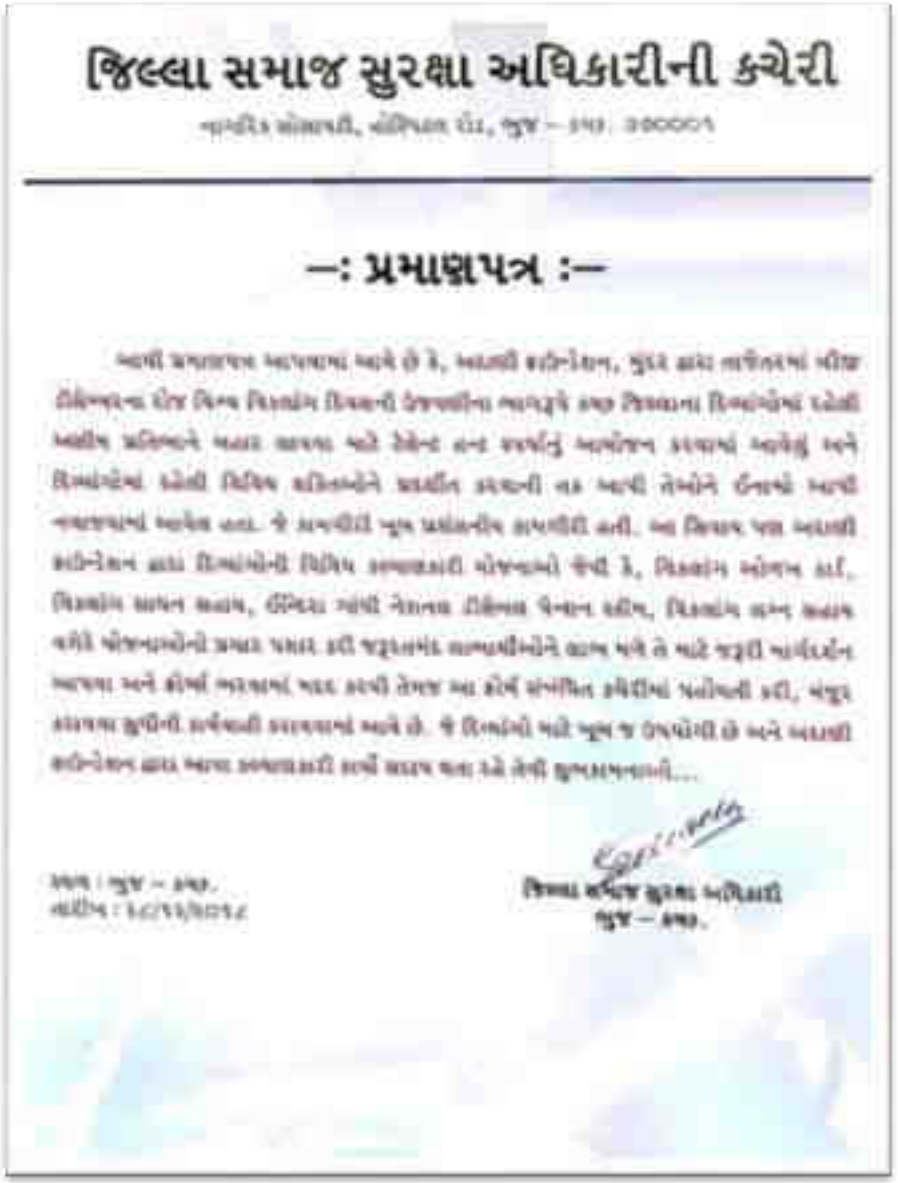
I salute the spirit of all the women trainees who are now employed at various reputed hospitals and give best wishes for their journey to become financially self -reliant.

The united efforts of these women to learn and ASDC trainers to impart knowledge has contributed towards achievement of financial independence of women, a key objective of DAY-NRLM.

