



Ports and
Logistics

AHPPL/MoEF&CC/2019-20/ 001

Date: 29.05.2019

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-3, Ravishankar Nagar,
Bhopal - 462016 (Madhya Pradesh)
Tel. No.: 0755- 2465054, 2465496, 2466525
Email: rowz.bpl-mef@nic.in

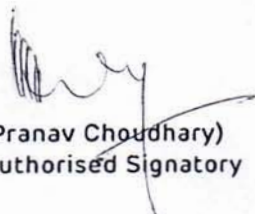
Dear Sir,

Sub.: Six Monthly Compliance Report of conditions stipulated in Environment and CRZ Clearance for the development of Multi Cargo Port with Supporting Utilities and Infrastructure Facilities at Hazira, Surat, Gujarat for the period: **October 2018 to March 2019.**

Ref.: 1). Environmental and CRZ Clearance issued by MoEF & CC, New Delhi vide letter No.: 11-150/2010-IA.III dated 03rd May, 2013.
2). CRZ Recommendations issued by Forests & Environment Department, Govt. of Gujarat to MoEF & CC, New Delhi vide letter No.: ENV-10-2012-30-E dated 11th May, 2012.
3) E mail dated 29.05.2019

Please find enclosed herewith point wise compliance report (Soft copy in a CD) of conditions stipulated in the above referred letters, the same was also forwarded through mail dated 29.05.2019 (Reference 3 above).

For, M/s. Adani Hazira Port Private Limited,


(Pranav Choudhary)
Authorised Signatory

Encl.: As above

Cc to:

1. The Director (Monitoring - IA Division), Ministry of Environment, Forests & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110 003.
2. The Director, Forests & Environment Department, Block - 14, 8th Floor, Sachivalaya, Gandhinagar, Gujarat - 382 010.
3. The Zonal Officer, Central Pollution Control Board, Zonal Office Vadodara, Parivesh Bhawan, Opp. VMC Ward Office No.:10, Subhanpura, Vadodra-390 023.
4. The Chairman, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector - 10A, Gandhinagar-382 010 (Gujarat).
5. The Regional Officer, Gujarat Pollution Control Board, Belgium Square, Ring Road, Surat-395003, (Gujarat).

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Gujarat, India
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31/6/19
Ministry of Environment & forest
केन्द्रीय पर्यावरण मंत्रालय
Regional Office (Western Regional)
"Kendriye Paryavaran Bhawan"
लिंक रोड नं.3/ Link Road No.3
ई-5, रविशंकर नगर
E-5, Ravishankar Nagar
भोपाल/Bhopal-462016

LIST OF APPENDIXES

APPENDIX NO.	DETAILS
1.	Compliance To The Conditions Stipulated In CRZ Recommendations Issued By Forests & Environment Department, Government Of Gujarat To MOEF & CC, New Delhi Vide Letter No.: ENV-10-2012-30-E, Dated 11th May, 2012.

LIST OF ANNEXURES

ANNEXURE NO.	DETAILS
1.	Action Plan And Compliance Status On The Issues Raised During The Public Hearing.
2.	Details Of The CSR Activities Along With Budgetary Provisions And Expenditures For The Financial Year: 2018-19.
3.	Compliance Status Of Environmental Management Plan As Per Integrated EIA Report - September, 2012.
4.	Environmental Monitoring / Analysis Results For The Period From October., 2018 To March, 2019.
5.	Organogram Of AHPPL - Environment Management Cell.
6.	Details Of Environment Management Budget For The Financial Year: 2018-19
7	Copy of renewed Public Liability Insurance
8	Copy of renewed PESO Licence
9	Copy of renewed Factory Licence
10	Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved Third Party During period October 2018 to March 2019

SIX MONTHLY COMPLIANCE REPORT

OF

ENVIRONMENT AND CRZ CLEARANCE ISSUED BY MOEF & CC, NEW DELHI

VIDE LETTER NO.: 11-150/2010-IA.III, DATED 03RD MAY, 2013

FOR

THE DEVELOPMENT OF MULTI CARGO PORT WITH SUPPORTING UTILITIES AND

INFRASTRUCTURE FACILITIES AT HAZIRA, SURAT, GUJARAT

BY

M/S. ADANI HAZIRA PORT PVT. LTD.

- A. Six Monthly Compliance Report for Environmental and CRZ Clearance issued by MoEF & CC, New Delhi vide letter No.: **11-150/2010-IA.III dated 03rd May, 2013** for the development of Multi Cargo Port with supporting utilities and infrastructure facilities at Hazira, Surat, Gujarat by M/s. Adani Hazira Port Pvt. Ltd.: -

S. No.	Stipulated Conditions	Compliance Status															
6.	Specific Conditions																
i.	"Consent for Establishment" shall be obtained from State Pollution Control Board under Air & Water Act and a copy shall be submitted to the Ministry before start of any construction work at site.	<p>Complied, AHPPL has obtained Consent to Establish (NOC) from Gujarat Pollution Control Board on 05.10.2012 and same was submitted on 16.05.2012 prior to obtaining the Environment and CRZ clearances. Subsequently there were amendments in the Consent to Establish which were also submitted to the MoEF&CC before start of respective construction as per the details given below: -</p> <table border="1"> <thead> <tr> <th>Consent No.</th><th>Issued On</th><th>Submitted To MoEF & CC On</th></tr> </thead> <tbody> <tr> <td>CTE_49766</td><td>05.10.2012</td><td>Along with Six Monthly Compliance Report dated 19.11.2014 & 19.05.2017.</td></tr> <tr> <td>CTE-64900</td><td>26.09.2014</td><td>Along with Six Monthly Compliance Report dated 12.05.2015 & 19.05.2017.</td></tr> <tr> <td>CTE-74330</td><td>13.01.2016</td><td>Along with Six Monthly Compliance Report dated 23.05.2016 & 19.05.2017.</td></tr> <tr> <td>CTE-77767</td><td>16.04.2016</td><td>Along with Six Monthly Compliance Report dated 21.11.2016 & 19.05.2017.</td></tr> </tbody> </table>	Consent No.	Issued On	Submitted To MoEF & CC On	CTE_49766	05.10.2012	Along with Six Monthly Compliance Report dated 19.11.2014 & 19.05.2017.	CTE-64900	26.09.2014	Along with Six Monthly Compliance Report dated 12.05.2015 & 19.05.2017.	CTE-74330	13.01.2016	Along with Six Monthly Compliance Report dated 23.05.2016 & 19.05.2017.	CTE-77767	16.04.2016	Along with Six Monthly Compliance Report dated 21.11.2016 & 19.05.2017.
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ii.	The action plan on the issues raised during public hearing shall be submitted to the Pollution Control Board. The action plan shall be implemented without fail. Report on compliance shall be submitted to the Regional Office, MOEF along with the six monthly reports.	<p>Complied. Public hearing was conducted on 14.08.2012. All the issues have been addressed adequately and to the satisfaction of the stakeholders. The key points raised during PH were: -</p> <ol style="list-style-type: none"> 1) Preference to be given to the local people for employment and transport & other contracts. M/s. AHPPL is giving preference to the locals for contracts, such as M/s. Hazira Vikas Samiti has been engaged for providing transport facilities for employees. M/s. AHPPL also giving preference for skilled local candidates for employment as per suitable requirements. As on 13th May, 2019 total 180 out of 208 on roll employees are from Gujarat. 2) Villagers were anxious about their displacement due to port development. M/s. AHPPL is developing port on approx. 873.27 hectares which is uninhabited and there is no acquisition of private property. The details action status of all other issues raised during the public hearing is enclosed as Annexure-1. 															
iii.	All the recommendations of SCZMA shall be complied with.	<p>Being Complied All the recommendations of the GCZMA are</p>															

S. No.	Stipulated Conditions	Compliance Status
		being complied. Compliance status of the conditions stipulated in GCZMA recommendations vide letter dated 11/05/2012 bearing No.: ENV-10-2012-30-E is enclosed as Appendix-1 .
iv.	Periodical study on shore line changes shall be conducted and mitigation carried out if necessary. The details shall be submitted along with six monthly monitoring reports.	Complied. Shoreline change study was conducted by NIO, Vizag during the period from November, 2014 to December, 2015. Report of the shoreline change study was submitted along with compliance report dated 21.11.2016. Study confirms that there is no significant change in the nearby shoreline except for the approved layout of the AHPPL. The report did not warrant any mitigation measures. There are no marine construction activities on shore after Dec, 2016.
v.	Oil spills if any shall be properly collected and disposed as per Rules. Proper Oil Contingency Management Plan shall be put in the place.	Complied. <ul style="list-style-type: none"> • Till date no oil spill has occurred. • Oil Spill Contingency Plan has been prepared and the same was approved / vetted by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014). • The same has been implemented at site in order to properly collect and dispose oil spills (if any).
vi.	The detailed plan with budgetary provisions for the CSR shall be submitted to the ministry.	Complied. <ul style="list-style-type: none"> • CSR activities are carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. • Detail of the CSR activities along with budgetary provisions and progress are regularly submitted to MoEF & CC as part of six monthly compliance reports. • The status of the CSR activities carried out during the Financial Year: 2018-19 is enclosed as Annexure-2.
vii.	All the recommendation of the EMP and DMP shall be complied within letter and spirit.	Complied. <ul style="list-style-type: none"> • Recommendation given in EMP is being complied in letter and spirit. Status of the same is enclosed as Annexure-3. • AHPPL is an ISO 14001, ISO 9001 and OHSAS 18001 certified company. • AHPPL has developed and implemented DMP. Regular mock drill to ensure the compliance and preparedness is being done. <ul style="list-style-type: none"> • Last Mock Drill (On Site) was on: 13.02.2019 • Last Update of ERP & DMP : 10.05.2018 • Copy of the Schematic of ERP & DMP communication flow is submitted along with the six monthly compliance report

S. No.	Stipulated Conditions	Compliance Status
		dated 19.05.2017.
viii.	Periodical monitoring of the sea water quality at the outlet shall be carried out to check the discharge is meeting the standard and not causing any impact to marine life.	<p>Complied.</p> <ul style="list-style-type: none"> AHPPL is not discharging any effluent into the sea. There are no standards prescribed for the sea water quality. Only trends can be observed to ensure that quality of sea water is not changing significantly. Marine water quality is being monitored through M/s. Pollucon Laboratories, Surat (a MoEF&CC recognized and NABL accredited laboratory). Monitoring of sea water quality at three locations is being done on monthly basis. Copy of the Sea Water Quality Monitoring /Analysis Reports for the period October, 2018 to March, 2019 is enclosed as <u>Annexure-4D</u>. From the monitoring report it is evident that there is no significant change in the sea water quality which could have impact on the marine life.
ix.	Transport of cargo shall in closed system and dust control viz. water sprinkler, along conveyor and transfer points shall be provided.	<p>Complied.</p> <p>Following control measures are in place and effectively working at port to control fugitive dust: -</p> <ol style="list-style-type: none"> 1. Transportation of coal from jetty to coal storage yard through 1.7 Km. long conveyor belt with hood. 2. Water sprinklers in the coal yard, 3. Dust arresting sprinklers are installed on Coal Discharge Chute 4. Dust Suppression System / Spray Nozzles in Conveyor System and Discharge Chute, 5. Water spray through Water Browsers, 6. Water Mist Canon / Fog System, 7. Wind Brake Shield of 14 meters high and 1200 meters long, 8. Transportation of cargo from port to hinterland is being done through dumpers / trucks covered with tarpaulin, 9. Regular cleaning the roads through Road Sweeping Machines, and 10. Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 69.80 ha within the port premises.
x.	Construction activity shall be carried out strictly as per the provisions of CRZ notification 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone.	<p>Complied.</p> <ul style="list-style-type: none"> Construction activities are as per the provisions of CRZ Notification, 2011. No construction work other than those permitted in CRZ Notification has been done.

S. No.	Stipulated Conditions	Compliance Status
		<ul style="list-style-type: none"> Development of the port and other ancillary facility is being done as per the approval received under CRZ Notification, 2011 and EIA Notification, 2006.
xi.	The project shall be executed in such a manner that there shall not be any disturbance to the fishing activity.	<p>Complied.</p> <ul style="list-style-type: none"> Project execution is being done without any disturbance to fishing activities. Majority of fishing activities are in the river TAPI estuary region which is approx. 3-4 KM away from the project site. There are few "PAGADIA" fishermen doing fishing near the project area. They are continuing with their activities without any disturbance.
xii.	It shall be ensured that there is no displacement of people, houses or fishing activity as a result of the project.	<p>Complied.</p> <ul style="list-style-type: none"> There is no displacement of people, houses or fishermen as the port is being developed on reclamation land and land allotted by Government also there is no acquisition of private land. Majority of fishing activities are in the river TAPI estuary region which is approx. 3-4 KM away from the project site. There are few "PAGADIA" fishermen doing fishing near the project area. They are continuing with their activities without any disturbance AHPPL is regularly working with fishermen to understand their needs and provide required support.
xiii.	The project proponent shall set up separate Environment Management Cell for effective implementation of the stipulated environmental safe guards under the supervision of a Senior Executive.	<p>Complied.</p> <ul style="list-style-type: none"> Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safe guards. In addition to the site Environment Management Cell a well-established corporate environment cell also ensures effective implementation of the environmental safeguards. Environment Management Cell Organogram is enclosed as Annexure-5. One more person has been recruited in Environment Management Cell, who is assisting the Head of Environment
xiv.	The funds earmarked for environment management plan shall be included in the budget and this shall not be diverted for any other purposes.	<p>Complied.</p> <ul style="list-style-type: none"> Separate budget has been allocated to the HSE Department. Allocated budget for the FY: 2018-19 is INR 270.69/- Lakhs and but expenditure regarding environment management is about INR 1344.71 which is much more than budgeted amount. Detail of the environment budget and expenditure for the FY: 2018-19 is enclosed as Annexure-6.

S. No.	Stipulated Conditions	Compliance Status
		<ul style="list-style-type: none"> Environment budget is not being diverted to any other purpose.
7.	General Conditions	
i.	Appropriate measures must be taken while undertaking digging activities to avoid any degradation of water quality.	<p>Complied.</p> <ul style="list-style-type: none"> Digging activities are involved in the piling, construction of building and other ancillary facilities. Proper care is being given to ensure that no excavated material is mixed with the water. Entire excavated material is being used in leveling and grading of project area. Marine, Surface and Ground Water quality is being monitored through M/s. Pollucon Laboratories Pvt. Ltd., Surat (a MoEF & CC and NABL accredited laboratory). Reports show that there are no impacts on the water quality. Copy of the water monitoring reports for the period October, 2018 to March, 2019 is enclosed as Annexure-4B, 4C, 4D for ground, surface and marine water quality, respectively.
ii.	Full support shall be extended to the officers of this Ministry /Regional Office at Bhopal by the project proponent during inspection of the project for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigation measures and other environmental protection activities.	<p>Being Complied</p> <ul style="list-style-type: none"> AHPPL is regularly submitting six monthly compliance reports which comprise compliance to the conditions stipulated in Environment and CRZ clearance, action taken report of Environment Management Plan, environment monitoring reports etc. Last report was submitted vide letter No . AHPPL/MoEFF&CC 2018-19/007 dated 12.10.2018. Whenever any authorities such as MoEF&CC, GPCB and GMB etc. visit AHPPL, full support is extended and AHPPL provides all additional information seek by them during the inspection. Last visit by representative of MoEF & CC - RO, Bhopal was on 24th Oct, 2018 .
iii.	A six-monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at Bhopal regarding the implementation of the stipulated conditions.	<p>Being Complied</p> <p>Six monthly monitoring reports are regularly submitted to the RO - MoEF & CC, Bhopal and other authorities along with Six Monthly Compliance Report of Environment & CRZ Clearance. Please refer the Annexure-4 for the monitoring report from October 2018 to March 2019.</p>
iv.	Ministry of Environment & Forests or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary subsequently, if deemed necessary for environmental protection, which shall be complied with.	Noted and agreed to comply with additional conditions stipulated or modification in the existing ones by MoEF & CC, if any.
v.	The Ministry reserves the right to	Noted and agreed to comply with the

S. No.	Stipulated Conditions	Compliance Status
	revoke this clearance, if any of the conditions stipulated are not complied with to the satisfaction of this Ministry.	directions of the MoEF & CC, if any.
vi.	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to Ministry of Environment and Forests.	Noted. There is no change in project profile or implementation agency.
vii.	The project proponents shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of Land Development Work.	Closed. Financial Closure date was 29 th September, 2011. Approval from GMB to commence work was obtained on 09 th April, 2010 vide letter No.: GMB/N/PVT/923(10)/42/458. Copy of the same has been submitted to the MoEF & CC and other concerned authorities along with the six monthly compliance report dated 19.05.2017.
viii.	A copy of the clearance letter shall be marked to concerned Panchayat/ Local NGO, if any from whom any suggestions/ representations has been received while processing the proposal.	Closed. Copy of the clearance letter was sent to the concerned Panchayat and local NGO. Copy of the RPAD receipt were submitted to MoEF&CC along with six monthly compliance report dated 27.11.2013 and again along with the six monthly compliance report dated 19.05.2017.
ix.	State Pollution Control Board shall display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's Office/Tehsildar's Office for 30 days.	This condition does not belong to M/s. AHPPL.
8.	These stipulations would be enforced among others under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act 1986, the Public Liability (Insurance) Act 1991 and EIA notification 1994, including the amendments and rules thereafter.	Noted and Complying with the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act 1986, the Public Liability (Insurance) Act 1991 and EIA notification 1994, including the amendments. AHPPL has obtained: - <ul style="list-style-type: none"> Environmental and CRZ Clearance issued by MoEF & CC, New Delhi vide letter No.: 11-150/2010-IA.III dated 03rd May, 2013. Consolidated Consent and Authorization under the provisions of Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981 vide Consent Order No.: AWH-87176 valid till 14.04.2022. Public Liability Insurance vide Policy No.: 2999202761483000000 valid up to 31st March, 2020. Attached herewith as Annexure 7
9.	All other statutory clearance such as the approvals for storage of diesel from Chief Controller of Explosive, Fire Department, Civil Aviation	Complied. All applicable clearances from respective authorities have been obtained i.e.: - 1. PESO License from Chief Controller of

S. No.	Stipulated Conditions	Compliance Status
	Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponent from the respective competent authorities.	<p>Explosive, Nagpur vide Order No.: P/HQ/GJ/15/5294 (P270337), Renewed on 04.01.2019 valid till 31.12.2019. Copy of the PESO License is attached herewith as Annexure 8</p> <p>2. License to work a Factory Adani Hazira Port Pvt. Ltd. (Liquid Terminal) from Director of Industrial Safety and Health, Govt. of Gujarat their vide Registration No.: 3502 / 51410 / 2013 and License No.: 18757, Renewed on 03-11-2018, valid till 23rd December, 2023. Copy of the license to work a factory is attached as Annexure 9.</p> <p>3. Civil Aviation: Not Applicable, 4. Forest Clearance: Shall be obtained. 5. Wildlife Conservation: Not Applicable.</p>
10.	The project proponent shall advertise in at least two local newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environment and CRZ clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen at Website of the Ministry of Environment & Forests at http://www.envfor.nic.in . The advertisement should be made within 10 days from the date of issue of the clearance letter and a copy of the same should be forwarded to the Regional Office of this Ministry at Bhopal.	<p>Closed.</p> <ul style="list-style-type: none"> Advertisements were published in Gujarat News Paper "Gujarat Mitra" and English News Paper "The Times of India" on 13/05/2013 (within 10 days of receipt of EC & CRZ clearance). Copy of the advertisement is submitted to MoEF & CC along with the six monthly compliance report dated 27th November, 2013.
11.	This clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.: 460 of 2004 as may be applicable to this project.	Noted.
12.	Status of Compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	<p>Complied.</p> <p>Compliance report of conditions stipulated in Environment and CRZ Clearance is available on the company website i.e.: http://www.adaniports.com/ports-downloads</p>
13.	Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted.
14.	A copy of the clearance letter shall be sent to concerned Panchayat, Zila Parishad/ Municipal Corporation, Urban Local Body and the Local NGO, if any from whom suggestions/	<p>Closed,</p> <ul style="list-style-type: none"> Copy of the clearance letter was sent to the concerned Panchayat and local NGO from whom the suggestions/ representations received.