28th March 2019

Prabhav Joshi
District Development Officer
Kachchh-Bhuj

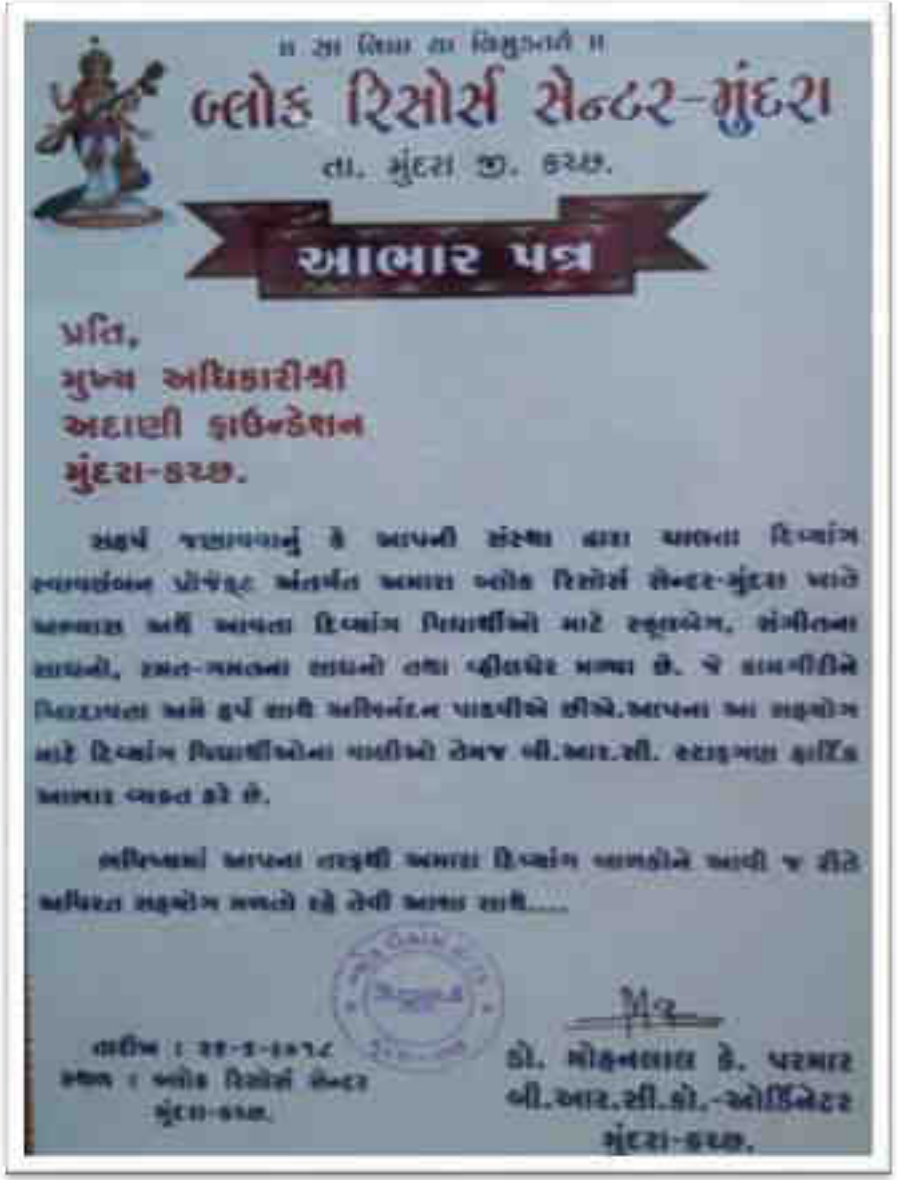
Awards and Accolades



જિલ્લા સમાજ સુરક્ષા અધિકારીની કચેરી

—: પ્રમાણપત્ર :—

જિલ્લા કલેક્ટર સુરત અધિકારી
સુરત – ૩૯૫૦૦૧.



॥ ૐ વિઘ્ન હર વિઘ્નહર્તાય ॥

બ્લોક રિસોર્સ સેન્ટર-મુંદરા

તા. મુંદરા જી. કચ્છ.

આભાર પત્ર

પ્રતિ,
મુખ્ય અધિકારીશ્રી
અદાણી ફાઉન્ડેશન
મુંદરા-કચ્છ.

તારીખ : ૨૨-૨-૨૦૧૮
સ્થળ : બ્લોક રિસોર્સ સેન્ટર
મુંદરા-કચ્છ.