S. No.	Stipulated Conditions	Compliance Status
	representations if any, were received while processing the proposal. The Clearance letter shall also be put on the website of the company by the proponent.	<ul style="list-style-type: none"> Copy of the RPAD receipt is submitted to MoEF & CC along with Six Monthly Compliance Report dated 27.11.2013 and again along with the six monthly compliance report dated 19.05.2017. Clearance letters is available on website at http://www.adaniports.com/ports-downloads
15.	The Proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MOEF, the respective Zonal Office of CPCB and the SPCB.	<p>Complied.</p> <p>The six monthly compliance report comprising of the status of compliance of the stipulated EC conditions, including results of monitored data is being uploaded on the company website at http://www.adaniports.com/ports-downloads and submitted to:</p> <ol style="list-style-type: none"> 1. RO - MoEF & CC, Bhopal, 2. MoEF & CC, New Delhi, 3. DoEF, Gandhinagar, 4. Zonal Office - CPCB, Vadodara, 5. HO - GPCB, Gandhinagar, and 6. RO - GPCB, Surat. <p>Last report was submitted vide letter AHPPL/MoEFF&CC 2018-19/007 dated 12.10.2018.</p>
16.	The Environmental Statement for each financial year ending 31 st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules 1986, as amended subsequently, shall also be put on the website of the company along with status of compliance of EC Conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	<p>Complied.</p> <p>The Environment Statement in Form-V for the Financial Year: 2017-18 is submitted to GPCB vide letter No.: AHPPL/GPCB/2018-19/ 003 dated 23.05.2018 & also uploaded on company website at http://www.adaniports.com/ports-downloads.</p> <p>Form-V for FY: 2017-18 has also been sent to Regional Office of MoEF & CC by email to rowz.bpl-mef@nic.in on 2nd June 2018.</p>

APPENDIX-1:

**COMPLIANCE TO THE CONDITIONS STIPULATED IN CRZ RECOMMENDATIONS
ISSUED BY FORESTS & ENVIRONMENT DEPARTMENT,
GOVERNMENT OF GUJARAT TO MOEF & CC, NEW DELHI
VIDE LETTER NO.: ENV-10-2012-30-E, DATED 11TH MAY, 2012
FOR MODIFICATION / EXPANSION OF MULTI - CARGO PORT FACILITY AT HAZIRA, DIST. -
SURAT BY M/S. ADANI HAZIRA PORT PVT. LIMITED**

Appendix -1: Compliance to the conditions stipulated in CRZ recommendation issued by Forests & Environment Department, Government of Gujarat to MoEF & CC, New Delhi vide letter No.: ENV-10-2012-30-E dated 11th May, 2012 for modification / expansion of Multi-Cargo Port Facility at Hazira, Dist. - Surat by M/s. Adani Hazira Port Pvt. Limited: -

S. No.	Conditions	Compliance Status
A.	Specific Condition	
1.	The provision of CRZ Notification 2011 shall be strictly adhered by M/s. AHPPL. No activity in contradiction to the provision of CRZ Notification shall be carried out by M/s. AHPPL.	Complied. <ul style="list-style-type: none"> Construction activities are as per the provisions of CRZ Notification, 2011. No construction work other than those permitted in CRZ Notification has been done. Development of the port and other ancillary facility is being done as per the approval received under CRZ Notification, 2011 and EIA Notification, 2006 and subsequent amendments.
2.1	M/s. AHPPL shall not construct any storage facilities for material / chemicals in the CRZ area except for those permissible as per Annexure - II of CRZ Notification 2011.	Noted. Only permissible activities being carried out in CRZ area.
2.2	Also for other hazardous chemicals, outside CRZ Areas, the AHPPL shall consult SDMA for Disaster Management Plan.	Complied. Disaster Management Plan has been prepared prior to the commissioning of multi cargo port. <ul style="list-style-type: none"> DMP has been submitted to GSDMA vide letter dated 20.10.2012. Comments were received from authority vide letter no. GSDMA /SM / Ind.safety/ 770560 dated 03.12.2012. Suggestions were incorporated and revised plan was submitted to GSDMA on 23.05.2014. Regular mock drill to ensure the compliance and preparedness is being done. Last Mock Drill (On Site) was on : 13.02.2019 Last Update of ERP & DMP : 10.05.2018 Last submission to Directorate Industrial Safety & Health (DISH) on 31.07.2018
3.	All necessary permissions from different Government Departments / agencies shall be obtained by M/s. AHPPL before commencing the activities.	Complied. All the statutory permissions from the concerned statutory authorities are obtained i.e.: - <ol style="list-style-type: none"> Environment and CRZ Clearance from MoEF & CC, GOI vide order No.: F.No.:11-150/2010-IA-III dated 03.05.2013. PESO License from Chief Controller of Explosive, Nagpur vides order No.: P/HQ/GJ/15/5294 (P270337) renewed on 04.01.2019 valid till 31.12.2019. License to work a Factory Adani Hazira Port Pvt. Ltd. (Liquid Terminal) from Director of Industrial Safety and Health, Govt. of Gujarat their vide Registration No.: 3502 / 51410 / 2013

S. No.	Conditions	Compliance Status
		and License No.: 18757, Renewed on 03-11-2018, valid till 23 rd December, 2023
4.	The AHPPL shall ensure that there shall be no damage to the existing mangrove patches near the site and also ensure the free flow of water to avoid damage to the mangrove.	Noted and complied with. There are no adverse impacts on mangrove as well as flow of water with respect to development activities.
5.	No dredging, reclamation or any other project related activities shall be carried out in CRZ area categorized as CRZ-I (A) and it shall have to be ensured that the mangrove habitats and other ecologically important and significant areas, if any in the region are not affected due to any of the project activities.	Complied. All activities are being carried out as per Environment and CRZ clearance accorded.
6.	The dredging material shall be disposed of at the location already approved by the Ministry of Environment and Forests, Government of India.	Complied. As per communication from MoEF&CC dated 12 th November, 2003 bearing letter No.: J-16011/ 11/2003-IA-III conditions states "dumping of dredged spoils should be dumped at the sites A & C as per the following coordinates: - (A) 21°03' to 21°05' N & 72°28' to 72°30' E (C) 21°03' to 21°05' N & 72°30' to 72°32' E No disposal has been done till date. All the dredging material is being utilized for level rising, reclamation and apart from the above activity, if any excess material generated will be disposed of at the location already approved by the MoEF&CC.
7.	All the recommendations and suggestions given by M/s. NIO and Chola mandalam MS Risk Services Ltd, Chennai in their EIA reports for conservation / protection and betterment of environment shall be implemented strictly by M/s. AHPPL.	Complied. All the recommendations and suggestions for conservation/protection and betterment of environment are being implemented strictly. Recommendation given in EMP is being complied in letter and spirit. Status of the same is enclosed as Annexure-3 .
8.	The construction and operational activities shall be carried out in such a way that there is no negative impact on mangroves, if any and other important coastal / marine / habitats. The construction activities shall be carried out only under the guidance / supervision of reputed institute / organization.	Complied. There are no mangroves and other important coastal / marine / habitats presents within the port area. The Port development work is supervised by Gujarat Maritime Board (GMB).
9.	M/s. AHPPL shall strictly ensure that no creeks or rivers are blocked due to any activity at Shipyard.	Complied. All the activities are carried out as per EC & CRZ clearance and no creeks are blocked due to development activities. Shipyard is not envisaged in our proposal.
10.	The construction debris and / or any	Complied

S. No.	Conditions	Compliance Status
	other type of waste shall not be disposed of into the sea, creek or in CRZ areas. The debris shall be removed from construction site immediately after the construction is over.	Construction debris removed from construction site immediately after completion of the construction work.
11.	The construction camps shall be located outside the CRZ area and the construction labour shall be provided with the necessary amenities, including sanitation, water supply and fuel and it shall be ensured that the environmental conditions are not deteriorated by construction labours.	Complied. No labour camps are located in Coastal Regulation Zone area. Labours are managed through contractors and they are from surrounding villages and have been provided residential facilities in the surrounding villages.
12.	M/s. AHPPL shall prepare and regularly update their Local Oil Spill Contingency and Disaster Management Plan in consonance with National Oil Spill and Disaster Contingency Plan and shall submit the same to this department after having it vetted through Indian Coast Guard.	Complied. <ul style="list-style-type: none"> Oil Spill Contingency Plan has been prepared and the same was approved/ vetted by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014). Disaster Management Plan has been prepared prior to the commissioning of multi cargo port. DMP has been submitted to GSDMA vide letter dated 20.10.2012. Comments were received from authority vide letter no. GSDMA /SM / Ind.safety/ 770560 dated 03.12.2012. Suggestions were incorporated and revised plan was submitted to GSDMA on 23.05.2014. Regular mock drill to ensure the compliance and preparedness is being done. Last Mock Drill (On Site) was on : 13.02.2019 Last Update of ERP & DMP : 10.05.2018 Last submission to Directorate Industrial Safety & Health (DISH) on 31.07.2018
13.	M/s. AHPPL shall bear the cost of external agency that may be appointed by this department for supervision / monitoring of proposed activities and the environment impact of the proposed activities.	Noted and agreeing to bear the cost of external agency, if any that may be appointed by this department.
14.	The jetty and most of the approach would be supported on piles allowing adequate flow of water without significant obstruction.	Complied. Jetty approach is supported by piles allowing adequate flow of water.
15.	The ground water shall not be tapped within the CRZ areas by the AHPPL to meet with the water requirements in any case.	Being Complied Ground water is not being used for any purpose in the Port. The drinking water requirement is being met through tanker water. 2000KI of treated waste water from M/s. KRIBHCO is used for industrial purposes.
16.	M/s. AHPPL shall take up massive greenbelt development activities in consultation with Forest Dept. / GEER	Being Complied Company has set up dedicated green belt area for plantation at periphery / avenue plantation

S. No.	Conditions	Compliance Status
	Foundation / Gujarat Ecology Commission. A comprehensive plan for this purpose has to be submitted to the Forests and Environment Department.	/ landscaping etc. Total greenbelt area developed so far is approx. 69.80 ha within the port premises.
17.	Mangrove plantation in 200 Ha. shall be carried out in consultation with Gujarat Ecology Commission / Forest Dept. by M/s. AHPPL with in a period of two years from the issuance of CRZ clearance by MoEF, Gol and an action plan in this regard shall be submitted to this Department along with satellite images and GPS readings with Latitudes and Longitudes.	Complied Company has carried out mangrove afforestation in an area of 200 hectares i.e.: 20 hectares in Kantiyajal and 180 hectares in Village Nada-Devla of District - Bharuch and same is completed. Consolidated report on mangrove plantation on an area of 200 hectares at Village: Kantiyajal, Taluka: Hansot and Village: Nada-Devla, Taluka: Jambusar, District: Bharuch (Gujarat) developed by M/s. SAVE Limited, Ahmedabad. Supporting documents of the same submitted to MoEF & CC and other authorities along with the six monthly compliance report dated 20.11.2017.
18.	The AHPPL shall have to take up bio-shielding development programme as part of CSR in consultation with Forest Department / PCCF and action plan in this regard shall have to be submitted to the MoEF - Gol and this Department.	Being Complied . <ul style="list-style-type: none"> Communication has been initiated with PCCF, Forest Dept., GoG vide our letter 29th May, 2012 and District Forest Officer, Surat Forest Range vide our letter dated 05th May, 2014. AHPPL has initiated the development of Bio-Shield Pilot Project at Village - Tankari Bandar, Taluka - Jambusar, District - Bharuch (Gujarat) on an area of 18 hectares with the help of local NGO.
19.	M/s. AHPPL shall have to contribute financially for taking up the socio-economic upliftment activities in this region in consultation with Forest and Environment Dept. and the District Collector / District Development Officer.	Being Complied . CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. Appropriate financial contribution is being made. Schemes promoted by District Authorities and Forest & Environment Department, GoG are also included. Please refer the Annexure-2 for the status of the CSR activities planned during the Financial Year: 2018-19.
20.	A separate budget shall be earmarked for environment management and socio-economic activities including green belt development / mangrove plantation and details thereof shall be furnished to this Department as well as the MoEF, Gol. The details with respect to the expenditure from this budget head shall also be furnished along with the compliance report.	Being Complied . <ul style="list-style-type: none"> Environmental Management Plan is in place and the funds earmarked are being utilized for effective implementation of environmental safeguards and environment monitoring. Key components are Environment monitoring, Mangrove plantation, environmental studies etc. Please refer the Annexure-6 for details of budget and Expenditure for Environment Management for the FY: 2018-19. CSR activities carried out by Adani

S. No.	Conditions	Compliance Status
		<p>Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development.</p> <ul style="list-style-type: none"> Please refer the Annexure-2 for the status of the CSR activities planned and carried out during the Financial Year: 2018-19.
21.	A separate Environment Management Cell with qualified personnel shall be created for environmental monitoring and management during construction and operational phases of the project.	<p>Complied.</p> <ul style="list-style-type: none"> Environment Management Cell has been set up with qualified staff to ensure the effective implementation of environmental safe guards. In addition to the site Environment Management Cell a well-established corporate environment cell also ensures effective implementation of the environmental safeguards. Please refer the Annexure-5 for Environment Management Cell Organogram.
22.	Environment Audit Report including the changes, if any, with respect to baseline environmental quality in the coastal and marine environment shall be submitted every year by M/s. AHPPL to this Department as well as MoEF, Gol.	<p>Complied.</p> <ul style="list-style-type: none"> Regular Environmental Monitoring/ Analysis are being done through M/s. Pollucon Laboratories, Surat (a MoEF&CC and NABL accredited laboratory) and others concerned authorities along with Six Monthly Compliance Report. No significant changes observed with respect to past monitoring results.
23.	A six monthly report on compliance of the conditions mentioned in this letter shall have to be furnished by M/s. AHPPL on a regular basis to this Department as well as MoEF, Gol.	<p>Noted and complied with.</p> <ul style="list-style-type: none"> Six monthly compliance reports are being submitted to all the concerned authorities on regular basis. Last report was submitted vide letter No. AHPPL/MoEFF&CC 2018-19/007 dated 12.10.2018
24.	Any other condition that may be stipulated by this Department / MoEF, Gol from time to time for environment protection / management purpose shall have to be complied with by M/s. AHPPL.	<p>Noted and comply with the additional conditions stipulated by the MoEF & CC, if any.</p>



Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

ANNEXURE-1:

**ACTION PLAN AND COMPLIANCE STATUS ON THE ISSUES RAISED DURING THE PUBLIC
HEARING**

Annexure-1: Action plan and compliance status on the issues raised during the public hearing:

S. No	Name	Details of Representation	Response during PH	Status as on 30.09.2018
1	Rohitbhai Jayantibhai Patel, Sarpanch, Hazira	<p>On behalf of Hazira village, I welcome the expansion project of M/s. Adani Hazira Port Pvt. Ltd. at Hazira. Priority will be given to thousands of people of Hazira and surrounding villages for transport, business and employment opportunities. Company has provided training to the people of Hazira and surrounding villages for crane operation at Mundra and given employment as crane operator at Hazira Port.</p> <p>I believe that company will install latest technology for pollution control. Proposed project will surely care for human life. Due to proposed port Hazira people will surely get water, health and education facilities. I request that company would take required precautions for accident prevention and safety. Adani Foundation has provided required support as and when needed by Hazira village. I request that fishermen's concerns be taken care.</p> <p>I welcome this port as we are getting transport related business opportunities and we hope that same would be continued in future.</p> <p>Please clarify how much priority will be given to people from Hazira and surrounding areas for employment.</p> <p>Forest land is also requested for development of port at Hazira. So kindly clarify for compensation/afforestation.</p> <p>Please clarify what arrangements have been made by company if calamities like Tsunami, Earthquake or Flood arise after implementation of the proposed</p>	<ul style="list-style-type: none"> • Rohitbhai, we are happy to note that on behalf of Hazira gram panchayat you have given warm welcome for this project. We whole heartedly thank you for this gesture. We assure you that our Conduct and Approach in managing activities would be in reciprocation to your welcome. • National Highway -6 is being widened. On completion the constriction and congestion that we see today will be behind us. As mentioned in the EIA in the first 5 years of the multi cargo port maximum number of 1200 trucks is expected to ply in the national highway connecting the port. After the railway line is developed and the trains start plying 60% of the transportation load will be conveyed through rail transport only 40% will come on 	<ul style="list-style-type: none"> • Closed. Point is about welcoming the project and does not warrant any further action. • Widening of the National Highway - 6 is completed. Currently there is no traffic congestion on National Highway - 6. Railway line for transport of cargo is yet to be developed.

		project.	the national highway. That is a moderate load.	
2.	Dharmendra bhai Bhikhubhai Patel, Ex-deputy Sarpanch, Hazira	<p>We welcome this public hearing. It is good that you are giving preference to local affected people and hearing them during public hearing. We don't have any objection against the development of Adani Group along with other industrial development in Hazira leading to development of Gujarat and the Nation. Adani company is complying with the environmental laws promulgated by the State and Union Government. In fact, it is duty of Adani Port to do so. Under their CSR activities Adani Group should provide support for development of Hazira village and employment to unemployed people. All transport businesses should be given to small & big local transporters of Hazira only. Youth from families of affected fishermen should be provided required training and employment. New transport route should be proposed as the present route to take containers is very narrow.</p> <p>We thank Adani Group for giving support for the construction of classrooms for standard 11 & 12 in Navchetan school.</p> <p>I thank you for making me successful in providing compensation to the affected fishermen.</p> <p>I request for employment to locals people and transport contract to local transporters only. We support the development of Adani Port in our area. We don't have any objection to the project in this public hearing.</p>	<p>• This port will have focus on container cargo. Container cargo comes in boxes and is clean by nature. So the question of fugitive dust emission on the road is not expected to be severe for this port.</p> <p>• The coal handling will be done taking care that all the trucks are properly covered so that there is no dust emitted on the road. As you know practically all our transporters are from this area. It is their responsibility to take care of overloading. If transporters do</p>	<p>• Closed. Major cargo handled at the port is container and liquid which do not increase the fugitive dust. AHPPL is monitoring ambient air quality at five locations in and around project through a NABL accredited and MoEF recognized laboratory M/s Pollucon laboratories, Surat. Report confirms that ambient air quality is well within the NAAQS. Copy of the reports are enclosed as Annexure – 4A</p> <p>• Complying with.</p> <p>All the trucks carrying coal and other dusty cargo are being covered through tarpaulin. AHPPL also ensures that no truck goes out of the port with overload.</p>
3	Bhagubhai Maniram	As this is biggest port in the South Gujarat and as there is no		

	<p>Patel, Sarpanch, Junagam</p>	<p>government land left, we wish that there will not be resettlement of the Junagam village due to this proposed expansion project of Adani Port.</p> <p>There is a fear in the people of the village that they will have to vacate the village in future. So we request collector to give us guarantee in writing that we will be able to live with peace where we are today.</p> <p>Berths will be developed through dredging up to -15 meters. We are getting ground water from the depth of 20 to 65 ft in some of the areas, which we are using for drinking purpose. What will be the impact on the ground water due to dredging upto -15 meters?</p> <p>After construction of liquid berth No.3 which will handle & store 1.95 Million Tones by 2017-18, what emergency steps would be required to save the human life incase just like Bhopal if there will be gas leakage due to Tsunami, Earthquake or terrorist activities.</p> <p>We welcome Adani Port & they require land for the container and coal storage. However, all industries located in the Hazira area have acquired government land and another 2000 acre land is allotted to tourism department. Sir therefore, I request you to declare remaining land of Junagam, Suvali, Damka & Bhatlai as residential area or agricultural zone. This is to ensure that in future we will not be displaced. As the port is to be constructed at the coast line, there are chances of spillage of liquid into sea and impact of solid hazardous waste. In this condition explain plan to mitigate impact on fisher man community.</p>	<p>not overload, there would not be any spillage on the roads. It is not only responsibility of GPCB or the company but we all have to collectively work together for spillage free coal transportation.</p> <ul style="list-style-type: none"> • Junagam sarpanchshri expressed apprehension that we will take away government land and lands belonging to farmers in Junagam village. We want to assure you that we do not intend to take any private land of farmers or any house site land. If you carefully see the development plan we have just presented, the map will alleviate your uncalled fears. There would not be any question of rehabilitation of any village. Moreover, we will take care that your property. Your assets and convenience are not jeopardized by our action. • You talked about vultures; I would like to point out that there is no sanctuary or national park near 	<ul style="list-style-type: none"> • Closed. <p>There is no displacement of people, houses or fishermen as the port is being developed on reclamation land and land allotted by Government as there is no acquisition of private land.</p> <ul style="list-style-type: none"> • Closed. <p>There is no sanctuary or national park near by the</p>
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4	Alpeshkumar Thakor – Fisherman, Hazira.	<p>Plantation of the mangroves has been carried out between well numbers 4 to 7. This plantation has been destroyed by dredging and area is filled up.</p> <p>In this area fisherman used to catch prawns, crabs and sustain their livelihood. Through dredging company has destroyed Mangroves. There are approximately 2500 fishermen, belonging to Halpathi and Koli Patel communities living in the village. These people will be unemployed as fishing activity will be stopped due to dredging up to 20 meter by the company. Is it development or destruction?</p> <p>If fishermen get sand from the river by the boat in the Magdalla area, they have to pay royalty for the same. But why companies are given permission for dredging without royalty? What about approximately 2500 fishermen?</p>		
5	Babubhai Aahir (Sarpanch,	<p>As our friends have already given suggestion for safety and employment, it is not required to repeat the same. Foundation</p>	<ul style="list-style-type: none"> • In the context of natural calamities, 	<ul style="list-style-type: none"> • Complied. Regional DMP

	Suvali)	<p>should provide employment opportunity to the land looser, fisherman, individual engaged in animal husbandry who are above 50 years and uneducated.</p> <p>Unemployed youth of this area should be provided training and given opportunity for the employment. Company should control the pollution arising due to transportation of chemical or coal. Earlier "Shell" company used to avoid overloading. So Adani Port should also not do the overloading to prevent the accidents. There is no medical facility available for treatment in case of emergency. As there is drought this year, company should consider providing drinking water in surrounding area.</p>	<p>we have done modeling studies to understand the risk of oil spillage. We have also prepared Disaster Management Plan. This plan is being presented to the District Collector. After his approval it will go to State Disaster Management Authority at Gandhinagar for necessary approval and guidance. During natural calamities all local industrial units and government organizations work together to mitigate impacts of natural calamities. In that situation we would work under the guidance of District Collector and police authorities to do the needful. Disaster Management Plan is structured in such a way.</p>	<p>for the Hazira Peninsula, covering all major industries and the port has been prepared in consultation with District Authorities and same is being implemented.</p> <p>Oil Spill Contingency Plan has been prepared and the same was approved/ vetted by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014).</p> <p>In addition, AHPPL has developed and implemented ER & DMP. Regular mock drill to ensure the compliance and preparedness is being done.</p> <p>Last Mock Drill (On Site) was on : 13.02.2019</p> <p>Last Update of ERP & DMP : 10.05.2018 Last submission to Directorate Industrial Safety & Health (DISH) on 31.07.2018</p>
6	Divyeshbhai, Hazira	<p><i>(During the representation of the Shri. Divyeshbhai</i></p> <p><i>there was a aggressive representation of Shri. Jayesh Patel resident of village Dihe, that he wants to present his questions.</i></p> <p><i>Honourable Collector replied that resident or stakeholders from affected villages should represent first. During this time Shri. Jayesh Patel and other people created disturbance which was controlled by Panel and then representation from Mr. Divyeshbhai continued.)</i></p> <p>Why this public hearing is kept at Junagam even it is of Hazira Village? Now we will talk about the pollution. Lots of dust is observed in the houses of the hazira village during the night hours. As per information particles of dust have been found in the lungs of the woman. If this information proves to be true we will file a pitition in the High Court. During the widening of the National Highway No. 6 land in the surroundings villages will be taken. As National Highway is not passing through</p>	<p>• In regard to impact on fisherman, I want to point out the real situation that we are not in the river mouth, but just outside of it. The port development is only in a stretch of</p>	

		<p>Hazira, the villagers need to travel 8 Kilometres extra. Why it is not extended straight? Fishermen are being told that there is no fish in the sea but slags are cast in the corners of the sea due to which some fish die. Dolphin is also found at present in the Hazira area. We welcome the project if the port company is ready to give written assurance regarding employment.</p>	<p>4 km of coast line. We have not displaced any fisherman. The surrounding areas are open for fishing, nevertheless we have compensated fisherman who were identified by the Grampanchayat to be active in the areas where we are now operating. As Susmaben mentioned we will support fisherman by giving them tools, nets etc. and be helpful to them.</p>	
7	<p>Jayeshbhai Patel, Resident of Dihen village and President, Gujarat State Farmers Samaj</p>	<p>I raise my objections against proposed expansion project of AHPPL for which public hearing is organized and I request that my objections should be included.</p> <p>M/s. Shell India has got environmental clearance in 2003 in which clearance was given for development of three berths. These berths are constructed at places other than shown earlier. So I request collector to remove these three berths.</p> <p>Out of proposed 7 berths for container and 4 for bulk terminal, 3 have been already constructed and port is functional. In this situation, I request to include in this public hearing what actions have been taken by collector against Adani for functioning of port & disposal of coal in Hazira and what actions have been taken by GPCB against company for disposal of coal in open.</p> <p>This project is being developed on the mouth of river Tapi therefore it is my feeling and request that it should not be given Environmental Clearance.</p> <p>EIA study does not include the objections of the report of Sugnyaben Bhatt Commission which was set up by Gujarat Government in 2006 in the</p>	<p>(At this stage Shri Sheikh and Shri Jayeshbhai started shouting & disturbing the clarification of the project proponent. The chairperson told them repeatedly not to disturb the proceedings)</p> <ul style="list-style-type: none"> • We would help sons and daughters of fisherman to educate them and trained. We would do everything practicable to achieve this end. 	<ul style="list-style-type: none"> • Closed. <p>CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development.</p> <p>Appropriate financial contribution is</p>

		<p>aftermath of Surat flood. So it is my request that this public hearing and Environmental Clearance should be cancelled.</p> <p>Hazira is located on the mouth of Mindhola & Tapi river. As per ICMAM report of Tapi river, erosion effect had spread up to Dumas because of filling of Tapi river due to Industrialization in this area. Erosion of shore is up to 2500 meter towards Dumas.</p> <p>ICMAM report is not studied. There is no clarity on what steps are required to control the erosion of shore near Dumas, so it is my request that it should not be given Environment Clearance.</p> <p>This area is declared reserved for vultures. As per survey there are about 150 vultures in the forest area. This report does not include what would happen to vultures, where they would go and what would be impact on Environment. So it is my request that it should not be given Environmental Clearance.</p> <p>There are approximately 2500-3000 fishermen families. There will be crisis for their livelihood.</p> <p>There is no clarity for rehabilitation and resettlement from Adani. So it is my feeling and request that it should not be given Environmental Clearance.</p> <p>Routes to sea are almost closed specifically for "Pagadia fishermen", who do fishing on foot. There is a big problem of their livelihood. Due to loss of fishing activities now they will not get thousands of crores of rupees which they were supposed to get due to fishing activities. Rs. 15 lacs is not sufficient compensation for that.</p> <p>This area comes under CRZ-IA. Specific fish called "Levta" grows in the mudflat and fishermen catch that fish in this mud and earn their livelihood. Due to excavation and</p>	<p>being made. Schemes promoted by District Authorities and Forest & Environment Department, GoG are also included. Please refer the <u>Annexure-2</u> for the status of the CSR activities planned during the Financial Year: 2018-19.</p> <ul style="list-style-type: none"> • We are developing the port by reclamation. This cannot any way cause salinity ingress in the ground water. We are going to investigate the quality of ground water every year • Complied Proper care is being taken during construction activity to avoid salinity ingress and any degradation of water quality. M/s. AHPPL is monitoring the Ground Water Quality at one location on monthly basis. Results show no significant change in the quality. Ground water quality is being monitored through M/s. Pollucon Laboratories, Surat (a MoEF&CC recognized and NABL accredited laboratory). <p>Please refer the <u>Annexure-4B</u> for the Environmental</p>
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		<p>reclamation there will be damage to biological mud and destruction of marine ecology. EIA report does not have clarity on what actions are required. So it is my feeling and request that it should be clarified in EIA report or not be given Environmental Clearance.</p> <p>Before Adani came there was mangrove forest in the area of 40 ha. As per survey today mangroves survive in the area of 15 ha only. Due to destruction of mangrove there will be damage to environment and coastal erosion. This study is not covered in EIA so it is my feeling and request that it should not be given Environmental Clearance.</p> <p>Five ports from 15 different companies and two big ports within 5 Km are coming in this area. The cumulative impact on road & rail transport due to operation of both ports Adani & Essar is not studied while preparing the impacts on land environment. Six-lane-road is also not going to be sufficient for this. So I request that Environment clearance should be given only after doing cumulative study.</p> <p>As reported, level of Suspended Solids & Petroleum Hydrocarbon is high as compared to desired levels in water. Level of pollution in the areas of water, air and land is already high as compared to other locations in the country. EIA report does not have clarity on what steps will be taken to bring down the pollution. So it is my feeling and request that it should not be given Environmental Clearance.</p> <p><i>(It is to be noted that Mr. Jayeshbhai Patel belongs to "Diheh village" which is approximately 18 Km away from the port site)</i></p>	<ul style="list-style-type: none"> Our EIA has been done by M/s. Cholamandlam MS Risk Service Limited and M/s. National Institute of Oceanography. These are well respected and neutral expert organizations a head quartered outside Gujarat. Their studies have been accepted by Gujarat Coastal Zone Management Authority. Thus we want to work with you and be helpful to you. <p><i>(At this stage some of the individuals asked clarification for employment in the company. Collector Shri directed the company representative to answer it, and advised audience to listen to the representative peacefully.)</i></p> <ul style="list-style-type: none"> The port has opportunities for both technical and non-technical employment. Moreover indirect employment in transport and other services will also be there. All 	<p>Monitoring / Analysis Reports for the period October 2018 to March 2019</p> <ul style="list-style-type: none"> Complied. <p>CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. Please refer the Annexure-2 for the status of the CSR activities planned during the Financial Year: 2018-19.</p> <ul style="list-style-type: none"> Closed <p>Point does not warrant any further action.</p> <ul style="list-style-type: none"> Complied. <p>AHPPL has always given employment priority to local qualified persons and in future the same will be continued. As</p>
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8	Dhansukhbhai Patel, President Hazira Coastal Area	<p>Employment is given to 30-35 people in the form of contract but we insist that it should be permanent in nature.</p> <p>For this liquid cargo transport, it will be storage of chemicals or processing of chemicals? If it is chemical processing then hazard will increase, so I request to provide information on what measures Adani will take for health and safety?</p> <p>Please provide information if this project has got any clearance from Central Government like what they have got from State Government.</p> <p>Adani has declared only 4-5 villages as affected. Will there not be any impact on Mora, Kawas or Interior of Ichhapur while trucks pass through them?</p> <p>There are 10-12 big companies in this area and they have developed residential township with all facilities for their employees. Is it not possible that each company will take one village from 10-12 villages and also provide them same facilities?</p> <p>For this, MOU is necessary and matters related to self-employment & development of village should be mentioned. We will be benefited in future; only if there will be MOU.</p> <p><i>(It is to be noted that Mr. Dhansukhbhai Patel belongs to Kawas village which does not fall within 10 Km radius of the study area)</i></p>	<p>these opportunities may be taken by local residents. To facilitate them to take this opportunity we will provide necessary training to enhance their competence, so that they may not only get employment in Adani port but else were also.</p> <p><i>(At this stage Jayeshbhai and other peoples repeatedly disturbed the hearing and stopped the company representative to elaborate further. Collector repeatedly asked all concerned to maintain calm and listen to the company representative. All major points being over collector concluded the public hearing.)</i></p>	<p>on 13th May March 2019 total 180 out of 208 On roll employees are from Gujarat.</p>
9	Kamlaben Rohitbhai Patel, Choryasi Taluka Panchayat, Leader of opposition party	<p>I welcome the expansion project of Adani company. Due to proposed port priority would be given to Hazira and surrounding area for employment and business. I request that fishermen's concerned would be taken care by this project. Adani Foundation of Adani Company has given commitment for the</p>		

		<p>various activities for the development of village. So I welcome the project and declare my support for the Port of Adani Company at Hazira.</p>		
10	<p>Mohanbhai Ambubhai Patel,</p> <p>Village: Vaswa</p>	<p><i>(Collector informed Mohanbhai to raise those issues only, which were not raised earlier)</i></p> <p>Adani Company has told that 700 people will be employed. Please clarify whether it will be permanent or contractual basis? Thousands of people are working on contractual basis in the surrounding companies but nobody gets permanent employment.</p> <p><i>(Then Regional Officer, GPCB again informed the concerned persons to raise other issues if any. The employment issue will be addressed by the company.)</i></p> <p>As per survey carried out by NIO out of 1600 km of Gujarat coast nearly 25% is already filled due to construction of ports at other places. As a consequence of this, there will be huge damage to agriculture in the surrounding area and there would also be ingress of sea water in the area.</p> <p>Adani Company has decided to pay compensation of Rs. 15 lacs to 40 fishermen but what arrangement company will make for the 4000 fishermen in the surrounding villages?</p> <p>Adani Company is developing their project on 31428 ha of land. Is this land private or government? If it is on private land then whole Junagam village would be vacated. Survey numbers are also not shown for this land.</p> <p><i>(It is to be noted that Mr. Mohanbhai Patel belongs to Vanswa village which does not fall within 10 Km radius of the study area)</i></p>		

11	Jayantibhai Khalasi President, Fish Progress Union, Hazira	<p>You all will go away after this public hearing but whom should we contact regarding pollution in our area?</p> <p><i>(Then Collector informed him that regarding pollution he may contact GPCB.</i></p> <p><i>Regional Officer, GPCB also informed him that regarding pollution he can submit in writing.)</i></p>		
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Adani Hazira Port Private Limited

From : Oct, 2018
To : Mar, 2019

ANNEXURE-2:

DETAILS OF THE CSR ACTIVITIES CARRIED OUT DURING THE FINANCIAL YEAR: 2018-19

APR 2018-2019 Hajira site.

Corporate Social Responsibility plays an important and significant role in the nation building process, and Adani Foundation's social and developmental initiatives are a step in that direction. At Adani Foundation, we believe that companies should and must wholeheartedly participate in CSR activities and give back to the society. Our main objective is to bring about a positive change in people's lives, whom we impact. We are one of the few global companies in the world who start their CSR initiatives. Adani Foundation is working as a CSR wing of Adani Groups in the four major areas; they are Education, Health, Sustainable Livelihood and Rural Infrastructure Development.

At Adani Foundation, the CSR approach is strategic in nature and our CSR approach and it is embedded in our business processes across the entire value chain of the company. The objective of CSR is to improve 'Quality of Life' of the community on a sustainable basis in a pro development inclusive model of growth. For assessing community needs for a realistic and sustainable development a socio-economic survey of the community was conducted. Based on survey results, the CSR interventions have been taken up by adopting a partnership mode with government agencies, community based organisations and the local community. Sustainability of the intervention and its impact are being measured through regular third party audits.

Adani Foundation is working in all aspects of community development which is needful for core villages. This philanthropy thought stand on 4 following pillars:

Education
Community Health
Sustainable Livelihood development
Community infrastructure development

"EDUCATION"

"Education is what remains after one has forgotten what one has learned in School."
(Albert Einstein)

Adani Foundation Supported Navchetan Adani Vidhyalay Village Junagam.

Background: The school is Gujarati medium; GSEB affiliated primary school approved by DPEO, Gujarat. It is established in 2003 by local trust, Navchetan Vikas Mandal, Junagam, to provide quality education to children coming from surrounding rural areas. From 2014, it is sponsored and managed (academically & administratively) by Adani foundation, the students strength of the school rise from 193 students to 381 students from 8 villages, in 2013-14 there were 112 boys and 81 girls enrolled now in 2018-19, 189 boys and 192 girls were there. Students' dropout ratio falls from 6.13% to 1.87%.

School facilities: The school is equipped with Smart Class, Science Laboratory and Computer Laboratory and Activity class, Library and big play ground. The pedagogy includes activity based learning, 'each one teach one' learning method, special remedial classes to slow learners, regular unit tests in school. Adani foundation provides academic materials like School uniform, School bag, Notebooks, Workbooks, Text books and regular brunch to each and every enrolled student for free. Students of standard-3rd to 8th have got chance to learn off campus by exposure visit. "Education is a shared commitment between dedicated teachers, motivated students and enthusiastic parents". The progress of the students' academic achievement depends on the joint effort of parents and teachers, thus 4 Parents Teacher Meetings (PTMs) were arranged to discuss the efforts did by teachers, 2 General PTM (gPTM) and 2 Individual PTM (iPTM) were arranged, average 85% parents remain present in those meetings.

Teachers' Training: To understand the context of changing curriculum, to clarify the concept of the newly added contents and To learnt new techniques to teach in the classroom, 4 days' teachers training was conducted with support of DIET, Surat and a refresher training was arranged to use smart class.

School activities: The school has hosted celebrated PRAVESHOTSAV of surrounded 4 primary schools and science carnival organized by Adani foundation.

With regular classroom activities few days were celebrated, because Celebrating events and festivals in schools have become an integral part of learning and building a strong cultural belief in a child, Students will remember an important day only if they are told what the occasion signify, making them aware of the world in a more fun way. World Yoga Day, Independence Day, RAKSHBANDHAN, JANMASHTAMI, Teacher's day, innovatively GANPATI idol POOJA & VISARJAN, Diwali, Christmas, theme based annual function (RASOTSAV), Vegetable Day, Republic day, Sports Day were celebrated during the year, Special sessions were arranged for the students on MR vaccination, Menstrual Hygiene awareness for girls students, Safety measures for crackers, Health of Adolescents Girl, Road safety for life saving and 5 days BAL CHETNA SHIBIR were organized for students.

Students of primary wing have participated in Student Police Cadet (SPC) the project is a school-based youth development initiative that trains school students to evolve as future leaders of a democratic society by inculcating within them respect for the law, discipline, civic sense, empathy for vulnerable sections of society and resistance to social evils by Gujarat

Police. Play of cleanliness in the summit of District Rural Development Agency (DRDA), Surat and UNICEF and got certificate of "BAAL CHAMPION", SWACHHAGRAHA activity at Suvali beach at beach festival and have managed 2 stalls to sell their best out of waste models/pieces for two days, Students have also participated in BAAL MELA, the Fun, fiesta and frolic unveiled at school ground, they have managed reading corner, craft & printing activities, Mathematical puzzles, Superstition eradication activities, Demonstration of Science models and eats to tantalize the taste buds from handmade food. Students earn and learn a lot in above all activities.

In sports section, 47 students of the school participated in KHEL MAHAKUMBH-2018 organized by Gujarat government 18 students won at TALUKA level and represent the school at district level among them 4 students won and represent at state level in Judo, Athletics, Kho-Kho.

Media coverage: School always prepare a special media report format for newspaper after each and every important activity and send it to print media office; they have published 22 times various activity reports in their newspaper in this academic year.

Celebration of Science Carnival:-

"Science is fun, Science is curiosity. We all have natural curiosity. Science is a process of investigating. It's posing questions and coming up with a method. It's delving in." Said Sally Ride.

Mission of Adani foundation is to play the role of a facilitator for the benefit of the people without distinction of caste or community, sector, religion, class or creed, in the fields of education. As a part of the mission Adani foundation, Hazira has celebrated Science Carnival-2019 with the knowledge support of ScienceUtsav, on 15/02/2019, Friday at Navchetan Adani Vidyalaya, Junagam, Surat.

The main objective of the carnival was, To Generate Curiosity amongst kids; develop an early inclination towards Science and its application in day to day lives. The initiative was undertaken to make the students understand that **"Science is awesome"**. (VIGYAN, MAZANU)

The carnival was inaugurated by Mr. Pranav Choudhary, CEO, AHPPL, Hazira, in the presence of Mr. Bhavesh Donda, DGM, Corporate affairs, AHPPL, Hazira, Mr. Harsha & Ms. Priya Rathi from ScienceUtsav, Team of Adani foundation, Hazira students of surrounded government Schools, their teachers and parents. In inaugural ceremony Mr. Pranav Choudhary, CEO, AHPPL, Hazira firstly remembered the supreme sacrifice of the brave soldiers of Pulwama attack, 2 minutes silence was observed in the memory of martyrs. Then he appealed the students to think and dream big to make a sensible society with scientific approach.

The carnival was focused on primary school students, who can learn science in a fun learning way. Thus AF, Hazira had planned to bring primary school students of standard-3rd to 8th from surrounded 10 Government primary schools from 8 villages. Almost 1200 students 34 teachers and 96 parents visited the carnival.

35 Students of standard-8th & 9th of Navchetan Adani Vidyalaya, Junagam were trained in advance to act as volunteers to help the visitor children to perform practical and explain briefly about the concept of science for respective projects.

The carnival was divided into three parts.

- (1) **Pavilion zone:** Pavilion zone had 6 experiments which kids viewed, learnt and experienced themselves with the help of volunteers. All the experiments in this zone were from day to day life like milk art, corn flour which explained kids about material properties and how a shape can be given to sand without adding water to same.
- (2) **Exhibition zone:** There were 20+ working project models based on concepts of electromagnetism, Internet Of Things, Electricity, Sound etc. The volunteer students did a great job in explaining Science behind each and every project.

- (3) **Science show:** All the way the stage was set for all the young kids to enhance their knowledge of science. The resource persons from ScienceUtsav have welcomed all students in a hall, and they showed science experiments based on theme "Air Air Everywhere" to the students in a fun way. The visitor students have also made small Hands-on projects like Gyrocopter , Ice- Cream stick Whistle and took away as a memory of the science carnival.

After completing all the sessions, there was a surprise waiting for the visitor students, where an expert showed and explained the **Rocket launching model**. When Rocket was launched, it went as high as 100 feet from ground. Students cheered the moment with joy, by this the resource person has explained the 3rd law of motion.

Mr. Rupesh Jambudi, GM, Health ,Environment & Safety, AHPPL, Hazira and Mr. C. K. Sonavane (IFS), Chief Conservator of Forest, Surat have also visited the science carnival and appreciated the efforts made by volunteers and AF.

Hemjibhai Patel, Unit CSR head, AF, Hazira has invited 10 volunteers as fest facilitator from AHPPL, Hazira. All the volunteers said that, their day was full of excitements with some out of the box edutainment and a fun filled outing that will add a lot of value to the society.

Students have enjoyed the high intensity edutainment of science subject from an amazing experience and witnessed an event which not only generated curiosity but also energized and motivated which will be remembered by everyone in times to come.

"The science of today is the technology of tomorrow": Edward Teller







HARSH R. SANGHAVI
MLA GUJARAT (MAJURA)
National General Secretary (Youth BJP)

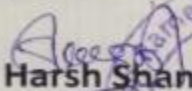
To,
Shri. Pranav Choudhary
CEO – Adani Hazira Port Pvt Ltd,
Head - Adani Foundation Hazira.

Date: 17-02-2019

MESSAGE

I am glad to learn about the activities of Science Utsav organized by Navchetan Adani Primary Vidyalaya (Adani Foundation initiative) at Junagam village recently. This Science Utsav has provided a unique learning experience for the students of 20 nearby schools and approx 1000 students have participated and avails benefit of this. I believe that taking part in such a Science Utsav will benefit the young student minds in enhancing their understanding and talent on science and technology. I am pleased to congratulate Shri. Pranav Choudhary and his Adani Foundation team at Hazira to organize and carry out such type of noble activities.

I wish every success in noble work in the field of education and CSR.


Harsh Shanghvi
(MLA-165 Majura)



VaaGALE Utsav:-

Adani Foundation adopts *an integrated approach to improve the quality of education* in the rural as well as urban areas, *along the lines of UN's Millennium Development Goals. Increasing enrolment and retention of the students, bridging the gaps in the existing education system and promoting girl child education are three main objectives of the foundation to enable quality education. This project is conceived to make impact on the concept, methodology and program of lower primary education system by giving basic literacy and mathematical ability – life time gift - to the rural children based on the principle of constructing knowledge.* This will also make them Life-Long Learners! 10 Schools of Hazira Area are covered.

In the year 2018-19 we modified the project based on the last year's learning and added two more BaalMitras so that they can visit all the schools on alternate days. As per the Strategic thrust of the second year we focused more on the Pre-Reading and Pre-Writing Activities in standard 1 and 2 so that learning becomes fun and students get ready for acquiring VaaGaLe Competencies. *Pre-learning activities* are important to develop motor-skill in the children and they develop their interest in learning and also boost their imaginations. Learning is fun!

Jeevantirth our knowledge partner for Vaagale project developed many *teaching learning materials for VaaGaLe* based on Pragna – an activity based learning approach, to open the classroom to a more holistic and learner based way of working with children through the day, throughout the year.

Following criteria was taken in to account in designing the TLMs.

1. Materials should be based on Praygna Approach of "Activity based Learning".
2. TLMs should be User Friendly.
3. Appealing to the learners to work with.
4. Safe in handling.
5. Durable and long lasting.
6. Cost effective.
7. Variety of material should be used to break monotony.
8. Easy to replace / repair missing or broken parts.



To ensure VaaGaLe Competencies in the standard 3rd and 4th we extensively worked with the children in all the schools using interactive learning based on TLMs, activities and experiments. Three types of Praygna Approach was used judiciously, namely 1. Teacher Centered activities for conceptual clarity, 2. Group Activities to promote peer-learning and 3. Learner Centre Activities for re-enforcement.

During this year we involving School Management Committees in the process of strenthaning primary education.first we contact to all the SMC Members and discuss our abjective to



involvement of SMC also discuss role and responsibilities of SMC etc. took in to confidence local school authority that by making SMCs more active we can work in harmony for quality education. Ultimately we could organise SMC Workshop also at project level. In the workshop two members from the SMCs and one principal or School teacher were invited from the project area schools. AF Hazira team welcomed all on behalf of the AF and expressed our pleasure that ultimately workshop could be organized. Resource person Mr.Janisar from Jeevantirth gave fairly good idea about the formation of SMCs under RTE Act

and said that active SMCs can bring strong positive change in making Quality Education a reality.

Resource persons explained that SMCs should be all inclusive and needs to provide equal space to all. Active SMCs can plan and ask government to provide needed facilities and budget for that. SMCs need to be active and franchise their rights. In the end participants expressed satisfaction about the content and participatory process of the workshop. Nimeshbhai Tailor, Principal of Mora School requested to concentrate on "Priya Students" identified under Mission Vidya and Migrant Students.

Praveshotsav:-

The main objective of the "Praveshotsav" is to promote girl child education and encourage parents to enroll their children in schools so that number of enrollment increased in govt. schools after this campaigning by state government.

330 bags with basic material distributed to new enrolled students in 21 schools of 15 villages of Choryasi Block of Surat district.

Career Guidance seminar for SSC and HSC Students:-

Career guidance seminars for students & youths of Choryasi Block during the year for class 9th & above. The purpose of the career guidance seminar is to impart knowledge about details of various career options that they can pursue for their better future based on their capability.

4 career guidance seminars conducted in a year.

More than 1050 students and parents get benefited from seminars.

Community Health:-

India has a very defined and structured healthcare policy, but with issues related to infrastructural development and people's health seeking behavior, access to quality healthcare services is a challenge, especially in rural India. Access to primary healthcare facility due to factors like poverty, poor nutrition patterns, lack of awareness and traditional beliefs.

AF comprehensive health care programme emphasizes on an integrated approach to community health intervention, where in development issues like Drinking water, sanitation, kitchen garden development, livelihood, nutrition and education which determine village health, are given equal attention.

During this financial year Adani Foundation implements a holistic Approach for target villages addressing general and special health needs of communities. We have also focused in de-addiction program which was really needed in the area.

Objective:

Various health camps are organized at different villages in the Area. Objective behind these Camps is to deliver free medical services to community and needy people at remote area. The camps also provide timely referral services to the patients for further specialized care also save time and money

Village level General Health Camps:-

"Village level camps are much more effective as enough time can be given to each individual" said by many village Sarpanchs and leaders.

- In the village level general health camps primary treatment and medicines were given to 501 people.
- In the Health camp Doctors were invited in specialized areas of ophthalmologist, gynecology, pediatric, eye specialist, ENT and Family Physicians, Dental care etc.

- Above area general treatment on the spot by giving them symptomatic and specific treatment on OPD basis.
- Villagers are encouraged to attend camp and take benefit out of it. For creating awareness regarding camp we have distributed pamphlets, announcement through auto rickshaws and advertisement at public places like Village panchayat and PHC Center. Also we inform the Village panchayat members, Asha worker and health worker for better implementation of camp.
- **General Health Camps for Truck Drivers at Port area:-**

Adani Hazira Port Private Ltd. has a movement of 3000 trucks in its premises on a daily basis. These vulnerable groups of truckers who are from different parts of the country are suffering from health problems. To cater these problems on health, Adani Foundation has organized a series of five free one-day eye, dental and general health check-up camps during the year as part of its CSR initiative. The camp was organized in association with Port security department, doctors from Tri star hospitals for the benefit of truck drivers who received free eye & health check-ups and doctor's consultation. The Company has utilized services of the specialized Doctors and latest equipment available during these camps for the benefit of truck drivers.

Drivers were provided special first aid kits during the camp which can be useful to them during their travelling. After check-up, free medicines were provided to the truck drivers as per the illness. This initiative was highly appreciated by the truck drivers and claimed that it was very helpful for them as qualified doctors consulted them and treated them. So far around 62 truckers were benefitted through this initiative. During this camp, we have organized an awareness program on de-addiction for creating awareness among drivers.

De-addiction:-

- Healthy individual Healthy Family.
- To support an individual to come out from addiction which can be harmful and life threatening.

Process:-

- Detail investigation of the addicted individual who seeks AF support in changing his life.
 - House-hold Survey
 - Family verification.
 - 21- Days rehabilitation support provided to the addicted individual.
 - Visit by AF to the Rehabilitation Center.
-

- After the completion of course *welcoming of the changed individual*.
- Continuous follow-up of the changed individual.