ડો. મોહનલાલ કે. પરમાર
બી.આર.સી.કો.-ઓર્ડિનેટર
મુંદરા-કચ્છ.

ભદ્રેશ્વર ગામે અદાણી ગ્રુપના ચેરમેનના જન્મદિનની અનોખી ઉજવણ

અનેરો.૧૨ માં
આવેલી દિકરીને
કરવામાં આવી
૫૦૦ ડસ્ટબીન સ્વ
મિશનને સાર્થક
બનાવવા ગામલોકો
માટે આપવામાં આ
આમ વિવિધ
કાર્યો ત્રણે સંસ્થા
ઉપક્રમે યોજાઈ
ફાઉન્ડેશન
સાહ,દે વ
કલ્યાણ ગ
સરપંચ શ્રી
કારોબારી
પ્રદ્યુમનસિંહ
ગામના આ
હોવા છતાં
રહ્યા હતા.
સમગ્ર
બનાવવા
કિરણબેન
રમેશભાઈ

મુંદરા સમયસર પાણી માટે
સરકારી ઉ.મા.શાળા ભદ્રેશ્વર
મધ્યે ગૌતમભાઈ અદાણી
જન્મ દિવસ

આયુષ્માન ભારત યોજના તળે ભુજોડીમાં મેડિકલ કેમ્પ યોજાયો

તાલુકા હેલ્થ ઓફિસ મુન્દ્રા દ્વારા ઓરી અંગે શાળાના આચાર્યઓનો વર્કશ

ભુજના ડો. આંબેડકર કન્યા છાત્રાલયને આર.ઓ. પ્લાન્ટ મળ્યો

ભુજ, મંગળવાર, 28 ઓગસ્ટ, 2018 | 3

જીકે હોસ્પિ.માં કાલે માહિતી સેતુ કેન્દ્ર ખુલ્લું મુકાશે

સરકારી યોજનાઓ વિશે વિનામૂલ્યે માહિતી અને ફોર્મ આપવામાં આવશે

આપવામા આવશે. આ ઉપરાંત
સરકારી યોજનાઓનો લાભ લેવા

માંડવીમાં ગણિત-વિજ્ઞાન પ્રદર્શનમાં ૬૫ શાળાના છાત્રો દ્વારા એકસો વિવિધ કૃતિ પેશ કરાઇ

મુન્દ્રા તાલુકામાં પ્રા. શિક્ષણના ઉર્ધ્વીકરણ અર્થે કરાર કરાયા

મુન્દ્રા

મુન્દ્રા તાલુકામાં શિક્ષણના ઉર્ધ્વીકરણ અર્થે અદાણી ફાઉન્ડેશન અને જિલ્લા પ્રાથમિક શિક્ષણ અધિકારી વચ્ચે કરાર કરવામાં આવ્યા છે.

પ્રાથમિક શિક્ષણની ગુણવત્તા વધે, વિદ્યાર્થીઓનો શિક્ષણ પ્રત્યેનો અભિગમ બદલાય

દ્વારા અદાણી ફાઉન્ડેશનને સુપરત કરાઈ છે. આ પ્રયાસ શિક્ષણ માટે ઉદ્દીપકનું કામ કરશે એમ જિલ્લા વિકાસ અધિકારીએ જણાવ્યું હતું. પ્રોજેક્ટ અન્વયે જિલ્લા શિક્ષણાધિકારીના માર્ગદર્શન હેઠળ શિક્ષણ ગુણવત્તા સુધારણાના તમામ પાસાઓને આવરી

શિક્ષણાધિકારી વચ્ચે
કરાર કરાયા હતા.
ન અંતર્ગત ચાલુ
ન્દ્રા તાલુકાની ૧૭

કામગીરી હાથ ધરવામાં આવશે. કરાર સંજય પરમાર (જિલ્લા પા. શિક્ષણાધિકારી), છાયાબેન ગઢવી (ચેરમેન જિલ્લા શિક્ષણ સમિતિ) અને