Sustainable Livelihood Development:-

Project: Kamdhenu (Animal Husbandry)

Funded By: - Adani Foundation, Hazira

Knowledge Partner: BAIF Institute for Sustainable Livelihood Developments, (BISLD)

BACKGROUND

As community initiative and rural development through CSR, Adani Foundation, Hazira assigned responsibility to BAIF Institute for Sustainable Livelihoods and Development-Guj to start Cattle Breeding Centre with other need base allied activities at Barbodhan, Tal Olj Dist. Surat to empower village level livestock holding marginalized sections of society.

BISLD-Gujarat is rendering door-to-door cattle breeding facilities in 13 project villages: Adani Foundation along with implementing need base allied activities.

2. AT A GLANCE PROGRESS OF CATTLE BREEDING CENTRE SINCE INCEPTION

2.1. YEARWISE INSEMINATIONS IN PROJECT VILLAGES SINCE INCEPTION

	COW	BUFFALO	TOTAL
2017-18	53	181	234
2018-19	198	517	715
TOTAL	251	698	949

2.2. YEARWISE CALVING STATUS SINCE INCEPTION

Year	Cow			Buffalo			GRAND TOTAL		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
2017-18	0	0	0	0	0	0	0	0	0
2018-19	19	17	36	51	48	99	70	65	135
TOTAL	19	17	36	51	48	99	70	65	135

Since inception Total 135 calving are reported in project villages out of which 36 are in cows and 99 are in buffaloes.

Total 36 calving are reported in cows in project villages out of which 19 are Male calves and remaining 17 are Female calves, it does clearly indicates that Male:Female born ratio in Cows is 53:47.

Total 99 calving are reported in Buffaloes in project villages out of which 51 are Male calves and remaining 48 are Female calves, it does clearly indicates that Male:Female born ratio in buffaloes is 52:48.

Total 65 female calve are born since inception in project villages out of which 17 are in cows and 48 are in buffaloes.

Overall Male:Female born ratio is 52:48.

In good management practices female calves of cow will become milking cow on an average age of 3 to 3.5 years where as female calves of buffaloes will become milking buffalo on an average age of 4 to 4.5 years.

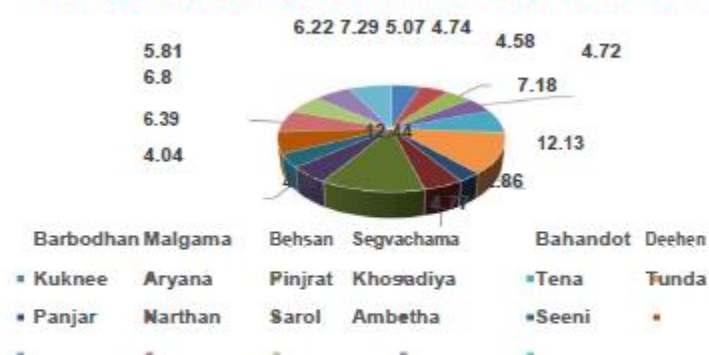
3. BASE LINE DATA

Before start of Cattle Breeding Programme in Project Villages of Adani Foundation base line data of breedable animals was collect.

3.1. VILLAGEWISE STATUS OF ANIMAL HOLDING FAMILIES AND BREEDABLE COW & BUFFALO POPULATION

Sr. No.	Name of Village	Total Families	Livestock Holding Families	Breedable Cow Population	Breedable Buffalo Population	Total Breedable Animal Population
1	Barbodhan	785	298	52	403	455
2	Malgama	230	175	27	398	425
3	Behsan	394	125	14	397	411
4	Segvachhama	340	260	41	382	423
5	Bahandot	288	262	112	532	644
6	Deehen	395	230	230	858	1088
7	Kuknee	120	85	37	220	257
8	Aryana	150	90	23	405	428
9	Pinjrat	365	310	295	821	1116
10	Khosadiya	173	152	70	375	445
11	Tena	108	79	214	148	362
12	Tunda	506	115	125	448	573
13	Ambetha	231	170	48	510	558
		4085	2351	1280	5897	7185

VILLAGEWISE ANIMAL POPULATION STATUS AGAINST TOTAL BREEDABLE ANIMAL POPULATION



Highest number of animal holding families i.e. above 80% are present in villages Bhandot (90.97%), Khosadiya (87.86%) and Pinjrat (84.93%).

Lowest number of animal holding families i.e. below 40% are present in villages Tunda (22.73%), Behsan (31.73%) & Barbodhan (37.96%).

Highest breedable population i.e. 12.44% (1116) against total breedable population in all working villages is present in Pinjrat village followed by village Deehan i.e. 12.13% (1088).

Against total breedable population of 8971 in all project villages buffalo population is 7288 i.e. 81.24% and remaining i.e. 18.76% is cow population.

**4. PENDING FOLLOW UP FOR THE INSEMINATION WORK DONE IN
LAST TRIMESTER OF 2017-18 (JAN, FEB, MAR 2018) COMPLETED IN
1st QUARTER (APR, MAY & JUN) OF 2018-19**

Village wise Pregnancy Diagnosis Status										
Sr. No.	Name of Village	Cow			Buffalo			Total		
		AI	Exam	Pregnant	AI	Exam	Pregnant	AI	Exam	Pregnant
1	Barbodhan	13	12	7	29	27	11	42	39	18
2	Malgama	1	1	0	12	12	5	13	13	5
3	Bhesan	0	0	0	0	0	0	0	0	0
4	Segava Chhcama	4	4	2	24	23	13	28	27	15
5	Bhandut	24	21	9	45	38	18	69	59	27
6	Dihen	6	5	2	19	19	6	25	24	8
7	Kukani	0	0	0	22	20	12	22	20	12
8	Ambheta	0	0	0	0	0	0	0	0	0
9	Ariyana	0	0	0	0	0	0	0	0	0
10	Tunda	0	0	0	0	0	0	0	0	0
11	Khosadiya	0	0	0	5	5	0	5	5	0
12	Pinjarat	1	1	1	11	11	3	12	12	4
13	Tena	0	0	0	4	4	2	4	4	2
	TOTAL	49	44	21	171	159	70	220	203	91

	Particulars	Jan-18	Feb-18	Mar-18	OVERALL
Cow	Insemination	11	13	25	49
	Examined	11	11	22	44
	Conformed Pregnancy	6	4	11	21
	Conception Rate on AI Basis	54.55	30.77	44	42.86
	Conception rate on Examination Basis	54.55	36.36	50	47.73
Buffalo	Insemination	30	47	94	171
	Examined	28	45	86	159
	Conformed Pregnancy	13	17	40	70
	Conception Rate on AI Basis	43.33	36.17	42.55	40.94
	Conception rate on Examination Basis	46.43	37.78	46.51	44.03
OVERALL	Insemination	41	60	119	220
	Examined	39	56	108	203
	Conformed Pregnancy	19	21	51	91
	Conception Rate on AI Basis	46.34	35.00	42.86	41.36
	Conception rate on Examination Basis	48.72	37.50	47.22	44.83

Total 220 inseminations were done in last trimester of 2017-18 out of which 203 animals were examined for conformed pregnancy and out of 203 examined animals 44 were cows and 159 were buffaloes.

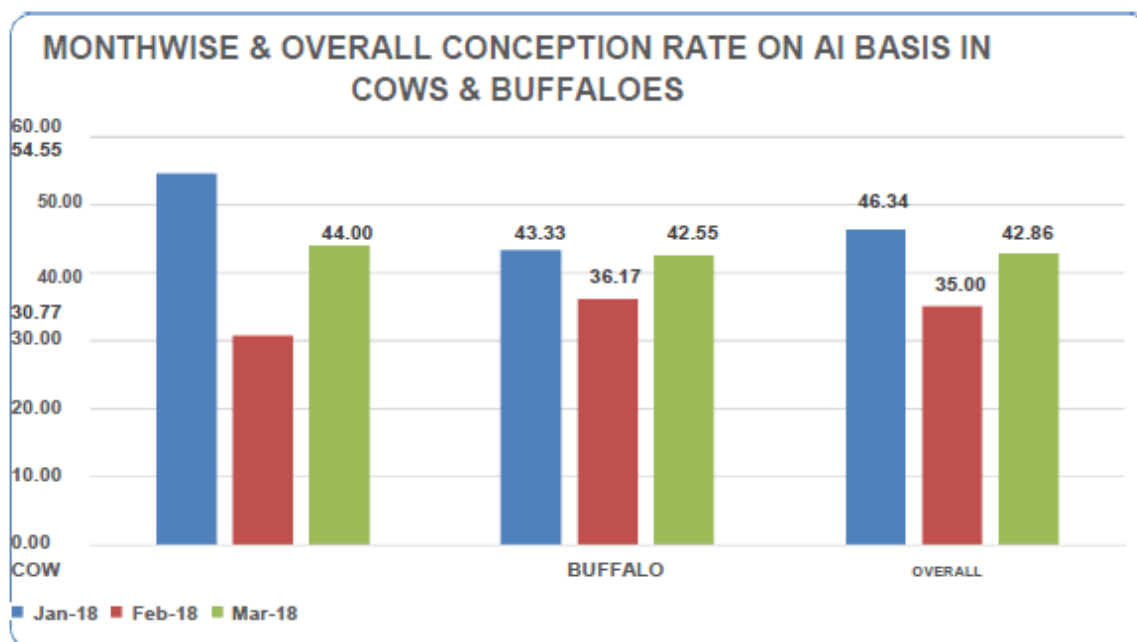
In cows 49 inseminations were done in IVth Quarter of 2017-18 & 44 were examined for conformed pregnancy out of which 21 cows were found conform pregnant. It does clearly indicates that conception rate on AI basis & examination basis in Cows is 42.86% & 47.73% respectively.

In Buffaloes 171 inseminations were done in IVth Quarter of 2017-18 & 159 were examined for conformed pregnancy out of which 70 buffaloes were found conform pregnant. It does clearly indicates that conception rate on AI basis & examination basis in buffaloes is 40.94% & 44.03% respectively.

Overall Conception rate for the insemination work done in IVth Quarter of 2017-18 on AI basis is 41.36% and 44.83% on examination basis.

Highest conception rate on AI basis in Cows is noted for the inseminations done in the months of January 2018 i.e. 54.55%.

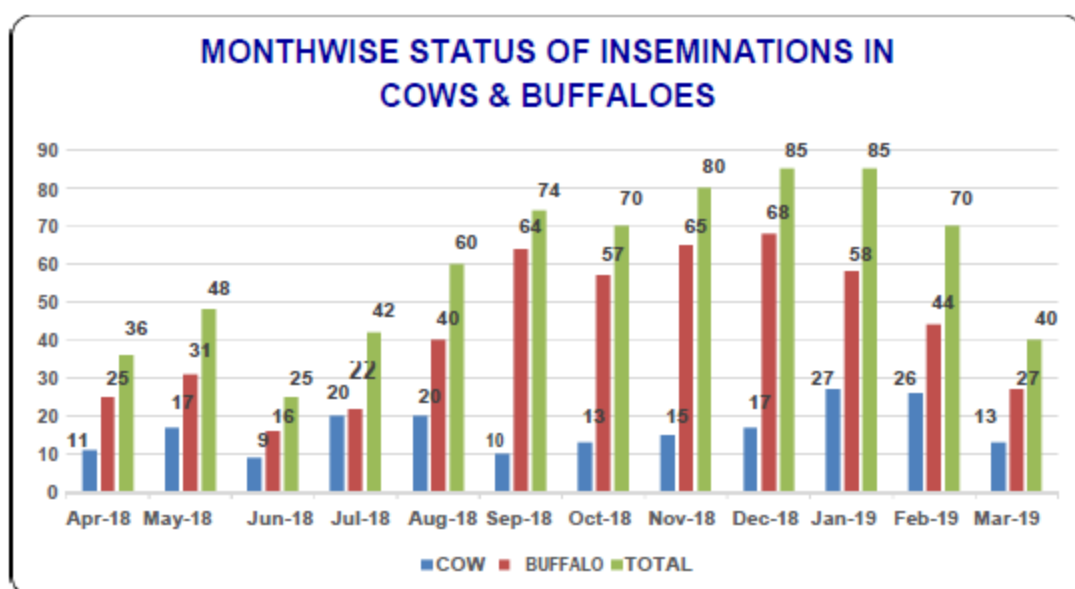
Highest conception rate on AI basis in buffaloes is noted for the inseminations done in the months of January 2018 i.e. 43.33%.



5. DETAILS OF BREEDING PROGRAMME (SUMMARY OF ARTIFICIAL INSEMINATIONS (AI), EXAMINATIONS & CONFORMED PREGNANCY STATUS w.e.f. FEB 2018 to JAN 2019)

5.1. Month wise inseminations in cows and buffaloes

	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	TOT
COW	11	17	9	20	20	10	13	15	17	27	26	13	198
BUFFALO	25	31	16	22	40	64	57	65	68	58	44	27	517
TOTAL	36	48	25	42	60	74	70	80	85	85	70	40	715



5.2. Month wise follow up for Pregnancy Diagnosis

OVERALL	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	TOT
No of AI's done	36	48	25	42	60	74	70	80	85	85	70	40	715
No of animals examined	35	48	25	42	56	65	61	73	81				486
No of animals found conform Pregnant	19	23	11	23	31	32	38	38	46				261

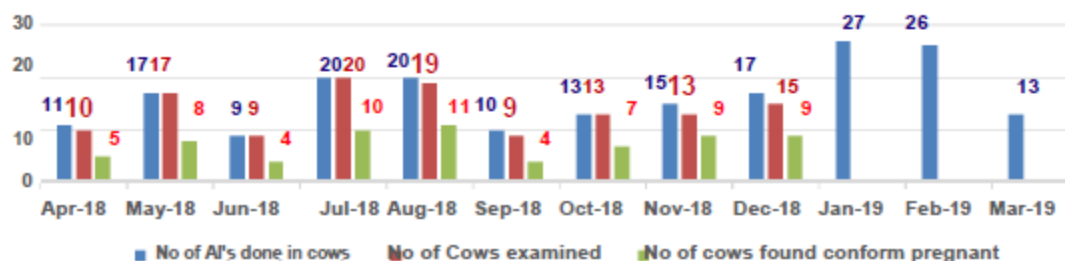
5.3. MONTHWISE DETAILS OF ARTIFICIAL INSEMINATIONS (AI), EXAMINATIONS & CONFORMED PREGNANCY STATUS IN COWS w.e.f. APRIL 2018 to DECEMBER 2018

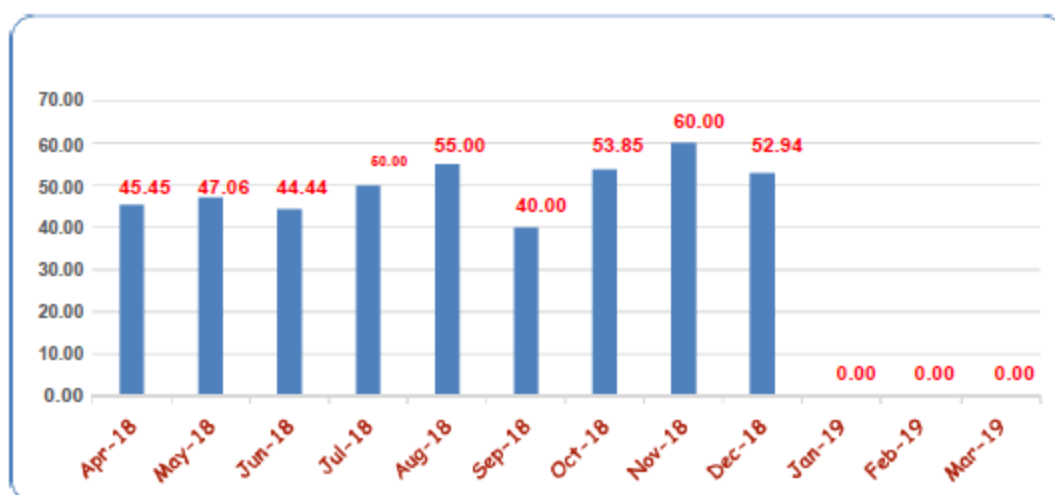
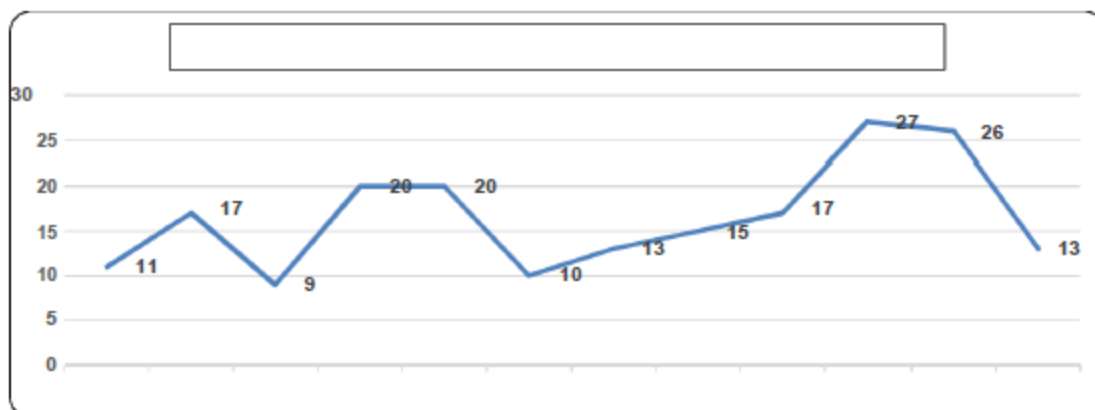
	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	TOT
No of AI's done in cows	11	17	9	20	20	10	13	15	17	27	26	13	198
No of Cows examined	10	17	9	20	19	9	13	13	15				125
No of cows found conform pregnant	5	8	4	10	11	4	7	9	9				67

5.4. BREEDWISE INSEMINATIONS IN COWS

	GIR X GIR	ND X GIR	JR Cross X JR 50%	HF Cross X HF 50%	TOTAL
Apr-18	1	3	1	6	11
May-18	2	5		10	17
Jun-18	1	2		6	9
Jul-18	2	4	2	12	20
Aug-18	7	6		7	20
Sep-18	1	1		8	10
Oct-18		3		10	13
Nov-18	3	6		6	15
Dec-18	2			15	17
Jan-19	4	8		15	27
Feb-19	6	9		11	26
Mar-19	2	6		5	13
TOTAL	31	53	3	111	198

(AI) AND CONFORMED PREGNANCIES IN COWS AGAINST AI's





Total 198 inseminations were done in cows w.e.f. April 2018 to Mar 2019 out of which 125 animals were examined for conformed pregnancy and out of 125 examined animals 67 cows were found conformed pregnant.

Highest number of inseminations in cows i.e. above 25 were done in the month of Jan 2019 (27) and Feb 2019 (26).

Lowest number of inseminations i.e. below 10 was done in the months of June 2018 (9).

Overall conception rate for the artificial inseminations done in cows w.e.f. April 2018 to December 2018 is 50.76% i.e. on AI BASIS.

Follow up for conform pregnancy for Artificial inseminations done in cows in the month Jan 2019 (27), Feb 2019 (26) and Mar 2019 (13) will be done in Apr, May and Jun 2019 respectively.

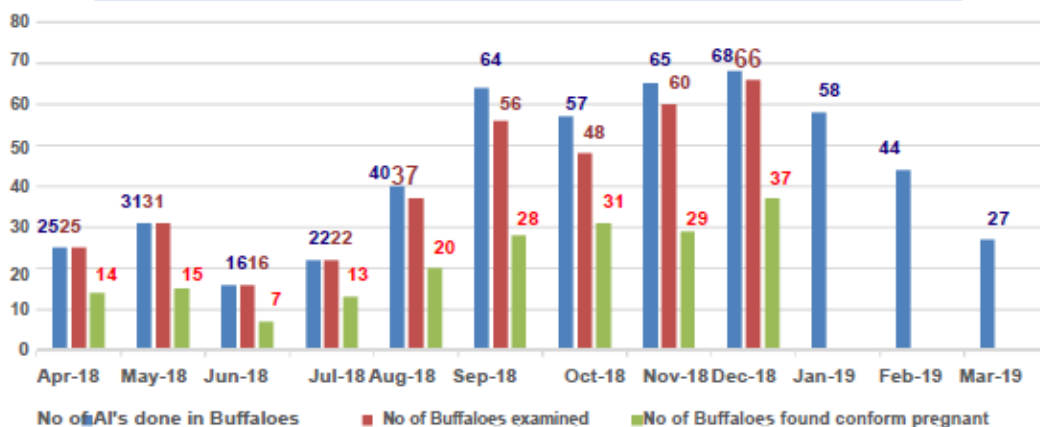
5.5. MONTHWISE DETAILS OF ARTIFICIAL INSEMINATIONS (AI), EXAMINATIONS & CONFORMED PREGNANCY STATUS IN BUFFALOES w.e.f. APRIL 2018 to MARCH 2019

	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Tota
No of AI's done in Buffaloes	25	31	16	22	40	64	57	65	68	58	44	27	517
No of Buffaloes examined	25	31	16	22	37	56	48	60	66				361
No of Buffaloes found conform Pregnant	14	15	7	13	20	28	31	29	37				194

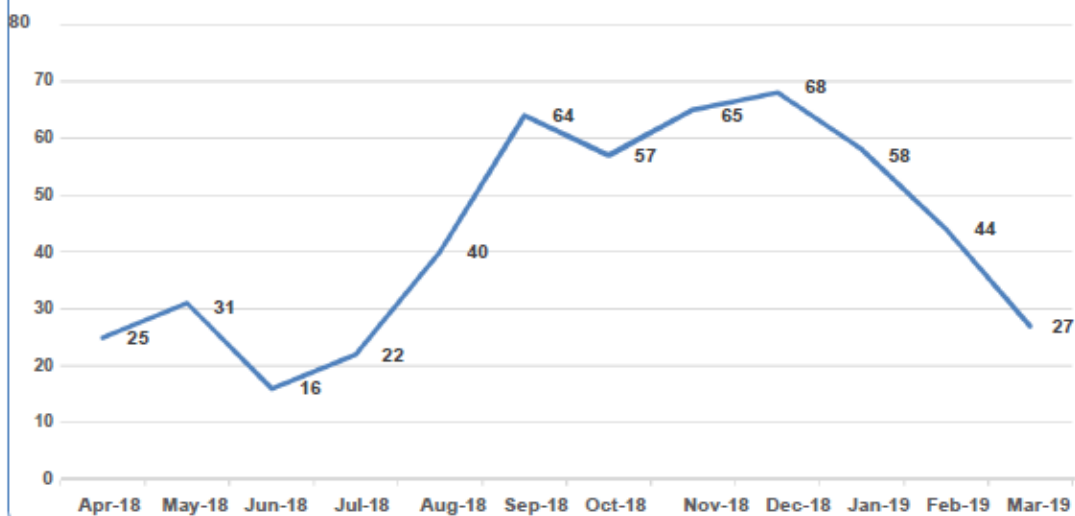
5.6. BREEDWISE INSEMINATIONS IN BUFFALOES

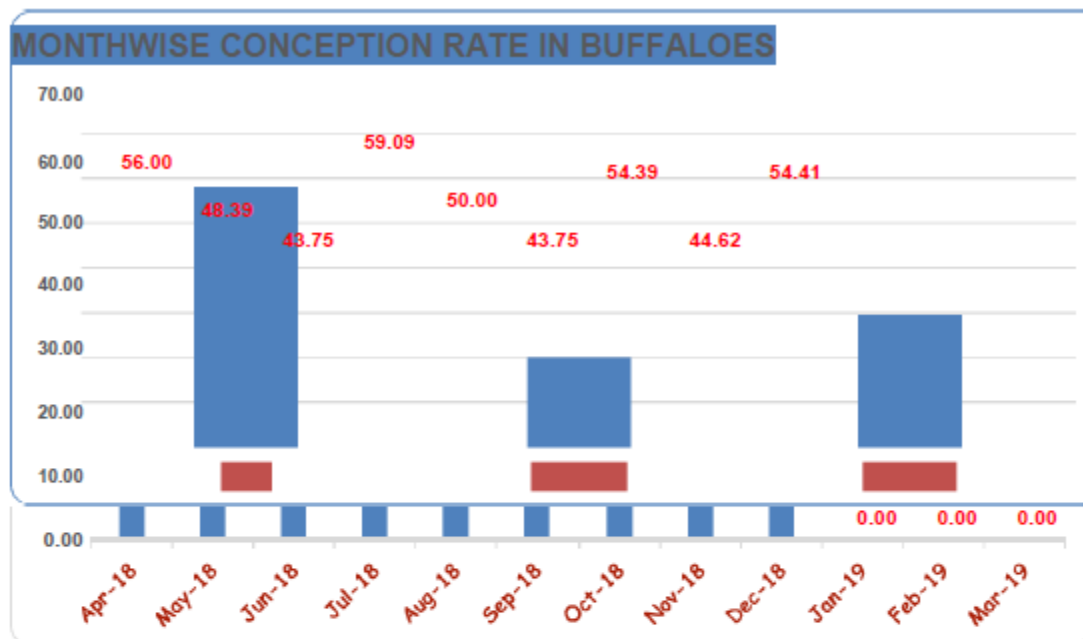
Month	Surti X Murha	Mehsani X Murha	Murha X Murha	Banni X Murha	TOTAL
Apr-18	3	21		1	25
May-18	9	22			31
Jun-18	5	11			16
Jul-18	4	13	4	1	22
Aug-18	14	20	6		40
Sep-18	21	36	8		65
Oct-18	27	20	10		57
Nov-18	14	39	12		65
Dec-18	20	35	13		68
Jan-19	13	29	16		58
Feb-19	10	26	8		44
Mar-19	7	15	5		27
TOTAL	147	287	82	2	518

AND CONFORMED PREGNANCIES IN BUFFALOES AGAINST AI's



MONTHWISE TREND OF INSEMINATIONS IN BUFFALOES





Total 517 inseminations were done in buffaloes w.e.f. April 2018 to March 2019 out of which 361 animals were examined for conformed pregnancy and out of 361 examined animals 194 cows were found conformed pregnant.

Highest number of inseminations in buffaloes i.e. above 60 were done in the Sept 18 (64), Nov 18 (65), Dec 18 (68).

Lowest number of inseminations i.e. below 30 were done in the months of Jun 18 (16), Jul 18 (22) and Mar 19 (27).

Overall conception rate for the artificial inseminations done in buffaloes w.e.f. April 2018 to March 2019 is 50% i.e. on AI BASIS.

Follow up for conform pregnancy for Artificial inseminations done in buffaloes in the month Jan 2019 (58), Feb 2019 (44) and Mar 2019 (27) will be done in Apr, May and Jun 2019 respectively.

**CONCEPTION RATE IN COWS & BUFFALOES AGAINST
INSEMINATION DONE w.e.f. APR To DEC 2018**



5.7. VILLAGEWISE ARTIFICIAL INSEMINATIONS IN COWS (APR 18 to MAR 19), CONFORMED PREGNANCIES (APR 18 to DEC 18) & STATUS OF PENDING FOLLOW UP

Sr. No.	Name of Village	NO. of AI's done in COWS from Apr 18 to Mar 19	NO. of AI's done in COWS from Apr 18 to Dec 18	No of Animals Examined against AI's Done from Apr 18 to Dec 18	No of Animals Pregnant against AI's Done from Apr 18 to Dec 18	Pending followup for the AI's done in Jan, Feb, Mar 19
1	Barbodhan	38	29	27	9	9
2	Malgama	0	0	0	0	0
3	Bhesan	2	0	0	0	2
4	Segava Chhcama	7	1	1	1	6
5	Bhandut	37	30	30	15	7
6	Dihen	39	33	30	16	6
7	Kukani	23	7	6	4	16
8	Ambheta	0	0	0	0	0
9	Ariyana	2	1	1	0	1
10	Tunda	0	0	0	0	0
11	Khosadiya	10	7	7	5	3
12	Pinjarat	32	22	21	15	10
13	Tena	8	2	2	2	6
	TOTAL	198	132	125	67	66

5.8. VILLAGEWISE ARTIFICIAL INSEMINATIONS IN BUFFALOES (APR 18 to MAR 19), CONFORMED PREGNANCIES (APR 18 to DEC 18) & STATUS OF PENDING FOLLOW UP

Sr. No.	Name of Village	NO. of AI's done in BUFFALOES from Apr 18 to Mar 19	NO. of AI's done in BUFFALOES from Apr 18 to Dec 18	No of Animals Examined against AI's Done from Apr 18 to Dec 18	No of Animals Pregnant against AI's Done from Apr 18 to Dec 18	Pending followup for the AI's done in Jan, Feb, Mar 19
1	Barbodhan	73	62	60	27	11
2	Malgama	8	6	6	3	2
3	Bhesan	3	3	2	1	0
4	Segava Chhcama	115	88	76	46	27
5	Bhandut	40	36	36	17	4
6	Dihen	57	53	51	29	4
7	Kukani	54	36	33	16	18
8	Ambheta	0	0	0	0	0
9	Ariyana	7	6	5	3	1
10	Tunda	0	0	0	0	0
11	Khosadiya	45	34	32	18	11
12	Pinjarat	73	51	47	28	22
13	Tena	42	13	13	6	29
TOTAL		517	388	361	194	129

5.10. VILLAGEWISE CALVINGS REPORTED IN 2018-19 (Feb 18 To Jan 19)

Sr. No.	Name of Village	COW			BUFFALO			GRAND TOTAL		
		MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1	Barbodhan	3	6	9	4	14	18	7	20	27
2	Malgama	0	0	0	1	4	5	1	4	5
3	Bhesan	0	1	1	1	2	3	1	3	4
4	Segava Chhcama	2	1	3	15	5	20	17	6	23
5	Bhandut	6	8	14	14	6	20	20	14	34
6	Dihen	4	1	5	3	5	8	7	6	13
7	Kukani	1	0	1	7	6	13	8	6	14
8	Ambheta	0	0	0	0	0	0	0	0	0
9	Ariyana	0	0	0	0	1	1	0	1	1
10	Tunda	0	0	0	0	0	0	0	0	0
11	Khosadiya	2	0	2	1	2	3	3	2	5
12	Pinjarat	1	0	1	3	2	5	4	2	6
13	Tena	0	0	0	2	1	3	2	1	3
	TOTAL	19	17	36	51	48	99	70	65	135

	COW			BUFFALO			GRAND TOTAL		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
Oct-18	0	0	0	1	1	2	1	1	2
Nov-18	3	3	6	2	2	4	5	5	10
Dec-18	2	2	4	7	6	13	9	8	17
Jan-19	8	7	15	27	25	52	35	32	67
Feb-19	4	3	7	6	7	13	10	10	20
Mar-19	2	2	4	8	7	15	10	9	19
	19	17	36	51	48	99	70	65	135

Total 36 calving are reported in cows in project villages w.e.f. Novemembr 2018 to March 2019 out of which 17 are female calves and remaining 19 are male calves, it does clearly indicates that Male:Female born ratio in Cows is 53:47.

Total 99 calving are reported in buffaloes in project villages w.e.f. October 2018 to March 2019 out of which 48 are female calves and remaining 51 are male calves, it does clearly indicates that Male:Female born ratio in Cows is 52:48.



6. SUMMARY OF NEED BASE ALLIED ACTIVITIES IMPLEMENTED IN 2018-19

Sr. No.	Activity	Target	Achievement	No of Families Benefitted
1	Training Programme	10	10	422
2	Exposure Visit	2	2	101
3	Infertility Camp	6	6	155
4	Vaccination	3000	3011	293
5	Deworming	3000	2987	335
6	Urea Treatment	25	25	131
7	Vermicompost Demo	10	10	108
8	Chaff Cutter Demo	2	2	19
9	Cattle Shed Demo	3	3	3
10	Green Fodder Demo	15	42	42
11	Kitchen Garden	250	250	250
12	Calf Rearing	20	20	20
13	Waste Decomposer management Demonstration	5	5	20
		6348	6373	1958

6.1. ANIMAL HUSBANDRY TRAINING PROGRAMME

6.1.1. OBJECTIVES

- 1) To provide platform for the dairy farmers to get together and share information's about modern scientific practices in Dairy Cattle Management.
 - 2) To get feedback from the farmers so as to get enough relevant materials for policy and programme formulation.
 - 3) To promote interaction among dairy farmers.
- To increase awareness among farmers about scientific dairy management practices, training through technical experts is essential. This will be helpful to solve the queries and problems encountered while doing dairy farming also. Training programmes will be organized at individual village level.
-

6.1.2. VILLAGEWISE DETAILS OF PARTICIPANTS AND THEIR ANIMAL HOLDING STATUS

Sr. No.	Name of Village	No of Training programme Organized	Participants			Animal Holding Status		
			Female	Male	TOTAL	Cow	Buffalo	Total
1	Barbodhan	1	18	25	43	88	352	440
2	Malgama							
3	Bhesan							
4	Segava Chhcama	1	28	14	42	21	207	228
5	Bhandut	2	75	27	102	152	452	604
6	Dihen							
7	Kukani	1	26	4	30	28	244	272
8	Ambheta							
9	Ariyana							
10	Tunda	1	10	29	39	51	324	375
11	Khosadiya	2	29	53	82	121	404	525
12	Pinjarat							
13	Tena	2	53	31	84	101	522	623
	TOTAL	10	239	183	422	562	2505	3067

6.1.3. TOPICS COVERED IN TRAINING PROGRAMME

- Scientific Animal Housing
- Breed of Animals
- Importance of Artificial Insemination
- Balanced Concentrate Formulation
- Eradication of Ectoparasites
- Importance of Vaccination & Deworming
- Calf Rearing
- Care of Pregnant Animals
- Clean Milk Production
- Diseases in Bovines
- Importance of Feed Supplements

Total 10 animal husbandry training programmes were organized in 7 project villages in which 239 females and 183 males were participated it does clearly indicates that participation of females were 56.64%.

More emphasis was given on calf rearing and care and management of pregnant animals.

Farmers were very much satisfied with information received on balanced concentrate ration.



6.1.4. OUTPUT/IMPACT

- 1) Increased awareness among farmers for scientific breeding resulted increased no of insemination.
- 2) Increased awareness for feed supplements resulted gradual increase in production.
- 3) Increased awareness for health care services resulted excellent response for vaccination & deworming programme.
- 4) Become curious to know innovative technologies helps them to improve growth and production parameters.
- 5) Concentrating on heifer rearing.
- 6) Understands that livestock is a source of self-employment at native place.

6.2. EXPOSURE VISIT

Exposure visits and dialogue are used as a guiding principal, involving open discussion among farmers and technical experts. "Seeing is believing" for this exposure visits is organized at well-known farm know for scientific rearing of indigenous cows. Villagers go chance to interact with progressive farmer and boost up their confidence to adopt such innovative and improved technologies.

6.2.1. PLACE OF VISIT:-

- 1) Village:- Pindvala- Fodder demonstration (Progressive Farmer)
- 2) Village:- Munjkuva (Solar System)
- 3) AMUL Dairy
- 4) Bansl Gir Gaushala

6.2.2. NO OF PARTICIPANTS:-

	Name of village	Female	Male	TOTAL
1st Exposure	Bhandut	29	12	41
	Khosadiya	7	3	10
TOTAL		36	15	51
2nd Exposure	Segava	20	8	28
	Chhcama			
	Kukani			
	Barbodhan			
	Malgama	5	0	5
TOTAL		41	9	50
GRAND TOTAL		77	24	101

Total 101 farmers of 6 villages were participated in Exposure visit out of which 77 were females and remaining 24 were male.



6.2.3. OUTPUT/IMPACT

- 1) Understand importance of scientific management practices.
- 2) Increased awareness for fodder cultivation and high yielding fodder crop varieties.
- 3) Increased awareness for cost of production.
- 4) Understand scientific way of clean milk production

6.3. INFERTILITY CAMP

6.3.1. OBJECTIVE

1. To reduce long inter-calving period by early detection of causes of infertility.
2. Unproductive animals become productive.
3. Better health and production by early treatment

6.3.2. BACKGROUND:-

Due to negligence among farmers for adoption of improved management practices specially feed and fodder requirement of growing as well as milking animals and unavailability of prompt health services number of animals are suffering from gynecological disorders like anestrus and long inter-calving period. Age at first calving in buffaloes is on an average 4 years. These problems create heavy economic losses to farmers by maintaining unproductive animals for long duration. If above mentioned problems will be diagnosed in time expenses incurred by the farmer for maintaining dry animals will be definitely reduced.

6.3.3. DETILAS OF INFERTILITY CAMP

Sr. No.	Name of Village	No of Camps Organized	No of Animals Presented For Treatment	No of Beneficiary	No of Animals presented for Different Gynecological Disorder				
					Anoestrous	Repeat Breeding	No of Animals TOTAL After Treatment	inseminated	No of animals found pregnant
1	Barbodhan								
2	Malgama								
3	Bhesan								
4	Segava Chhcama	1	33	25	19	14	33	24	12
5	Bhandut	1	32	24	22	10	32	27	11
6	Dihen								
7	Kukani								
8	Ambheta								
9	Ariyana								
10	Tunda								
11	Khosadiya	2	30	23	17	13	30	21	9
12	Pinjarat								
13	Tena	1	69	49	47	22	69	43	18
14	Junagam	1	43	34	24	19	43	32	14
	TOTAL	6	207	155	129	78	207	147	64





Total 207 animals of 155 families from 5 villages were presented for treatment.

Out of 207 animals (Large Ruminants) 129 cases were presented for problem of Repeat Breeding, 78 for Anoestrous.

Silent heat is the major problem in buffaloes due to which farmer is not able to inseminate their animals in time resulted long inter-calving period and farmer has to bear heavy economic losses for rearing nonproductive animals.

Total 147 animals were inseminated out of 207 animals treated in camps.

Total 64 animals were found pregnant out of which 147 inseminated animals.

6.4. VACCINATION

Protection of animals against hazardous bacterial and viral diseases like Hemorrhagic Septicemia (HS), Black Quarter (BQ) and Foot & Mouth Disease (FMD) is far more important. These diseases create heavy economic losses in terms of reduced production level and farmer has to bear huge treatment cost as well as threat of animal loss in severely affected cases.

6.4.1. VILLAGEWISE DETAILS OF VACCINATION
6.4.2. FOOT & MOUTH DISEASE VACCINATION

Sr. No	Name of Village	Cow	Buffalo	Calf	TOTAL	Beneficiary
1	Barbodhan					
2	Malgama	32	157	93	282	27
3	Bhesan					
4	Segava Chhcama	86	317	130	533	45
5	Bhandut					
6	Dihen	87	397	208	692	32
7	Kukani					
8	Ambheta					
9	Ariyana					
10	Tunda					
11	Khosadiya					
12	Pinjarat					
13	Tena					
	TOTAL	205	871	431	1507	104

Total 1507 animals of 104 families were vaccinated for FOOT & MOUTH DISEASE.

6.4.3. HAEMORRHAGIC SEPTICEMIA VACCINATION

Sr. No.	Name of Village	Cow	Buffalo	Calf	TOTAL	Beneficiary
1	Barbodhan					
2	Malgama	47	254	114	415	46
3	Bhesan	9	178	73	260	32
4	Segava Chhcama	28	271	100	399	59
5	Bhandut					
6	Dihen					
7	Kukani	30	288	112	430	52
8	Ambheta					
9	Ariyana					
10	Tunda					
11	Khosadiya					
12	Pinjarat					
13	Tena					
	TOTAL	114	991	399	1504	189



Total 1504 animals of 189 families were vaccinated for HAEMORRHAGIC SEPTICEMIA disease.

6.4.4. IMPACT

1. After vaccination not a single case of morbidity for FMD disease was reported
2. Increased awareness for vaccination

6.5. DEWORMING

Livestock productivity is low and genetic potential of the animals is not being fully exploited due to so many factors but worm infestation is the most important one. It is a rife, affects all classes of livestock and constantly hampering the development of livestock industry. The animals become unthrifty, prone to other infections and ultimately death occurs especially in young animals.

It is routine practice throughout the world to control worm infestation, maintain the health status and production improvement of the animal through deworming (a management tool). But in project villages farmers were showing negligence to offer dewormer resulted stunted growth in growing animals, increase age at maturity, long intercalving period, Low productivity, mortality in calves. Project team is taking rigorous efforts to motivate farmers for deworming as routine practice in all animals.

6.5.1. OBJECTIVE

1. To increase awareness among livestock holding families for periodic deworming.
2. To improve health condition of milking animals for increasing productivity.
3. To reduce calf mortality occurred due to heavy endoparasitic infestation.

6.5.2. VILLAGEWISE DETAILS OF DEWORMING

Sr. No.	Name of Village	Cow	Buffalo	Calf	TOTAL	Beneficiary
1	Barbodhan					
2	Malgama	34	282	68	384	52
3	Bhesan	23	264	81	368	43
4	Segava Chhcama	12	63	13	88	16
5	Bhandut	48	202		250	35
6	Dihen					
7	Kukani	48	222	144	414	39
8	Ambheta					
9	Ariyana					
10	Tunda	38	151	72	261	26
11	Khosadiya	105	396	129	630	64
12	Pinjarat					
13	Tena	65	425	102	592	60
	TOTAL	373	2005	609	2987	335

Total 2987 animals of 8 project villages were treated with broad spectrum anthelmintic i.e. Fenbendazole @ 5mg/kg body weight out of 2987 total animals 373 were cows, 2005 buffaloes and remaining 609 were calves below one year.

6.6. UREA TREATMENT DEMONSTRATION

6.6.1. BACKGROUND OF PROJECT VILLAGES:-

Almost in all project villages all dairy animals mainly thrive on poor quality plant material like paddy straw is used as dry roughages for all types of animals.

Fibrous crop residues play an important role in the ruminant feed as dry fodder. Paddy straw occupy a major portion of ruminants diet in the Olpad block of Surat district. Large ruminants in this area survive on straw as main source of fodder throughout the year. However low nutrient content and poor feeding value are the main constraints in paddy straw. Apart from this because of high lignin content, its digestibility is very poor.

For improving digestibility of this crude plant material urea treatment is the cheapest method which farmers can easily understand and adopt the same. Urea helps to weaken the hard cell wall of paddy straw, allowing better penetration by rumen microorganisms to produce fermentation that is more effective and liberation of nutrients. Because of creating of better rumen environment and microbial protein synthetic activity helps to increase milk production.

6.6.2. OBJECTIVE

1. To increase awareness among livestock holding families for value addition on dry fodder.
2. To reduce wastage of dry fodder.
3. To improve health condition of animals.
4. To reduce costing for milk production.

6.6.3. VILLAGEWISE DETAILS OF DEMONSTRATION

Sr. No.	Name of Village	No of Demonstrations	No of Farmers present at the time of demonstration
1	Barbodhan		
2	Malgama	3	22
3	Bhesan		
4	Segava Chhcama	10	52
5	Bhandut		
6	Dihen	1	07
7	Kukani	5	27
8	Ambheta		
9	Ariyana		
10	Tunda		
11	Khosadiya	4	14
12	Pinjarat	2	09
13	Tena		
14	Junagam		
	TOTAL	25	131

6.6.4. Following information is disseminated to farmers at the time of demonstration

Importance of feed and fodder for growing and lactating animals Problems encountered due to improper feed and fodder feeding

Why value addition by urea treatment on paddy and wheat straw is essential?

Procedure for urea treatment

For easy understanding and adoption we tried to do urea treatment demonstration on 100kg Paddy straw for which 35lts water, 4kg urea is used. Beneficiaries are given 20X12 feet tadpatri to cover treated paddy straw.



6.6.5. FARMERS RESPONSE

Overall farmers response to this technology was found very positive. Farmers perception and response to urea treatment on paddy straw was collected after 30 days. In general all farmers liked the urea treatment because they strongly felt that animal liked treated straw as when they offered treated straw animals consume all without wastage. This technology provides an opportunity to utilize these fibrous crop residues more efficiently and will be more beneficial during summer months when they are facing great difficulty due to scarcity of fodder.

6.7. VERMICOMPOST DEMONSTRATION

6.7.1. OBJECTIVE

1. To enhance the knowledge and good practices among involved stakeholders.
2. Obtaining a quality compost to be used as an organic amendment that contribute to improve soil fertility.

6.7.2. Silent Features of Portable Vermicompost bed

These beds are the representative of modern compost technology and serves as unique combination of tough and light weight construction, easy installation and good aeration control.

Made from reinforced light weight HDPE material, these vermin beds are easy to install, relocate and less expensive in comparison to concrete vermin beds.

The light weight of these beds made them easy to set them in remote or hard to access locations.

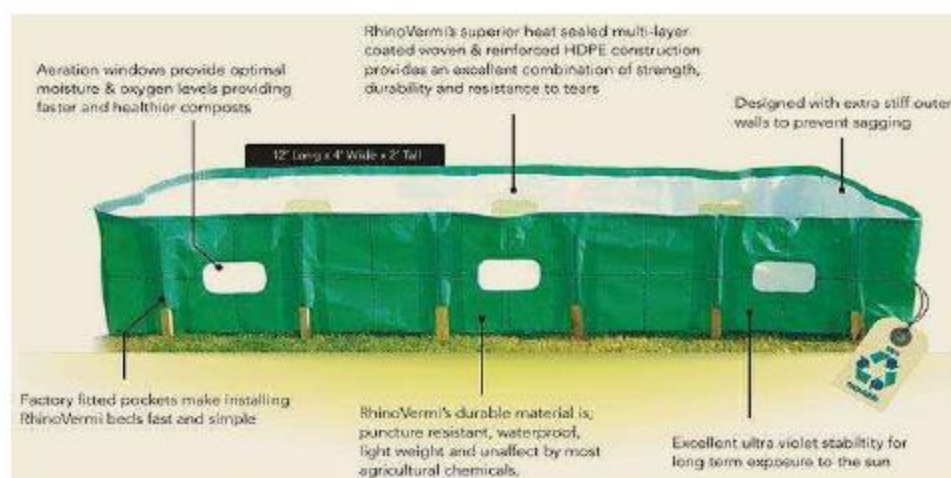
These beds are fitted with aeration windows that allow proper maintenance of temperature and moisture and also help in growing microbial population and prevent access heat buildup.