ધો.૧માં પ્રવેશ પામનાર બાળકોને પ્રોત્સાહિત કરાયા

ભીકાસિંહના ઘરમાં ચોરી થતા

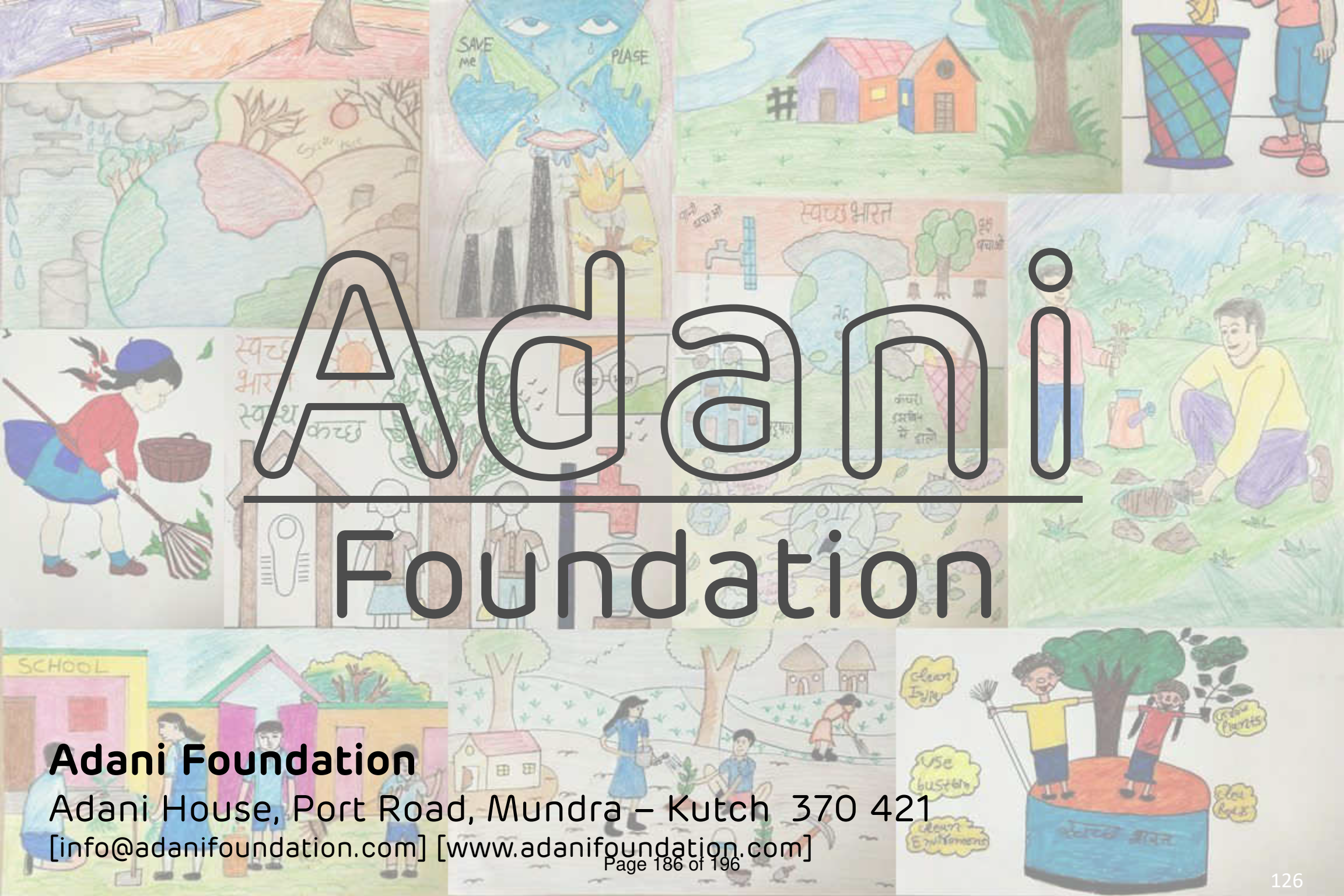
No	Core Area	Beneficiaries	Remarks
1	Education	5602	Uthhan, Labour School, School Enrollment
2	Adani Vidya Mandir	387	School Students
3	UDAAN	33932	116 Institute Visited
4	Adani Skill Dev. Center	2482	Mundra and Bhuj
5	Community health Mundra	58531	MHCU, Medical Camps, Senior Citizen
6	Community health Bhuj	36417	Health Camps, Mahiti Setu, patient care
7	SLD Fisherman	3280	Water, Education, Mangroves etc.
8	SLD Agriculture	1232	Drip Irrigation, Bio gas, tissue
9	SLD Women Empowerment	132	Saheli mahila gruh udyog – 12 SHG
10	Rural Infra. Development	81098	Pond deepening, AKBTPL, Labours work
11	Swachhagraha	3711	Mundra, Bhuj, Anjar and Gandhidham
12	Suposhan Mundra	17025	Adolescent, Children and RPA
13	Suposhan Bitta	6450	Adolescent, Children and RPA
14	Lakhpat	512	Cattle owner for fodder