Puncture resistant Waterproof

Resistant to molding

Resistant to agriculture chemicals UV

resistant



6.7.3. DETAILS OF DEMONSTRATION

Sr. No.	Name of Village	No of Demo	No of Farmers present at the time of demo	No of Vermicompost Bed	Size of Portable Vermicompost Bed	Cement Poles (9')	Earthworms
1	Segava Chhcama	2	22	4	12X4X2	8	2kg/ Beneficiary
2	Dihen	2	15	4		8	
3	Kukani	1	13	2		4	
4	Pinjarat	5	58	10		20	
TOTAL		10	108	20		40	



6.8. CHAFF CUTTER DEMO

6.8.1. OBJECTIVE

1. To increase awareness among livestock holding families for efficient management of dry fodder.
2. To improve health condition of animals

6.8.2. DETAILS OF DEMONSTRATION

Sr. No.	NAME OF VILLAGE	NAME OF SHG	No of Members in SHG	No of Animals Holding by SHG MEMBERS	No of Chaff Cutters Given
1	Bhandut	Shivshakti Mahila Mandal	10	52	1
2	Tena	Teneshwar Mahila Mandal	9	64	1
			19	116	2

6.8.3. TECHNICAL SPECIFICATION

Total one electric cutter with 5.0 HP motor is distribute in one villages having below mentioned technical specification

Steel Body Steel

Gears

Capacity 1000kg/hr for green grass & 600kg/hr for dry fodder PVC trolley wheel

Sufficient for 50 animals.



6.8.4. OUTPUT/IMPACT

Use of chaff cutter will help beneficiaries
To save 30% fodder,
Increase in milk production up to 6 to 10%
Improving health condition of animals.

6.9. CATTLE SHED

6.9.1. BACKGROUND

During our survey in selected villages found that in most all households there is no proper facility for animal housing due to which milking animals have to bear stress of environmental changes as well as unhygienic conditions occurred due to improper disposal of dung and urine are responsible to create health hazards which ultimately affects the production traits.

6.9.2. DETAILS OF CATTLE SHED

Sr. No.	Name of Village	No of Cattle Shed	No of Animals Holding by Beneficiary
1	Segava Chhcama	1	4
2	Kukani	1	4
3	Tena	1	6
	TOTAL	3	14

6.9.3. TECHNICAL SPECIFICATION

1	Size	15X12feet
2	No of Animals Accommodate	4 large animals
3	Height Front View	10feet
4	Height Back View	8 feet
5	Side walls	4 feet
6	Manger Height	Two feet
7	Manger Depth	1 feet
8	Roofing	Galvanized Sheet 12X4
9	Flooring	Rough Concrete
10	Ventilation	Four Side ventilated

6.9.4. ADVANTAGE OF PROPER Cattle shed:-

1. Increased production of milk.
2. Better utilization of labor.
3. Better health of animals.
4. Decrease in mortality rate of calves.
5. Proper disease control.
6. Better care and supervision of animals.
7. Better productive and reproductive efficiency of animals.
8. Proper and controlled feeding of animals.
9. Increasing pride of dairy farmer.
10. Encouragement to other dairy farmers.



In this programme we have constructed ventilated cattle shed as model with required amenities like Manger with proper drainage facility in three villages which will create awareness and motivate other farmers to do the same. Impact of such shed on animal health condition as well as on production will be studied.

6.10. GREEN FODDER DEMONSTRATION

6.10.1. OBJECTIVE

1. To create awareness among farmers for fodder crop varieties.
2. To reduce the cost of production of milk and dairying profitable.
3. The area under fodder cultivation has to be increased.
4. To make fodder available round the year.

6.10.2. DETAILS OF FODDER DEMONSTRATION

Name of Village	Variety	No of Beneficiary	Inputs Given	No of Animal Holding by Selected Beneficiary	Total Area Under Fodder cultivation (Guntha)
			Stumps		
Segvasama	BNH10	2	4000	30	42
Dihen		3	6000	46	57
		5	10000	76	99



Name of Village	Variety	No of Beneficiary	Inputs Given	No of Animal Holding by Selected Beneficiary	Total Area Under Fodder cultivation (Guntha)
			Seeds (kg)		
Barbodhan	Sorghum Sudan Grass (SSG)	7	140	28	140
Segva		22	440	117	440
Kukani		5	100	23	100
Tena		3	60	14	60
		37	740	182	740



6.10.3. PRODUCTION DATA

Variety	1st Cutting (Tons)	2nd Cutting (Tons)
BNH 10	30.14	32.9
SSG	102.84	

6.10.4. OUTPUT/IMPACT

1. Awareness created among farmers for fodder cultivation
2. Adlib availability of green fodder helps to meet out requirement of fodder for growing and milking animals.

6.10.5. FARMERS FEEDBACK

Overall farmers' response for this initiative is found very positive. Farmers admitted that after feeding green fodder as per requirement of animals helps to increase milk production and improvement in health condition of animal.

6.11. KITCHEN GARDEN

6.11.1. OBJECTIVE

To get round the year availability of various vegetables helps to meet out nutritional requirement of family members.

6.11.2. IMPORTANCE OF VEGETABLES

Vegetables occupy an important place in our daily life particularly for vegetarians

Vegetables are the only source to increase not only the nutritive values of foods but also its palatability.

For a balanced diet, an adult should have an intake of 85 g of fruits and 300 g of vegetables per day as per the dietary recommendation of nutrition specialists

But the present level of production of vegetables in our country can permit a per capita consumption of only 120 g of vegetables per day

6.11.3. WHY KITCHEN GARDEN?

Considering the importance of vegetables, to produce our own vegetable requirements in our backyards using the available fresh water as well as the kitchen concept has emerged

This will only facilitate successful production of our own requirement of vegetables.

Cultivation in a small area facilitates the methods of controlling pests and diseases through the removal of affected parts and non-use of chemicals.

This is a safe practice, which does not cause toxic residues of pesticides in the vegetables produced.

6.11.4. VILLAGEWISE DETAILS OF PARTICIPANTS

Sr. No.	Name of Village	No of Participants
1	Segava Chhcama	40
2	Bhandut	55
3	Dihen	30
4	Kukani	20
5	Khosadiya	50
6	Pinjarat	20
7	Tena	35
	TOTAL	250

6.11.5. KITCHEN GARDEN KIT

Seeds of Bottle guard (Dudhi), Bitter guard (Karela), Pigeonpea (Tuver), Ladies Finger, Clusterbean (Guar), Cowpea (Choli), Ridgeguard (Turiya) were given to 250 families to develop back yard nutritional garden.



6.11.6. OUPUT/IMPACT

Understand importance of backyard kitchen garden as an nutritional garden to produce totally organic vegetables which will helps to meet out requirement of seasonal vegetable round the year.

Other families are also motivated and started to do the same in their backyard.

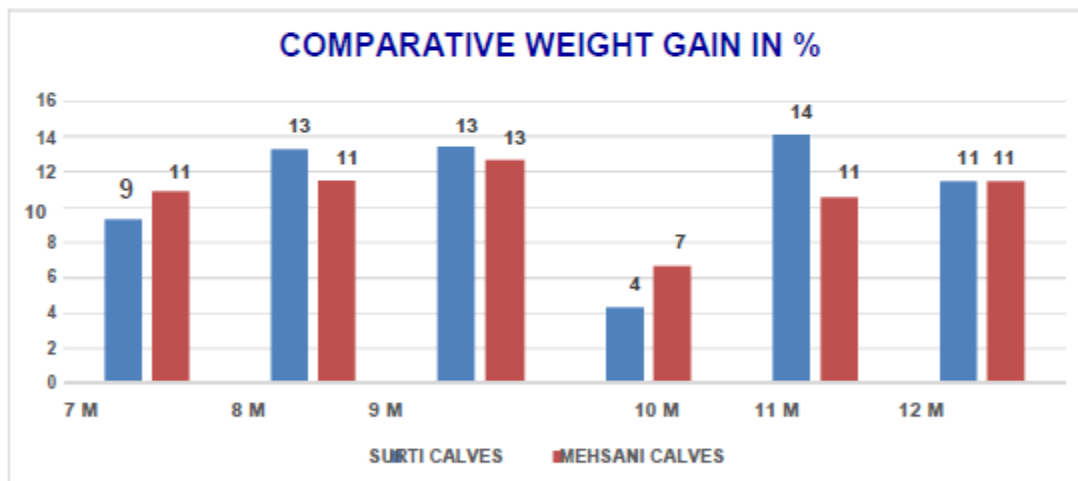
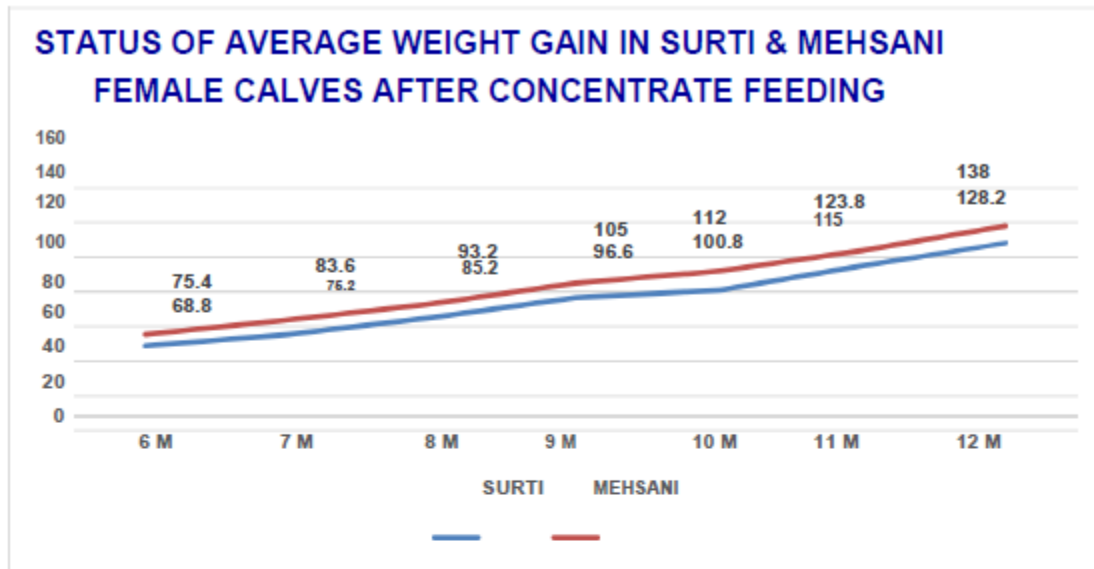
6.12. CALF REARING

6.12.1. DETAILS OF SELECTED FARMER

Sr. No.	Name of Village	SURTI FEMALE CALF	MEHSANI FEMALE CALF
1	Bhandut	3	4
2	Khosadiya	7	6
	TOTAL	10	10

6.12.2. INPUTS GIVEN

Readymade balanced concentrate ration, Mineral Mixture, Regular deworming and Vaccination



Before start of programme weight of selected calf is taken by measuring heart girth, Height and length. After feeding of concentrate ration and mineral mixture measurement is taken in succeeding month, which showed increase in weight gain from 9 to 13%. As compare to Mehsani Buffalo female calves excellent weight gain was noted in Surti Buffalo Female Calves



6.13. WASTE DECOMPOSTING DEMONSTRATION

6.13.1. OBJECTIVE

Promotion of organic farming in the project area through technical capacity building of farmers.

6.13.2. SOURCE OF TECHNOLOGY

M/s Sakti Bio Fertilizers is the certified manufacturer of

National Centre of Organic Farming Department of Agriculture, Cooperation and Farmers Welfare Ministry of Agriculture and Farmers Welfare Government of India

6.13.3. PRODUCT DESCRIPTION

Waste Decomposer is rich in beneficial microorganisms which are prepared from Desi Cow Dung.

The mass multiplied liquid-waste decomposer culture is diluted in the ratio of 1:3 with water and applied as a foliar spray to control pest and diseases. It can control all types of soil borne, foliar diseases, insects, and pests.

Waste decomposer works as Bio fertilizer, Bio control and as well as Soil Health Reviver. It can be used in various ways such as quick composting of bio wastes, drip irrigation,

Foliar spray as bio pesticide against most of the plant diseases for all types of agricultural and horticultural crops.

An innovative waste management technique to manage bio-degradable waste disposal for municipality, own garden, farmhouse. Convert your kitchen waste to valuable organic compost and utilize it in your lovely garden in Balcony without throwing anywhere.

Supply natural nutrients to organic farming to produce healthy products at low cost. It can be used for any or all crops.

6.13.4. PROCEDURE TO USE

Take one bottle of Waste Decomposer and mix it well in 200 L of water and 2 kg jaggery. Keep the solution for a week.

After a week use the solution to spray at your farms/water your land.

6.13.5. DETAILS OF DEMONSTRATIONS

Sr. No.	Name of Village	No of Participants Present at the time of demonstration
1	Segava Chhcama	5
2	Dihen	1
3	Kukani	2
4	Pinjarat	9
5	Tena	3
	TOTAL	20

Demonstration was done on cow dung to prepare good quality organic manure.



**Tribal development program:-**

Adani Foundation & Visdaliya Cluster Gramin vikas Samiti:-

Visdaliya Cluster Gramin vikas Samiti is CBOs initiated by Forest department working as a dedicated agency for bamboo development in Narmda District.

Visdaliya Cluster Gramin vikas Samiti is working with tribal youths for making them employable. With the financial support from Adani Foundation, Visdaliya Cluster Gramin vikas Samiti will impart training to local youths of bamboo furniture making and give them materials order after completion of training program. This will help in bringing overall change in the life of tribal area.

It has strengths in various functional areas such as resource development and management, monitoring and evaluation systems, product design and development, enterprise development, training on crafts making, training on furniture making, nursery development, technology transfer and community development.

Thus, Adani foundation Hazira had collaborated with Visdaliya Gramin vikas samite to conduct training with traditional bamboo artisans from Mandvi block of Surat district. During this Training Project Visdaliya Gramin vikas samiti will provide in-depth training to poor Tribal Youths, where all trainees will be given on Job training on Furniture making out of Bamboo and will be trained to Produced Bamboo furniture completely on their own at the end of three months training.

Furniture Design taught during the training, in which mostly on the household furniture, office furniture, Restaurant Furniture and Adani Group will also explore the possibilities of providing in house Market of Adani Group for their corporate gifts and furniture requirement which will provide this group long term sustainable Market.

Objective of the Project:-

The Project aims to generate Long term sustainable Development model through Bamboo furniture making and its marketing in Tribal areas of Surat, Narmda and Bharuch District of South Gujarat.

Capacity building of Self Help Group and farmers**Self Help Group:-**

Adani Foundation is working with SHGs groups in nearby our peripheral villages (15 villages). Adani foundation currently and continually working with SHGs to empower them and make them self-sustained. In past Adani Foundation has done income generation activity for their sustainable life and improve their living standard.

Self-Help Groups are informal/formal associations of people who choose to come together to find ways to improve their living conditions. They help to build Social Capital among the poor, especially women. The most important functions of a Self-Help Groups are (a) to encourage and motivate its members to save, (b) to persuade them to make a collective plan for generation of additional income, and (c) to act as a conduit for formal banking services to reach them. Self-Help Groups have emerged as the most effective mechanism for delivery of micro-finance services to the poor.

The Self Help Groups (SHGs) Guiding Principle stresses on organizing the rural poor into small groups through a process of social mobilization and capacity building through exposures and other trainings.

Need of exposure visit and training: Training and exposure is very important part in any SHGs to strengthen the members of SHGs. This Year Adani Foundation organizes one Training cum Exposure Basic Information about SHGs Functioning and second Leadership Training for President and secretary.

Adani Foundation is planning Two day training and exposure visit for the **SHGs members of Rajgari and Junagam villages.**

The Frist is General Training to all SHGs member which covers group Formation and Introduction to linkage methods. This training includes basic literacy, book – keeping, Group formation and Group Dynamics. Thought this Type of Training is geared towards group management, it may impact economic variable as well. All members receive this training which is relatively homogenized.

During the trainings and exposure we will provide them knowledge about formation and functioning of SHGs and meeting with successful SHGs members to get motivation. They will interact with other SHGs to see and understand their work and learn from them.

They will easily interact with other Member as also Team bonding activity, Values of Leadership role in Group, Nature of Leader in Group, Action Planning, decision making, and Interest benefit in Group, Income Generation Activity information, rules and regulation in Group, Documentation information.

Capacity building of Self Help Group and farmers

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Adani Foundation Training and Exposure Visit for SHGs

Sr. No.	Name of Village	Number of SHGs	Organization	Nature of Training
1	Rajgari	28	A.K.R.S.P	Basic Information about SHGs Functioning
2	Rajgari	24	A.K.R.S.P	Leadership Training for President and secretary

Capacity Building Activity: The capacity building of SHG members through various training plays an important role in empowering women and future sustainability of SHGs. Adani foundation organizes Capacity Building Activity for Self Help group in Village. Adani foundation 12 Capacity Building Activity completed with around 292 SHG members.

Adani Foundation Promoted SHG from Rajgari village took participation at PM Samvad conference held at Block development office, Choryasi. During the conference, a total of 20 SHG leaders interacted with TDO regarding SHG journey and presented their transformation stories and even shared the challenges faced by leaders in running SHGs. TDO attended SHGs members and listen to their points of concern. After all, TDO ensure to proactively respond SHGs concerns and promise to deliver his best support to SHG from government side.

Uphaar Canteen Service in AHPPL: Adani foundation has already taken initiative for Self Help Group to generate the income. It's part of our sustainable livelihood development too under CSR. Through this program the savings of SHG will improve to monthly & daily basis. **Jan Sahyog Sakhi Mandal's six widow Women from Junagam take initiative and full of maximum effort given into run this UPHAAR Canteen service in AHPPL.**

Out Come:

- Improve of Living Life Style
- Educated of SHGs Group's functioning in village
- Knowing of the Government Scheme
- Knowing of Quality of Life
- Value of Credit and Saving information in our Routine Life

Impact:

- SHGs impact on its members by increasing their assets, incomes and employment opportunities.
- The borrowers are able to reduce their dependence on informal sources of finance and a certain degree of loyalty towards SHGs, which can work towards permanent or effective inclusion of these borrowers into the formal banking network.
- Impact on Health and Income source generation for Family
- SHGs has led to reduced child mortality, improved maternal health and the ability of the poor to combat disease through better nutrition, housing and health – especially among women and children

Livelihood Activities for Community:

Farmer workshop:-

Technical seminars were organized in two villages on "Sustainable agriculture and livestock development". The experts from Navasari Agriculture University, Krishi Vigyan Kendra Bharuch and Surat disseminate the information for increasing productivity in agriculture and livestock by adopting scientific technologies. In this Technical Seminar 206 farmer Participated.

- Transfer of technology for sustainable agriculture and livestock development.
- To provide platform for the dairy farmers to get together and share information's about modern scientific practices in Dairy Cattle Management

EXPOSURE VISIT

Exposure visits are a very important training methodology as it enables the participants from a different setting to interact with and learn from each other, allowing them to view practical/real life situations of successful integration of sustainable practices in the said field. Exposure visits are organized so that people living in one place can visit another to observe and learn from their activities. This would go a long way in ensuring replication of activities in large numbers leading to success of the project.

Total 99 farmers of 5 villages were participated in Exposure visit out of which 58 were females and remaining 36 were male

- To learn about advanced techniques by viewing and interacting with institutions which have experience.
- To apply the learning to their agrarian activities this would result in increased income from their farms.

KITCHEN GARDEN

Kitchen gardening is a type of gardening in which vegetable plants are grown for getting pure, fresh and cheap meal near the kitchen. The food from the kitchen garden is organic and healthier as compared to that which is bought from the grocery store

In kitchen Garden 20 beneficiaries Benefitted for Various Villages (Junagam, Suvali, Bhatlai, Hazira)

- Vegetables occupy an important place in our daily life particularly for vegetarians
- Vegetables are the only source to increase not only the nutritive values of foods but also its palatability.
- For a balanced diet, an adult should have an intake of 85 g of fruits and 300 g of vegetables per day as per the dietary recommendation of nutrition specialists
 - But the present level of production of vegetables in our country can permit a per capita consumption of only 120 g of vegetables per day

BENEFITS OF KITCHEN GARDEN

- Families will get pure organic food without dangerous sprays on it.
 - The food will be fresh and healthier.
-

- It will cost less as compared to the one which is bought from the grocery store

OUTPUT/IMPACT

- Understand importance of backyard kitchen garden as a nutritional garden to produce totally organic vegetables which will help to meet out requirement of seasonal vegetable round the year.
- Other families are also motivated and started to do the same in their backyard.

Women's Day Celebration:-

Theme: Balance for Better

Place: Rajgari Community Hall,
Rajgari Village.

Objective: To recognize the contributions made by women members in nation building and award individuals who stood outstanding in various field of development.

Guests:

1. G. M. Borad (Taluka Development Officer, Choryasi Taluka, Surat District.),
2. Falguni Desai (Taluka Livelihood Manager),
3. Chhotubhai (Sarpanch, Bhatlai Village),
4. Naynaben Rathod (Sarpanch, Suvali Village),
5. Dhansukhbhai Patel (Dy. Sarpanch, Rajgari Village),
6. Alpaben Patel (Dy. Sarpanch, Bhatlai)

About the event celebration:

- As the countries across the globe celebrate International women day, Adani Foundation, with the objective "To recognize the contributions made by women members in nation building and award individuals who stood outstanding in various field of development" create awareness among the area of intervention villages and its neighboring village to be part of the event celebration and sent an invitation to these villages beforehand.
- In line with the objectives of the event, Adani foundation organized International National Women Day 2019 on the 8th March 2019 at Community Hall, Rajgari Village. The event primarily focus on recognition and acknowledgement of women's participation and contribution towards nation building and awarding those individual who does excel in their various fields of livelihood promotion, social mobility, educations and social actions and mobilisers.

- The event got inaugurated by lighting of Lamp and prayer by dignitaries present for the event which was followed by welcoming speech and honoring of Chief Guest and Guest of Honor by Adani Foundation promoted Sangini's and Asha workers of ICSD program.
- The strategy adopted for empowering rural women folks was on formation of Self Help Group progress report was done by Ms. Falguni Desai , Taluka Livelihood Manager. She describe in details about the system and process adopted in Group formation, the savings and credit process, the rate of interest calculations and disseminate information about SHG newly adopted process. She mainly focuses on the importance of group bonding importance of Leadership which is the key to sustain SHG. She took a opportunity by announcing various government scheme for Self Help Group as well as Government fund utilization in Income Generation Activity for such Groups.
- Shri. Chhotubhai, Bhatla Village Sarpanch during his speech acknowledge about the role played by women folks in overall development of the village, block, state and nation at large. He also ensures that women have huge scope to play a vital role in nation building. He flag about the tremendous efforts put in by SHG and appreciates the various income generation activities taken up by women folks in the village.
- Shri. G.M Borad, Taluka Development Office, Chief Guest of the event gave an inspirational Speech for women members and shared transformational story of Gramin Bank started by Mohamed Yunus at Bangladesh. He motivates women folks to replicate such models if not exactly the same with Gram Bank concept. The quote *"the limitation that we all face in the society today is our mindset. We must except the changes happening around us and move according to the development pace. The mind-set of Individualism or private benefits should be overtaken by collective effort. Unless majority of the members in the society do not participate in the development process, we are highly likely to face issues and challenges at individual level. So, I urge all of you who are part of this important event to spread this message across your neighbor to change our mind set and widen our perspective and collectively we all will create a better society soon"*. He appreciated the efforts put in by Adani Foundation in empowering rural folks especially women members and shared his gratitude for inviting him on this important program. The program was ended by an entertainment program for women members on Musical Chair. There were around 130 women present for the event.

Way Forward:

- To promote SHGs to Village Organization (VO)
- To establish Income Generation Resources with the help of Government Scheme and Other Private Sector.
- To promote Masala Udhhyog as an Income Generating Source for Women.