Total Beneficiaries : 250791

Financial Overview

Adani Foundation -Mundra				
Executive Summary-Budget Utilization up to March-19				
				(Rs. In Lacs)
Sr. No.	Budget Line Item	Approved Budget 2018-19	Budget Utilizaton 2018-19	% of utilization
A	Admin Expense	67.55	55.44	82.07%
B.	Education	67.85	59.11	87.12%
C.	Community Health	243.21	203.88	83.83%
D.	Sustainable Livelihood Development	505.87	624.68	123.49%
E	Rural Infrastructure Development	326.34	231.81	71.03%
TOTAL AF CSR Budget :		**1210.82**	**1174.93**	**97.04%**
F.	Adani Vidya Mandir - Bhadreshwar	143.15	133.88	93.53%
GRAND TOTAL_MUNDRA CSR WORKS 2018-19		**1353.97**	**1308.81**	**96.66%**
G.	Project Udaan_Mundra	342.82	315.63	92.07%
GRAND TOTAL_MUNDRA CSR+ PROJECT UDAAN		**1696.79**	**1624.44**	**95.74%**

The Utilization will change slightly after receiving data upto first week of April 2019 due to few GRN is pending



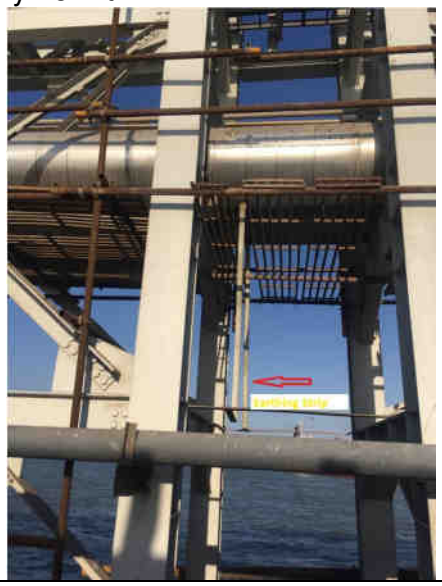
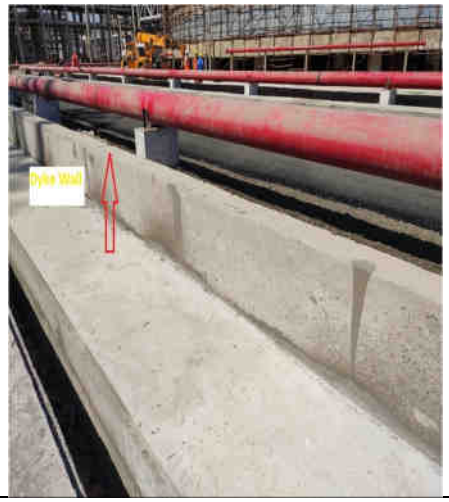
Adani

Foundation

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

ANNEXURE – 5

Compliance Report of Quantitative Risk Assessment Recommendatios

Sr. No.	Recommendations	Compliance Status
1	Selection of the loading arms and commissioning checks to ensure proper operation of the PERC in the event of ESD actuation (maximum time shall not exceed more than 2 min for complete isolation, loading arm release and ship pumps stop in case of hydrocarbon leak)	Available, Yet to be Commissioned.
2	All flanges shall be connected for bonding for electrical continuity.	Earthing of piping /Flanges has been done at every 25 Mtr. 
3	Kerb wall height shall be minimum 30 cm but shall not exceed 60 cm.	Dyke wall constructed conformity with OISD norms 
4	Leak detection systems based on	Available, But yet to be commissioned.