Verbatim from Participants:

- *"Thank you Adani Foundation for supporting and empowerment rural women folks of the area. I am always open to support and extend my helping hand for these groups. Keep doing the good work. Women are blessing for us. It is them who plays a vital in role in creation of a good Nation and good Society. We must all stand together to bring changes in our society"*
Quote Shri. G.M Borad, TDO
- *"All the women have equal rights in our Society. We must exercise our rights and equality in all aspects of life"* Quote Falguniben, TLM
- *"We all women are happy and felt empowered through this program as we gain important information and have the confident that we are always backed by male members of the society. We want to Adani Foundation for organizing this meaningful event of Women Day for us".* Quote SHG Group members.

Action Plan:

- Self Help Groups are in a position to roll out Masala Udhayog on demonstration basis.
- To federate all SHG groups existing within Rajgari Village into Village Organization (VO) level.

SUPOSHAN:-
Objective:

To curb malnutrition amongst Children, Adolescent girls and pregnant & lactating Women in the region.

Specific Objective:

- To reduce the occurrence of malnutrition amongst Children
- To reduce malnutrition and anemia amongst adolescent girls and pregnant & lactating women in the region
- To create awareness about the issue of malnutrition and anemia and related factors amongst all stakeholders and role they may play in curbing the issue
- Playing a facilitator role between government and community so various Schemes /resources can be utilized for fighting the issue of Malnutrition and Anemia
- To support efforts in reducing IMR and MMR

Major intervention through various activities:

Sr.No	Activities done by Sangini's	No of Beneficiaries
1	Focus Group Discussion with Adolescents, Pregnant and Lactating Mothers Groups	803
2	Family based counselling	355
3	Anthropometric Measurement of 0-5 years children	774
4	Events – village level	10
5	H.B Screening	2762
6	Adolescents and women group	28

7	RUTF to SAM	09

Intervention Approach:

- Home visits, Individuals and Village Meetings
- Focus groups discussion with Pregnant & lactating mothers, and Adolescents
- Family counselling to improve personal health hygiene of the child
- Regular coordination with ASHAs, ANM & Anganwadi worker for leverage government schemes
- Use of General IEC material for meetings
- Monthly Celebration of Mamta days
- Various awareness program conducted thru out the year

Outcome –

- Visibility of Adani Foundation in all project villages.
- Strong rapport will be built with ICDS, Health Department, Government functionaries, and NGOs.
- Adolescent girls will aware about their health and BMI
- A relationship with the village Panchayat, women of SHGs and village community
- Awareness levels increased about nutritional food, important of IFA tablets among pregnant, lactating mothers and adolescent girls.
- Slowly Village health governance will be strengthen
- Malnourished ratio has reduce

Impact:

- 22 Children moved forward from SAM to MAM
- 08 Children moved forward from MAM to Healthy

UDAAN:-

Dream Big Achieve Better with this thought of our Chairman Sh. Gautam S Adani. We embrace this project for provide benefit to vicinity children.

Because when you see bigger you think bigger and dream bigger successively you achieve better.

1.	3612 students & teachers of 72 schools /colleges visited Adani Hazira port in the year 2017-18.
2.	Student centric & interactive session during visits.
3.	Explained about operational knowledge of port, career guidance and work culture of AHPPL to the students.
4.	Provide guidance as curiosity of students by experts of concern departments.
5.	Phenomenal motivational/ entertaining presentation of UDAAN.

Community infrastructure development:-

Following activities done under CID in 2018-19 year:

Sr. No	Particulars
1	Compound wall work at Junagam village (Panchayat land) (SDG 9)
2	Paver blocks surrounding community hall - 4000 square feet- Junagam. (SDG 9)
3	Sanitation Facility: (1-urinal and 1 toilet for Men, 1-urinal and 1 toilet for women, - near community hall- in Junagam, Bhatlai, Rajgari, Suvali villages (SDG 9)
4	Underground water sump for community- 5 lac liters-Vansva. (SDG 9)
5	Underground water sump for community- 2 lac liters- Rajgari. (SDG 9)
6	Overhead water tank- 30K liters-Suvali. (SDG 9)
7	Construction of crematorium in Hazira village. Crematorium shed: 10x8 meters. Waiting hall: 30x25 feet and boundry wall with gate. (SDG 9)
8	Pump house room 10x10 ft with 4 submersible pumps and other fitting and fixtures- Hazira. (SDG 9)
9	Repairing of 20 Nos house and 3 new houses in Halpadi area and school boundary wall- Hajira.(SDG 9)
10	Construction of Hostel Building for Tribal Girls at Mandvi Dist.Surat.(SDG-9)

Frisbee Team Support:-

To promote the Frisbee game among the rural youth the team was formed in the FY-18 -19 by AF with the help of Play to Lead (Mavericks Foundation).The idea behind the formation of this group is to work on child's cognitive & physical

Development with the help of sports.

Support:-

The group of 9 Frisbee Team of Surat practiced every Sunday in Fountainhead School, Surat. Our team is among one of them which was selected by Fountainhead School, every Sunday the 9 teams comes and practiced together. Frisbee team supported by Adani Foundation named as "Chakmak" participate in various Competitions and represent AF. "Chakmak" team participated in Ahmedabad Ultimate Open and won the tournament.



Adani Rural cricket Tournament:-

Adani rural Cricket Championship tournament 2018-19 was organized at village Junagam at Navchetan cricket ground where total number of 16 teams from 8 villages participated. Rural youths from across these villages took active participation and played with game spirit to win the tournament.

Such sports events on cricket tournament helped AF in creating positive impact around area especially among youths and communities.

During the inauguration and closing ceremony, District level political leaders and MLA of Choryasi were present. These leaders have acknowledged the efforts put in by Adam Foundation in building the nation and supporting rural communities through various means. MLA also motivated rural youths to give their best talents and to succeed in life. He also appreciates AF effort on encouraging cricket in rural area as well.



ANNEXURE-3:

**COMPLIANCE STATUS OF ENVIRONMENTAL MANAGEMENT PLAN AS PER INTEGRATED EIA
REPORT, SEPTEMBER, 2012**

Annexure-3:
Compliance Status of EMP as mentioned in the Integrated EIA Report, Sep., 2012:

S. No.	EMP Conditions	Compliance Status
I.	AS PER TERRESTRIAL ENVIRONMENTAL IMPACT ASSESSMENT REPORT: -	
A	CONSTRUCTION PHASE:-	
1.	Dredged Soils Management Plan: AHPPL has been permitted to dredge about 37 million cubic meter of soil, which shall be reused for backfilling in the project site. The dredged soil samples will be collected and analysed periodically for designated pollutants as per the recommendations of statutory authorities.	Complied. No disposal has been done till date. All the dredging material is being utilized for level raising, reclamation. Complied with. If any excess material generated will be disposed of at the location already approved by the MoEF&CC.
2.	Air Quality Management: Fugitive dust will be generated during construction phase of the project due to handling of wet dredged and excavated soils. Dust control program will be implemented to reduce the dust generation during construction at project site. Water sprinkling will be adopted on haulage roads and construction site.	Being Complied Water sprinkling is being done on haulage roads and construction site on regular basis.
3.	Noise Control Programs: 1. Onsite fabrication activities should be undertaken at a designated location, which should be located away from the office buildings and any other working areas. 2. In case noise emissions from the fabrication activities exceed a level of 85 dB (A) at the fence-line of the fabrication yard, temporary noise barrier can be installed. 3. Portable diesel engine generators and diesel engine driven compressors, if any, should be covered with noise enclosures.	Complied Fabrication activities have been done at a designated location away from the office buildings and working areas. Complied Noise level was below 85 dB(A) during the fabrication. Currently no fabrication activities are going on. Complied. In-built noise enclosures are available in portable diesel engine generators and diesel engine driven compressors to reduce the noise level.
4.	Sewage Management Program: Sewage generated from the construction site will be treated in modular STP and shall be used for green belt development / landscaping after achieving prescribed standards by GPCB.	Being Complied Sewage generated from the construction site is being treated in STP and treated water is being used for greenbelt development.
5.	Solid and Hazardous Waste Management Program: The solid waste generated should be segregated and categorized under various rules such as HWM 2008, SWM 2000, the Batteries Rules 2001 including processing of used oil by authorized recyclers should be carried out by the rules and procedures prescribed by CPCB and also meet the requirements of GPCB.	Being Complied All the wastes are being segregate at source and handled as per applicable rules/ guidelines and disposed off through GPCB approved agency.
6.	Construction Phase Storm Water Runoff: It has been recommended to adopt soil stabilization plans and storm water	Complied Separate storm water channels have been developed to discharge the

	sedimentation basins to control the silt before discharging the storm water into sea.	storm water.
7.	Sanitation: The facilities presently available with the nearby villages will continued to be used during construction activities and no major sanitation problem is expected during construction period. The workers at the project site will be provided with proper sanitation arrangement.	Complied Proper sanitation arrangements are available for workers at project site.
B.	OPERATION PHASE: -	
1.	Air Quality Management:	
i.	Cargo-Handling Equipment: 1. Retrofitting the old equipment to meet the vehicular emission standards. 2. All the vehicles and equipment will be certified with PUC norms shall be deployed.	Being Complied All the deployed vehicles and equipment are PUC certified.
ii.	Standby Diesel Generators: DG Sets will be operated on clean diesel fuel with sulphur content less than 0.5%. Minimum stack height of 30m will be provided to disperse the gases into the atmosphere as per the guidelines suggested by Central Pollution Control Board.	Being Complied DG Sets are being operated on clean diesel fuel with sulphur content less than 0.5% and provided the adequate stack height are being provided as per CPCB/GPCB norms to disperse the gases into the atmosphere.
iii.	Fugitive Coal Dust Control Program: The management of AHPPL has proposed to adopt the following fugitive coal dust control measures: - a. Dry Fog System - A new, proven and cost effective technique to control dust is "Dry Fog" system to suppress the dust from the air. The name fog is just what it implies small droplets of water injected into the air. Fogging works by releasing very small droplets of water into the air. Airborne dust particles adhere to the water droplet and agglomerate. If the fog is generated in the right way, by using pressurized water, the energy required can be very low between 2 to 3 kW for a system requiring hundreds of nozzles, e.g.: A large stockpile tripper conveyor - giving considerable operating cost savings when compared to other techniques, The sprinkler droplet sizes should be maintained less than 100 microns. b. Sprinklers: Once stockpiled, water can be sprayed on the stockpiles to keep them damped down. Swivelling sprinklers should be used along the lengths of the stockpile with caution, however, as the volume of water required can be significant, causing drainage and run-off treatment problems.	Complied. Following control measures are in place and effectively working at port to control fugitive dust: - 1. Transportation of coal from jetty to coal storage yard through 1.7 Km. long conveyor belt with hood. 2. Water sprinklers in the coal yard, 3. Dust Suppression System / Spray Nozzles in Conveyor System and Discharge Chute, 4. Water spray through Water Browsers, 5. Water Mist Canon / Fog System, 6. Wind Brake Shield of 14 meters high and 1200 meters long, 7. Transportation of cargo from port to hinterland is being done through dumpers / trucks covered with tarpaulin, 8. Regular cleaning of the roads through Road Sweeping Machines, and 9. Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 69.80 ha within the port premises.
2.	Noise Control Program: The following source noise control plans have been suggested: - ➤ Covering of sound intensive components	Complied. • All the sound intensive components (DG Set and Compressor) are with acoustic

	<p>with insulation.</p> <ul style="list-style-type: none"> ➤ Using noise absorbing building materials if required for housing compressors and diesel generators etc. as per the guidelines suggested by Central Pollution Control Board. ➤ Adopting low noise driving (Eco-driving) ➤ Using silent exhaust pipes for major diesel engine vehicles and heavy trucks operated inside the port. ➤ Planting trees which act as barrier to arrest dispersion of noise levels. ➤ Using electricity powered equipment inside the port instead of diesel powered ones will be explored to the extent possible. 	<p>enclosures.</p> <ul style="list-style-type: none"> • Green belt development is in progress. • All RTGs and Quay Cranes are electricity operated.
3.	<p>Waste Water Management: Port handling operations would generate wastewater from the following sources: -</p> <ol style="list-style-type: none"> 1. Ship ballast water, 2. Ship deck wastewater including sewage, 3. Rejects from desalination plant, 4. Workshop and vehicle maintenance shop wastewater, 5. Leachate from coal stock yard, 6. Floor cleaning and tank cleaning wastewater from the liquid tank farm, 7. Sewage from port facilities. The proposed wastewater treatment and reuse program has been presented hereunder: - <p>A variety of vessels use the waters within the port, including bulk coal ships, tugs and line boats. Discharges from bulk ships are not expected to occur within the port because these large ships normally have on-board storage and sewage treatment plants, allowing discharge of treated effluent at sea as per the provision of MARPOL.</p> <ul style="list-style-type: none"> ➤ Except monsoon, leachate from coal stock yard is not envisaged. However small quantities, if any, will be treated in the effluent treatment plant. Wastewater from vehicle work-shops will also be treated in the proposed onsite effluent treatment plant. ➤ As far as possible all chemical spills at liquid handling facilities will be treated with dry spill absorbing material and water will not be used. Spillage if any occurs will be treated in a dedicated onsite wastewater treatment plant, which consists of an oil removal unit, primary chemical treatment unit and biological treatment units followed by activated carbon unit. Biologically 	<p>Being Complied</p> <ul style="list-style-type: none"> - AHPPL is not accepting Ballast/ Sewage water from Ships. - Desalination plant not yet installed. - There is no effluent generation from workshop. Vehicle maintenance has not done in port premises. - There is no leachate from dump pond. - Tank cleaning wastewater is being treated into ETP. - Domestic waste water is being treated in the STP and then used for horticulture purpose within the port premises. <p>Complied.</p> <p>Dedicated coal dump pond is being provided to collect the runoff (if any) from coal yard and it is further reused for dust suppression purpose into coal yard.</p> <p>Complied with.</p> <p>No spill has occurred till date. If, spills occurred, spilled material/chemical will be treated into ETP and treated waste water will be reused in greenbelt development / plantation purpose.</p>

	<p>treated wastewater will be further treated in the central sewage treatment plant. Treated wastewater will be used for dust suppression and horticulture applications at the facility. No treated wastewater will be discharged outside the port facilities.</p>	
4.	<p>Storm Water Management Plan:</p> <ul style="list-style-type: none"> ➤ Storm water from the coal stockpile area will be passed through a series of sediment traps to remove the majority of the coal sediment before discharging into the natural drains. It has been proposed to construct a garland drain for all bulk storage facilities to avoid silting into the marine eco-system. ➤ All liquid storage tanks will be provided with dykes to avoid any cross contamination of storm water from chemical spills. Storm water drains shall be designed in order to avoid any flooding of the coal stock yard and liquid chemical tank farm areas. 	<p>Complied</p> <p>Garland drain for all bulk storage facilities are provided to avoid silting into the marine eco-system. Storm water from the coal stockpile area is collected into dump ponds to remove the coal sediment.</p> <p>Complied.</p> <p>All liquid storage tanks are provided with dykes to avoid any cross contamination of storm water from chemical spills. Storm water drains and effluents drains are separate.</p>
5.	<p>Solid and Hazardous Waste Management:</p> <ul style="list-style-type: none"> ➤ Solid wastes generated from the port handling facilities consist of packaging waste such as wood, paper/carton, steel scrap etc. ➤ All the hazardous wastes and solid wastes such as Oil containing cargo residue, Chemical containing cargo residue and sludge, contaminated cotton waste, spent exchange resin and ETP Sludge, etc. shall be segregated at source and stored at the earmarked area. ➤ Recyclable wastes will be collected and disposed to waste recycling vendors through certified recyclers wherever applicable. ➤ Hazardous wastes include contaminated chemical spills, spent dry adsorbing spill absorbing material used for large marine and onshore chemical spills, used lubricating oils and greases. The chemicals spill inventories and spent dry absorbing material will be stored in a dedicated onsite tank and will be disposed to authorized hazardous waste incinerators. 	<p>Complied.</p> <ul style="list-style-type: none"> - Solid wastes generated during port development i.e.: construction & demolition wastes are reused for level rising of low lying area within the port premises. Kitchen/ Food, Horticulture/Garden wastes are being sent to Organic Waste Converter (OWC) to convert it into compost and reused as manure in greenbelt/plantation. - Packaging materials generated from the cargo handling i.e.: Wood, Paper/Carton, Steel Scrap, Plastic/Tarpaulin etc. are collected and sold out to recyclers. <p>Complied.</p> <p>All the wastes are segregated at source and stored at a dedicated Hazardous Waste storage shed/yard.</p> <p>Complied.</p> <p>Recyclable wastes is being collected and disposed of through CPCB/GPCB registered recyclers.</p> <p>Complied.</p> <p>No spill has occurred till date.</p> <p>Complied.</p>

	<ul style="list-style-type: none"> ➤ Spent lube oils and greases will be disposed to authorized used oil recycling vendors. ➤ A dedicated and completely enclosed shed will be identified to store the hazardous wastes in order to avoid any cross contamination from storm water. ➤ All the waste should be segregated, collected, categorized as per the HWM Rules 2008, SWM Rules 2000 and Batteries Rules 2001 prescribed by CPCB under Environmental Protection Act, 1986. 	<p>Recyclable wastes is being collected and disposed of through CPCB/GPCB registered recyclers.</p> <p>Complied.</p> <p>All the wastes are stored at a dedicated hazardous waste storage shed/yard.</p> <p>Being Complied</p> <p>All the wastes are being segregate at source and handled as per applicable rules/ guidelines.</p>
6. Greenbelt and Plantation:	<ul style="list-style-type: none"> ➤ AHPPL will develop thick green belt plantation in and around the proposed project facility covering 81.27 Ha. Efforts will be taken to increase the green cover in and around the project boundary using local species with a view to ameliorating project related disturbances and enhancing the ecological value of the area. Greenbelt would be developed as per the CPCB guidelines. ➤ A capital cost of Rs. 1.62 Crore and an annual recurring budget of Rs. 0.65 Crore will be earmarked for this purpose. 	<p>Complied</p> <p>Company has set up dedicated greenbelt area for plantation at periphery / avenue plantation / landscaping etc. Total greenbelt area developed so far is approx. 69.80 ha till 31st March 2019.</p> <p>Horticulture budget for FY 2018-19 was Rs. 139.65 Lakhs.</p>
7. Community Development Plan:	<p>AHPPL has identified focused areas for community development and implement developmental program. The identified activities under CSR program are as follows: -</p> <ol style="list-style-type: none"> 1. Infrastructure development for educational facilities like building of schools, computer rooms, multipurpose activity halls 2. Supporting education through distribution of stationary, scholarships, science kits, bicycles to children, conducting education camps, competitions. 3. Strengthening the community health by arranging health camps, AID awareness camps, providing financial support to senior citizens and poor people, building dispensaries and mobile dispensaries. 4. Improvement of rural sanitation by conducting mass awareness campaign, helping villagers for constructing and maintaining household toilets, school toilets. 5. Improvement in animal husbandry and agriculture by arranging camps for farmers and cattle owners, conducting programs to use new irrigation technologies, organic farming, and free fodder supply. 6. Organizing need based skill development program to women and youth for their empowerment. 7. Rural infrastructure development by construction of rainwater harvesting ponds, 	<p>Complied.</p> <ul style="list-style-type: none"> • CSR activities carried out by Adani Foundation in four verticals i.e.: - (1) Education, (2). Community Health, (3). Sustainable Livelihood and (4). Rural Infrastructure Development. • Detail of the CSR activities along with budgetary provisions and progress are regularly submitted to MoEF & CC as part of six monthly compliance reports. • Please refer the Annexure-2 for the status of the CSR activities during the Financial Year: 2018-19.

	<p>check dams, roads, bus stops, drainage systems, fish landing shed, solar street lamps.</p> <p>AHPPL has committed to spend about Rs. 8.21 Crore in the first five years of the operation towards various rural upliftment and community development programs and tentative budget has been presented in the below table - Budgeted Expenditure for CSR and Community Development Activities:-</p> <table border="1"> <thead> <tr> <th>S. No.</th><th>Descriptions</th><th>Budgeted Amount For 1st 5 year Period (Amount rupees in Crore)</th></tr> </thead> <tbody> <tr> <td>1</td><td>Education</td><td>2.29</td></tr> <tr> <td>2</td><td>Community Health</td><td>1.18</td></tr> <tr> <td>3</td><td>Sustainable Livelihood Activities</td><td>1.43</td></tr> <tr> <td>4</td><td>Rural Infrastructure Development</td><td>2.04</td></tr> <tr> <td>5</td><td>Entry Point Activities</td><td>1.27</td></tr> <tr> <td colspan="2">Total</td><td>8.21</td></tr> </tbody> </table>	S. No.	Descriptions	Budgeted Amount For 1 st 5 year Period (Amount rupees in Crore)	1	Education	2.29	2	Community Health	1.18	3	Sustainable Livelihood Activities	1.43	4	Rural Infrastructure Development	2.04	5	Entry Point Activities	1.27	Total		8.21	
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II.	MARINE ENVIRONMENT MANAGEMENT PLAN:																						
A.	<p>CONSTRUCTION PHASE: -</p> <ul style="list-style-type: none"> ➤ The dredge spoil generated during capital dredging will be used for land reclamation for the port development and associated utilities. ➤ Unused dredged material will be disposed off at approved dump sites to the north of port area including dredged soil generated through maintenance dredging. ➤ Appropriate dredging methodology shall be adopted to control the generation of high levels of suspended solids. If the suspended solids concentration increases, the dredging operation should be stopped till the normal conditions are achieved. ➤ General clean up along the corridor used for construction related activities, adjacent intertidal areas, creeks etc. should be undertaken and all the discarded materials must be removed from the site and aesthetic quality of the surroundings to be restored, once the construction activities are completed. 	<p>Complied.</p> <p>No disposal has been done till date. All the dredging material is being utilized for level raising, reclamation.</p> <p>Complied</p> <p>If any excess material generated will be disposed of at the location already approved by the MoEF&CC.</p> <p>Noted & Being Complied</p> <p>Monitoring of turbidity level in the sea water is being done and there is no abnormal increase observed.</p> <p>Being Complied.</p> <p>Cleanup of the area is regularly being done.</p>																					
B.	<p>OPERATION PHASE: -</p> <p>The following mitigation measures are recommended during port operation: -</p> <ul style="list-style-type: none"> ➤ Sewage generated from the port operations will be treated in sewage treatment plant and treated water shall be used for horticulture and green belt development. ➤ All the solid waste generated from the port will be properly segregated, stored and disposed as per the applicable statutory requirement. 	<p>Complied.</p> <p>Sewage generated from the port operations is being treated in STP and treated water is being used for horticulture and green belt development.</p> <p>Complied.</p> <p>All the solid waste generated from the port is properly segregated, stored and disposed as per the applicable rules.</p>																					