	pressure, temperature and flow	
5	A suitable continuous back-up power supply shall be provided for the control system and operation of ROVs both at jetty end and tank end	2MVA capacity of Emergency Diesel Generator installed fulfilling with electrical rules 
6	Consider HAZOP and SIL study before commissioning the facility and concerns addressed	HAZOP and SIL study has already been done and project is ready for commissioning 
7	Ensure CCTV coverage of critical locations and remote monitoring is done continuously	56 Nos. CCTV camera installation has been planned to install and be covered all locations inside the plant.

ANNEXURE – 6

GPCB

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, **Gandhinagar** 382 010
Phone : (079) 23222425
(079) 23232152
Fax : (079) 23232156
Website : www.gpcb.gov.in

By R.P.A.D.

CORRECTION OF CONSOLIDATED CONSENT AND AUTHORIZATION (C C & A)

GPCB/CCA-Kutch -39 (5)/ ID-17739/ **Date 09.10.2018**

To,
M/s. Adani Ports & Special Economic zone Limited,
Plot No: 169/P
At Navinal Island, Taluka: Mundra,
Dist: Kutch – 370 421

Sub: - Correction of Consolidated Consent and Authorization (CC& A) of this Board.

Ref: -

1. Consent Renewal Order No: AWH-83561 dated 9.1.2017 validity up to 20.11.2021 issued vide letter No: GPCB/CCA-Kutch-39 (4)/ID-17739/403658 dated 9.2.2017
2. Your CCA- Amendment Application Inward no-124026 dated 12.7.2017
3. CCA Amendment vide No: GPCB/CCA-Kutch -39 (4)/ID-17739/424578 dated 03.10.2017
4. CCA Amendment vide No: GPCB/CCA-Kutch -582(3)/ID-35427/448701 dated 22.03.2018
5. CTE obtained vide letter No PC/CCA-Kutch-582 (3) / ID-35427/1700294 dated 4.1.2014
6. Your Letter dated 5.09.2018

2. The Products mentioned at Condition No: 2 of the above said CCA issued dated 03.10.2017 corrected as under: -

No.	Name Of Product	Existing Quantity	Proposed Quantity	TOTAL Quantity
1.	General Cargo	4.0 Lac MT/Month	------	4.0 Lac MT/Month
2	Liquid Cargo (Chemical/Poc Products	2.65 Lac MT/Month	--------	2.65 Lac MT/Month
3.	Storage And Distribution Of Bitumen	26,400 MT/Month	------	26,400 MT/Month
4.	Dry Cargo Handling	9 MMT/Month	------	9 MMT/Month
5.	Container Terminal Handling Operation	4.5 Million TEUs/Annum	1.2 Million TEUs/Annum	5.7 Million TEUs/Annum
6.	Waste destruction system for decomposition/destruction of municipal solid waste	3.5 Cubic Meter (MSW Destruction Capacity @ 500 Kg/day)	-----	3.5 Cubic Meter (MSW Destruction Capacity @ 500 Kg/day)
7.	Oil water separate (Flame Proof) to remove –Oil portion from slope oil received from Vessels/Ships	25 M^3/Hr	---	25 M^3/Hr
8.	Import, Storage And Distribution Of Edible Oil	1.25 Lac MT/Month	0.6 Lac MT/ Month	1.85 Lac MT/Month

3. Earlier, Board has granted CTE with reference to point No 5 of reference and accordingly, certain project activities to be further developed like cargo handling facilities for Adani port and SEZ limited for various commodities like Container, Coal, Iron ore, Steel & Scrap, Dry Bulk, Project and Heavy Engineering, Crude oil (SPM), POL, Chemicals and vegetables oils, automobiles etc.

   The Development for this balance cargo handling capacity will be done in future based on your business requirements and CCA amendment will be applied and issued in their respective PCB IDs as and when specific commodities will be commissioned only after completing the necessary formalities for obtaining of CCA amendment.

4. Remaining all other conditions of Consolidated Consent (CC&A) vides order No: AWH-83561 dated 9.1.2017 validity up to 20.11.2021 issued vide letter No: (1) GPCB/CCA-Kutch-39 (4)/ID-17739/403658 dated 9.2.2017. (2) No: GPCB/CCA-Kutch -39 (4)/ID-17739/424578 dated 03.10.2017 (3) No: GPCB/CCA-Kutch -39 (4)/ID-17739/424578 dated 03.10.2017 shall remains unchanged.

For and on behalf of
Gujarat Pollution Control Board

(Sushil Vegda)
Senior Environmental Engineer

GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN
Sector-10-A, Gandhinagar 382 010
Phone : (079) 23222425
(079) 23232152
Fax : (079) 23232156
Website : www.gpcb.gov.in

GPCB

By R.P.A.D.

AMENDMENT TO CONSOLIDATED CONSENT AND AUTHORIZATION (CC&A)

No. PC/CCA-KUTCH-39(4)/GPCB ID-17739/ 491900 Date: 21/01/19

To,
Adani Ports & Special Economic zone Limited,
Plot No: 169/P
At Navinal Island, Taluka: Mundra,
Dist: Kutch – 370 421

Subject : Amendment to Consolidated Consent and Authorisation (CC&A).

Reference :
1) CCA of the Board issued to your unit vide order No.AWH-83561 dated 09/01/201,No.PC/CCA-KUTCH-39(4)/GPCB ID17739/403658 date 09/02/201 .
2) Correction of CCA of the Board issued to your unit vide order No. PC/CCA-KUTCH-39(5)/GPCB ID17739/473575 date 24/10/2018.
3) Your CCA Amendment Application Inward ID No.146485, dated 24/10/2018.

Sir,

In exercise of the power conferred under section-27 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule 6(2) of the Hazardous & Other Waste (Management & Transboundary Movement) Rules-2016 & as amended framed under the Environmental (Protection) Act-1986 and without reducing your responsibility under the said Acts/Rules in anyway; this Board is empowered to amend consent order conditions. Accordingly, the Consolidated Consent and Authorisation (CC&A) issued vide letter no. Consent order no. AWH-83561, dated 09/01/2018 no. PC/CCA-KUTCH-39(4)/GPCB ID17739/403658 date09/02/2017.which is valid up to 20/11/2021 under reference (1) and (2) stands amended in respect of the following conditions.

1. **Consent Order No.: H-98086 Date of Issue: 25/12/2018.**
2. The consent order shall be valid up to **20/11/2021**.
3. There shall be no change in any manufacturing activity and Air Details.
4. **CONDITIONS UNDER WATER ACT 1974 AMENDED AS FOLLOWS:**

- The condition no. 3.1 shall be read as;

3.1 The quantity of the industrial effluent from manufacturing process and other ancillary operations shall not exceed 90.31KL/day. further generated waste water of 60 KL/day from washing of tank is treated in exiting ETP & treated waste water shall be used for Gardening and Plantation purpose.

SUBJECT TO THE FOLLOWING SPECIFIC CONDITIONS:

1. Unit shall strictly adhere to provisions of Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 (H&OW (M&TBM) Rules-2016 and generated waste oil within ship shall be disposed as per the provisions of (H&OW (M&TBM) Rules-2016 only.

2. Unit shall not import of waste oil/ slope oil as per provisions of Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
3. Unit shall provide port reception facility to channelize the disposal of waste oil generated from ships/ vessels in environmentally sound manner.
4. Unit shall submit waste oil records and submit waste oil details with quantity to Board for every six months to this office and also to Regional office, Kutch (East) for its review and inspection.
5. Unit shall dispose of entire waste oil of ships/ vessels to the Registered Recyclers/ Re-processors as per the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

5. CONDITIONS OF AUTHORIZATION UNDER HAZARDOUS AND OTHER WASTE (M & TM) RULES – 2016 AMENDED AS FOLLOWS:

- The conditions no **5.1** shall be read as:

5.1 Adani Ports & Special Economic zone Limited, is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at Plot No: 169/P At Navinal Island, Taluka: Mundra, Dist: Kutch

Sr. No.	Waste	Quantity per Year			Cat.	Facility
		Existing	Proposed	Total		
1	Used Spent Oil	238 MT	--	238 MT	5.1	Collection, storage, Transportation, Disposal by selling out to registered recyclers
2.	ETP Sludge	1.095 MT	--	1.095 MT	35.3	Collection, storage, Transportation, Disposal at TSDF site of SEPPL/NECL
3.	Contaminated cotton rags or other cleaning materials	31 MT	--	31 MT	33.2	Collection, storage, Transportation, Disposal by Co-processing at cement plant of CHWIF
4	Asbestos Waste	Whatever quantity generated	--	Whatever quantity generated	B-1	Collection, storage, Transportation, Disposal at TSDF site
5	Glass Wool waste (Thermal insulation material)	Whatever quantity generated	--	Whatever quantity generated	H-6.1	Collection, storage, Transportation, Disposal at TSDF site
6	Down grade chemicals	Whatever quantity generated	--	Whatever quantity generated	20.2	Collection, storage, Transportation, Disposal by sending to authorized Solvent
7	Discarded Container/ Barrel/ Contaminated Liners	16 MT/year	--	26 MT/year	33.3	Collection, storage, Transportation, Disposal by selling out to registered decontamination facility

GPCB

GUJARAT POLLUTION CONTROL BOARD
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Website : www.gpcb.gov.in

8	Bottom sludge	Whatever quantity generated		Whatever quantity generated	3.2	Collection, storage, Transportation, Disposal by sending to common facility of SEPPL/NECL and /or sent for co-process at cement industries through recycling solution Pvt Ltd, Panoli
9	Waste Residue containing Oil	100 MT		100 MT	33.2	Collection, storage, Transportation, Disposal by Co-processing at cement industries and / or incineration at CHWIF site.
10	Pig Waste	24 MT		24 MT	3.1	Collection, storage, Transportation, Disposal by sending to common facility of SEPPL/NECL and /or sent for co-process at cement industries through recycling solution Pvt Ltd.Panoli
11	Waste Oil	--	0.18 MT	0.18 MT/ye	5.2	Collection, storage, Transportation, Disposal by selling out to registered recyclers/ Re processors

All other terms and conditions of Consolidated Consent (CC&A) order No.AWH-83561 dated 09/01/2017, No PC/CCA-KUTCH-39(4)/GPCB ID17739/403658 date 09/02/2017 shall remain unchanged.

For and on behalf of
Gujarat Pollution Control Board

(Sushil Vegda)
Senior Environmental Engineer

ANNEXURE – 7

Cost of Environmental Protection Measures

Sr. No.	Activity	Cost incurred (INR in Lacs)			Budgeted Cost (INR in Lacs)
		2016 – 17	2017 – 18	2018 – 19	2018 – 19
1.	Environmental Study / Audit and Consultancy	36.78	9.0	6.7	30.5
2.	Legal & Statutory Expenses	4.76	5.07	4.42	5.7
3.	Environmental Monitoring Services	27.95	27.02	20.36	36.0
4.	Hazardous / Non Hazardous Waste Management & Disposal	12.52	65.62	95.72	84.8
5.	Environment Days Celebration	6.71	2.85	0.28	10.0
6.	Treatment and Disposal of Bio-Medical Waste	1.27	1.13	1.21	1.56
7.	Mangrove Plantation, Monitoring & Conservation	72.38	60.0	47.0	50.0
8.	Other Horticulture Expenses	555.00	547.0	579.32	579.32
9.	O&M of Sewage Treatment Plant and Effluent Treatment Plant (including STP, ETP of Port & SEZ & Common Effluent Treatment Plant)	61.50	70.02	144.29	153.9
10.	Expenditure of Environment Dept. (Apart from above head)	131.83	102.15	109.28	117.29
	Total	**910.70**	**889.86**	**1008.58**	**1069.07**

ANNEXURE – 8

091245

Previous [illegible]

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/-	२०१९	
"	500 से अधिक नहीं	5000 से अधिक नहीं	39600	2640	२०२०	
	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	
	से अधिक नहीं	से अधिक नहीं			२०	