<ul style="list-style-type: none"> ➤ All the structures shall be designed in such a way that it should not restrict the prevailing tidal ingress in the creek and mangrove habitats in the vicinity to ensure good health condition. ➤ Coastline between Suwali Point and Tapti Estuary mouth and around the port area will be periodically surveyed to assess erosion and accretion. Should the need arises the corrective action in terms of shore stabilization shall be undertaken. ➤ All the minor and major spillages of chemicals will be effectively controlled with appropriate tools and equipments. ➤ An oil/chemical spill management plan shall be evolved and be in place for tier-1 (100t) and tier-2 (700t) spills in consultation with Gujarat Maritime Board/Coast Guard. ➤ All the marine outfall shall meet the Gujarat Pollution Control Board Effluent Discharge Criteria for Seawater Disposal Standards. ➤ Monitoring of water area of the port and effluent disposal sited shall be studied for pH and Corg, Suspended Solids, DO, BOD in order to identify for deviations if any from the baseline environmental quality. ➤ The mitigation measures suggested for effluent release and maintaining of effluent disposal sites should also be adopted for effluent release by NIKO should be implemented. 	<p>Being Complied Free flow to the mangrove is not restricted by any of our activity.</p> <p>Complied. Shoreline change study was conducted by NIO, Vizag during the period from November, 2014 to December, 2015. Study confirms that there is no significant change in the nearby shoreline except for the approved layout of the AHPPL. The report did not warrant any mitigation measures.</p> <p>Noted and Being Complied. There is no oil spill till date.</p> <p>Complied. Oil Spill Contingency Plan has been prepared and the same was approved/vetted by Indian Coast Guard (Letter No.: 7563, dated 09.01.2014).</p> <p>Noted and Being Complied No effluent is being discharged.</p> <p>Complied. Please refer the <u>Annexure-4D</u> for the Sea Water Quality Monitoring / Analysis Reports for the period October 2018 to March 2019.</p> <p>Noted, AHPPL is not discharging any effluent outside the port premises.</p>
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Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

ANNEXURE-4

**Environmental Monitoring / Analysis Results For The Period From October., 2018 To March,
2019.**



Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

ANNEXURE-4 (A)

**Ambient Air Quality Monitoring / Analysis Results For The Period From October., 2018 To
March, 2019.**


POLLUCON LABORATORIES PVT. LTD.
4A. AMBIENT AIR QUALITY MONITORING: -
Table-1.1: Ambient Air Quality Monitoring Results At Near Port Gate No.: 2

Sr. No.	Date of Sampling	Location-1: Near Port Gate No.: 2 (N 21° 05.426'E 72° 37.739')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2018	89.36	46.56	BDL*	BDL*	BDL*	BDL*	0.73	BDL*	37.35	16.34	44.66	25.55
2	04/10/2018	75.67	32.96	BDL*	BDL*	BDL*	BDL*	0.89	BDL*	40.37	18.55	34.35	18.58
3	08/10/2018	92.45	41.62	0.72	BDL*	2.76	10.17	0.70	BDL*	48.63	23.45	39.37	30.22
4	11/10/2018	84.63	44.84	BDL*	BDL*	2.11	BDL*	0.57	BDL*	42.42	26.44	46.27	24.37
5	15/10/2018	74.71	25.71	BDL*	BDL*	BDL*	BDL*	0.69	BDL*	53.64	14.67	32.31	28.35
6	18/10/2018	90.30	54.38	0.80	BDL*	2.84	10.62	0.36	BDL*	32.52	20.27	37.56	20.33
7	22/10/2018	85.35	49.44	BDL*	BDL*	2.54	10.34	0.78	BDL*	28.23	25.35	42.14	15.27
8	25/10/2018	71.27	42.58	BDL*	BDL*	BDL*	BDL*	0.39	BDL*	36.36	17.97	30.38	27.45
9	29/10/2018	91.55	46.89	0.58	BDL*	BDL*	BDL*	0.64	BDL*	45.60	21.23	35.38	23.45
10	01/11/2018	94.48	50.32	0.65	BDL*	2.54	10.34	0.66	BDL*	38.45	21.89	41.47	15.65
11	05/11/2018	70.56	41.29	BDL*	BDL*	BDL*	BDL*	0.74	BDL*	48.49	15.88	29.31	25.11
12	08/11/2018	82.43	44.88	BDL*	BDL*	BDL*	BDL*	0.42	BDL*	34.39	25.68	36.48	27.65
13	12/11/2018	76.29	31.54	BDL*	BDL*	BDL*	BDL*	0.32	BDL*	20.48	18.81	32.46	21.58
14	15/11/2018	67.32	35.62	BDL*	BDL*	BDL*	BDL*	0.23	BDL*	46.26	16.44	27.54	24.32
15	19/11/2018	79.76	28.65	BDL*	BDL*	BDL*	BDL*	0.88	BDL*	39.33	23.45	38.21	18.47
16	22/11/2018	90.22	52.45	0.75	BDL*	2.65	10.22	0.37	BDL*	25.36	26.47	33.47	26.33
17	26/11/2018	84.33	45.30	BDL*	BDL*	BDL*	BDL*	0.93	BDL*	35.46	22.50	39.28	28.44
18	29/11/2018	93.40	48.31	0.85	BDL*	2.86	10.58	0.41	BDL*	28.38	20.40	42.58	29.36
19	03/12/2018	74.35	40.70	BDL*	BDL*	BDL*	BDL*	0.48	BDL*	15.36	17.31	43.64	23.61
20	06/12/2018	85.65	52.45	0.84	BDL*	2.56	10.70	0.42	BDL*	37.27	21.22	38.33	20.24
21	10/12/2018	77.67	30.62	BDL*	BDL*	BDL*	BDL*	0.64	BDL*	40.56	16.25	35.33	28.34
22	13/12/2018	67.53	35.85	BDL*	BDL*	BDL*	BDL*	0.78	BDL*	45.69	14.27	31.27	19.41
23	17/12/2018	87.45	39.23	0.72	BDL*	2.68	10.34	0.82	BDL*	21.62	23.48	40.23	25.64
24	20/12/2018	72.61	32.79	BDL*	BDL*	BDL*	BDL*	0.45	BDL*	35.64	18.69	28.37	27.64
25	24/12/2018	82.58	45.39	0.54	BDL*	2.24	10.46	0.87	BDL*	30.62	11.57	29.61	17.37
26	27/12/2018	69.30	34.34	BDL*	BDL*	BDL*	BDL*	0.72	BDL*	48.36	15.37	37.89	29.44


Authorized Signatory

● PSSAI Approved Lab ● Recognised by MoEF, New Delhi Under Sec. 12 of Environmental Protection Act-1986 ● GPCB approved ● ISO 14001 : 2004 ● CEISAS 10001 : 2007 ● ISO 9001 : 2008 ● ISO 18001 : 2007

"Pollucon House", Plot No.5/6, Opp.Balaji Industrial Society, Old Shantinath Silk Mill Lane, Near Gayatri Farsan Mart, Navjivan Circle,Udhana Magdalla Road, Surat-395007, Gujarat, India.

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POLLUCON LABORATORIES PVT. LTD.

27	31/12/2018	92.68	56.39	0.78	BDL*	2.46	10.70	0.80	BDL*	24.38	24.36	43.62	21.81
28	03/01/2019	67.38	30.33	BDL*	BDL*	BDL*	BDL*	0.86	BDL*	20.66	13.37	34.67	26.43
29	07/01/2019	92.62	56.22	0.64	BDL*	2.47	10.46	0.55	BDL*	42.67	17.85	42.62	23.59
30	10/01/2019	70.62	34.26	BDL*	BDL*	2.11	BDL*	0.77	BDL*	13.44	23.83	37.51	21.52
31	13/01/2019	83.39	39.49	0.56	BDL*	2.45	10.17	0.61	BDL*	37.63	16.49	24.63	28.44
32	17/01/2019	76.54	42.47	BDL*	BDL*	BDL*	BDL*	0.15	BDL*	47.58	19.45	35.76	30.22
33	21/01/2019	88.59	46.56	BDL*	BDL*	BDL*	BDL*	0.73	BDL*	31.51	21.60	33.44	19.34
34	24/01/2019	93.39	55.42	0.65	BDL*	2.82	10.65	0.72	BDL*	26.42	18.66	39.45	25.67
35	28/01/2019	79.64	33.56	BDL*	BDL*	BDL*	BDL*	0.62	BDL*	46.31	20.65	29.21	27.53
36	31/01/2019	90.57	49.57	0.67	BDL*	2.68	10.40	0.70	BDL*	52.36	25.38	25.62	24.66
37	04/02/2019	81.52	45.76	0.75	BDL*	2.56	10.55	0.78	BDL*	29.64	18.24	29.41	17.52
38	07/02/2019	77.51	42.46	BDL*	BDL*	BDL*	BDL*	0.95	BDL*	24.27	13.35	34.21	22.53
39	11/02/2019	88.64	47.52	0.64	BDL*	2.24	10.34	0.81	BDL*	58.45	22.85	38.42	25.66
40	14/02/2019	79.62	37.44	0.72	BDL*	BDL*	10.44	0.48	BDL*	32.63	19.39	28.34	27.51
41	18/02/2019	85.43	40.37	BDL*	BDL*	BDL*	BDL*	0.74	BDL*	41.54	20.69	41.24	23.50
42	21/02/2019	94.35	54.34	0.84	BDL*	2.49	10.75	0.87	BDL*	47.24	24.33	45.65	28.54
43	25/02/2019	89.24	43.54	BDL*	BDL*	BDL*	BDL*	0.55	BDL*	37.56	13.55	35.26	18.57
44	28/02/2019	71.33	31.33	BDL*	BDL*	2.65	BDL*	0.96	BDL*	13.51	11.69	22.84	26.32
45	04/03/2019	76.31	36.39	BDL*	BDL*	BDL*	BDL*	0.48	BDL*	13.64	22.47	37.57	30.47
46	07/03/2019	86.33	46.26	0.86	BDL*	2.36	10.73	0.77	BDL*	38.46	18.34	43.65	20.48
47	11/03/2019	92.44	41.29	0.76	BDL*	2.68	10.58	0.38	BDL*	43.66	15.61	24.33	28.62
48	14/03/2019	79.61	51.33	BDL*	BDL*	BDL*	BDL*	0.87	BDL*	51.26	13.75	35.85	24.14
49	18/03/2019	68.37	37.68	BDL*	BDL*	BDL*	BDL*	0.34	BDL*	32.52	17.63	39.27	26.63
50	21/03/2019	82.45	44.34	BDL*	BDL*	BDL*	BDL*	0.42	BDL*	48.37	23.53	42.45	25.32
51	25/03/2019	90.27	54.34	0.81	BDL*	2.76	10.55	0.84	BDL*	25.28	20.48	33.64	23.66
52	28/03/2019	84.38	43.71	0.74	BDL*	2.34	10.40	0.71	BDL*	36.27	19.56	40.34	21.67

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification No.B-29016/2019/PCI-Idt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

BDL*: - Below Detection Limit: Ozone as O_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Lead as Pb ($\mu g/m^3$): 0.5

BDL*: - Below Detection Limit - Carbon Monoxide as CO (mg/m^3): 0.01

BDL*: - Below Detection Limit - Ammonia NH_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Benzene as C_6H_6 ($\mu g/m^3$): 2

BDL*: - Below Detection Limit - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

BDL*: - Below Detection Limit - Arsenic as As (ng/m^3): 2

BDL*: - Below Detection Limit - Nickel as Ni (ng/m^3): 10



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Table-1.2: Ambient Air Quality Monitoring Results At HSE Building Terrace

Sr. No.	Date of Sampling	Location-2: HSE Building Terrace (N 21° 05.043' E 72° 38.491')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2018	69.20	32.49	BDL*	BDL*	BDL*	BDL*	0.27	BDL*	21.41	12.58	39.22	21.54
2	04/10/2018	71.39	37.50	BDL*	BDL*	BDL*	BDL*	0.42	BDL*	25.61	6.51	22.31	23.25
3	08/10/2018	56.24	26.74	BDL*	BDL*	BDL*	BDL*	0.18	BDL*	30.28	13.55	18.44	25.43
4	11/10/2018	62.35	33.24	BDL*	BDL*	BDL*	BDL*	0.50	BDL*	38.31	16.88	26.52	16.49
5	15/10/2018	80.39	41.39	BDL*	BDL*	BDL*	BDL*	0.24	BDL*	33.40	9.48	19.40	24.78
6	18/10/2018	67.29	34.56	BDL*	BDL*	BDL*	BDL*	0.48	BDL*	16.37	14.55	23.65	17.12
7	22/10/2018	74.51	38.33	BDL*	BDL*	BDL*	BDL*	0.62	BDL*	19.31	10.60	29.13	19.12
8	25/10/2018	51.69	24.01	BDL*	BDL*	BDL*	BDL*	0.31	BDL*	29.23	19.32	37.49	22.41
9	29/10/2018	70.61	36.84	BDL*	BDL*	BDL*	BDL*	0.49	BDL*	40.57	8.41	27.37	26.56
10	01/11/2018	75.38	37.25	BDL*	BDL*	BDL*	BDL*	0.48	BDL*	25.63	6.55	35.25	23.32
11	05/11/2018	82.62	32.66	BDL*	BDL*	BDL*	BDL*	0.22	BDL*	33.65	20.50	33.58	29.46
12	08/11/2018	57.35	22.44	BDL*	BDL*	BDL*	BDL*	0.50	BDL*	29.34	9.69	16.57	18.69
13	12/11/2018	66.29	28.31	BDL*	BDL*	BDL*	BDL*	0.39	BDL*	37.58	12.44	22.36	24.68
14	15/11/2018	52.75	24.59	BDL*	BDL*	BDL*	BDL*	0.17	BDL*	16.57	11.34	18.61	20.59
15	19/11/2018	88.61	41.60	BDL*	BDL*	BDL*	BDL*	0.14	BDL*	19.62	17.60	28.64	15.28
16	22/11/2018	59.38	31.29	BDL*	BDL*	BDL*	BDL*	0.25	BDL*	22.45	19.42	24.54	17.59
17	26/11/2018	71.64	20.66	BDL*	BDL*	BDL*	BDL*	0.29	BDL*	32.45	10.64	20.52	21.27
18	29/11/2018	62.46	33.45	BDL*	BDL*	BDL*	BDL*	0.52	BDL*	23.46	15.30	37.21	19.48
19	03/12/2018	57.63	29.64	BDL*	BDL*	BDL*	BDL*	0.39	BDL*	29.36	19.83	32.59	19.78
20	06/12/2018	80.35	41.56	0.66	BDL*	2.34	10.28	0.33	BDL*	18.63	12.69	27.62	16.57
21	10/12/2018	62.41	37.59	BDL*	BDL*	BDL*	BDL*	0.30	BDL*	26.38	6.80	23.65	22.43
22	13/12/2018	54.36	27.61	BDL*	BDL*	BDL*	BDL*	0.62	BDL*	51.38	10.99	40.36	15.69
23	17/12/2018	75.68	42.59	BDL*	BDL*	2.52	10.14	0.52	BDL*	38.38	16.51	28.68	18.60
24	20/12/2018	50.36	25.37	BDL*	BDL*	BDL*	BDL*	0.55	BDL*	32.28	20.84	42.38	30.45
25	24/12/2018	70.43	35.76	BDL*	BDL*	BDL*	BDL*	0.17	BDL*	16.38	13.62	33.84	24.63
26	27/12/2018	64.57	31.62	BDL*	BDL*	BDL*	BDL*	0.44	BDL*	42.64	8.39	21.65	26.75



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27	31/12/2018	88.65	52.57	0.56	BDL*	BDL*	10.50	0.31	BDL*	21.56	11.62	26.84	17.17
28	03/01/2019	60.56	27.65	BDL*	BDL*	BDL*	BDL*	0.54	BDL*	38.42	11.33	28.38	22.61
29	07/01/2019	72.51	43.84	BDL*	BDL*	BDL*	BDL*	0.47	BDL*	26.75	14.25	23.43	18.53
30	10/01/2019	80.45	38.50	BDL*	BDL*	2.32	BDL*	0.18	BDL*	31.35	16.31	41.26	24.57
31	15/01/2019	93.46	52.65	0.88	BDL*	BDL*	10.59	0.44	BDL*	22.57	8.31	21.57	16.55
32	17/01/2019	84.43	39.24	BDL*	BDL*	BDL*	BDL*	0.24	BDL*	35.38	12.67	32.52	19.64
33	21/01/2019	68.35	42.51	BDL*	BDL*	BDL*	BDL*	0.39	BDL*	29.96	10.43	38.26	26.22
34	24/01/2019	86.61	46.44	0.76	BDL*	BDL*	10.22	0.53	BDL*	19.55	20.40	26.23	21.32
35	28/01/2019	92.34	40.28	BDL*	BDL*	BDL*	BDL*	0.74	BDL*	30.51	17.55	36.45	25.35
36	31/01/2019	79.43	35.35	BDL*	BDL*	BDL*	BDL*	0.60	BDL*	25.86	9.51	15.36	28.63
37	04/02/2019	73.67	32.49	0.56	BDL*	BDL*	BDL*	0.18	BDL*	19.38	16.34	24.83	23.64
38	07/02/2019	61.44	37.30	BDL*	BDL*	BDL*	BDL*	0.80	BDL*	16.38	10.26	38.63	17.64
39	11/02/2019	92.43	50.67	0.78	BDL*	2.54	10.80	0.53	BDL*	21.21	18.45	26.32	21.37
40	14/02/2019	86.44	30.34	0.58	BDL*	BDL*	10.50	0.26	BDL*	25.32	7.58	35.44	25.76
41	18/02/2019	94.34	54.52	BDL*	BDL*	BDL*	BDL*	0.64	BDL*	17.58	13.34	30.60	29.35
42	21/02/2019	89.57	26.49	0.62	BDL*	BDL*	BDL*	0.46	BDL*	24.65	9.62	39.55	19.55
43	25/02/2019	78.63	47.35	BDL*	BDL*	BDL*	BDL*	0.24	BDL*	29.22	15.50	42.68	15.35
44	28/02/2019	60.56	22.52	BDL*	BDL*	2.07	BDL*	0.85	BDL*	41.27	20.32	20.18	22.67
45	04/03/2019	70.28	33.57	BDL*	BDL*	BDL*	BDL*	0.66	BDL*	29.21	15.37	34.52	20.39
46	07/03/2019	91.36	52.40	0.54	BDL*	2.64	10.08	0.55	BDL*	21.32	22.65	39.35	22.40
47	11/03/2019	63.33	31.21	0.65	BDL*	BDL*	BDL*	0.23	BDL*	26.38	13.67	20.67	26.49
48	14/03/2019	74.22	43.42	BDL*	BDL*	BDL*	BDL*	0.60	BDL*	38.07	17.83	24.50	18.38
49	18/03/2019	82.73	46.20	BDL*	BDL*	BDL*	BDL*	0.76	BDL*	20.36	9.49	28.68	25.43
50	21/03/2019	65.33	28.35	BDL*	BDL*	BDL*	BDL*	0.52	BDL*	30.43	14.36	32.34	23.73
51	25/03/2019	79.44	44.66	BDL*	BDL*	BDL*	BDL*	0.33	BDL*	22.72	12.31	23.32	27.21
52	28/03/2019	61.27	34.65	BDL*	BDL*	BDL*	BDL*	0.47	BDL*	33.02	21.61	31.65	29.41

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PCI-1 dt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

BDL*: - Below Detection Limit: Ozone as O_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Lead as Pb ($\mu g/m^3$): 0.5

BDL*: - Below Detection Limit - Carbon Monoxide as CO (mg/m^3): 0.01

BDL*: - Below Detection Limit - Ammonia NH_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Benzene as C_6H_6 ($\mu g/m^3$): 2

BDL*: - Below Detection Limit - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

BDL*: - Below Detection Limit - Arsenic as As (ng/m^3): 2

BDL*: - Below Detection Limit - Nickel as Ni (ng/m^3): 10



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Table-1.3: Ambient Air Quality Monitoring Results At Central Water Pump House

Sr. No.	Date of Sampling	Location-3: Central Water Pump House (N 21° 04.697'E 72° 38.420')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO ₂	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2018	61.55	35.68	BDL*	BDL*	BDL*	BDL*	0.47	BDL*	32.97	20.55	30.53	27.55
2	04/10/2018	50.15	17.69	BDL*	BDL*	BDL*	BDL*	0.53	BDL*	29.36	13.34	25.36	16.68
3	08/10/2018	69.38	33.53	BDL*	BDL*	BDL*	BDL*	0.11	BDL*	19.40	10.62	28.25	18.66
4	11/10/2018	55.32	29.33	BDL*	BDL*	BDL*	BDL*	0.33	BDL*	27.51	18.45	31.30	26.22
5	15/10/2018	63.44	22.67	BDL*	BDL*	BDL*	BDL*	0.17	BDL*	24.49	16.69	36.34	17.75
6	18/10/2018	82.35	49.36	0.55	BDL*	BDL*	10.14	0.25	BDL*	36.43	12.61	34.51	19.28
7	22/10/2018	68.24	46.83	BDL*	BDL*	BDL*	BDL*	0.16	BDL*	13.23	8.62	19.58	22.30
8	25/10/2018	59.67	27.58	BDL*	BDL*	BDL*	BDL*	0.34	BDL*	21.59	6.24	27.67	20.26
9	29/10/2018	65.65	30.52	BDL*	BDL*	BDL*	BDL*	0.58	BDL*	18.23	11.61	24.15	14.24
10	01/11/2018	66.70	31.24	BDL*	BDL*	BDL*	BDL*	0.36	BDL*	33.50	13.56	20.78	28.64
11	05/11/2018	56.44	20.54	BDL*	BDL*	BDL*	BDL*	0.27	BDL*	30.42	17.36	37.64	15.36
12	08/11/2018	72.42	30.21	BDL*	BDL*	BDL*	BDL*	0.21	BDL*	13.56	15.49	24.36	21.61
13	12/11/2018	51.21	19.51	BDL*	BDL*	BDL*	BDL*	0.11	BDL*	26.53	10.39	18.46	18.73
14	15/11/2018	47.29	16.39	BDL*	BDL*	BDL*	BDL*	0.30	BDL*	36.54	6.80	21.33	27.32
15	19/11/2018	65.31	23.40	BDL*	BDL*	BDL*	BDL*	0.56	BDL*	35.70	8.67	35.34	22.56
16	22/11/2018	70.64	42.51	BDL*	BDL*	BDL*	BDL*	0.45	BDL*	17.24	11.62	29.47	20.44
17	26/11/2018	52.67	29.48	BDL*	BDL*	BDL*	BDL*	0.78	BDL*	25.46	19.58	23.42	30.29
18	29/11/2018	69.29	36.87	BDL*	BDL*	BDL*	BDL*	0.61	BDL*	22.64	9.31	32.65	26.83
19	03/12/2018	79.59	34.57	BDL*	BDL*	BDL*	BDL*	0.56	BDL*	18.48	10.26	36.33	17.66
20	06/12/2018	53.68	29.56	BDL*	BDL*	BDL*	BDL*	0.38	BDL*	42.38	14.33	33.37	26.31
21	10/12/2018	70.38	40.22	BDL*	BDL*	BDL*	BDL*	0.50	BDL*	30.64	8.64	18.82	20.63
22	13/12/2018	48.62	16.80	BDL*	BDL*	BDL*	BDL*	0.24	BDL*	19.26	6.50	15.56	29.60
23	17/12/2018	82.40	52.66	0.64	BDL*	BDL*	BDL*	0.46	BDL*	26.42	18.35	24.37	25.84
24	20/12/2018	57.40	19.61	BDL*	BDL*	BDL*	BDL*	0.41	BDL*	28.68	13.34	37.52	16.84
25	24/12/2018	61.24	32.54	BDL*	BDL*	BDL*	BDL*	0.32	BDL*	36.38	16.86	22.87	21.22
26	27/12/2018	46.24	22.31	BDL*	BDL*	BDL*	BDL*	0.21	BDL*	14.38	11.79	25.38	15.71
27	31/12/2018	51.87	31.58	BDL*	BDL*	BDL*	BDL*	0.34	BDL*	17.38	7.63	20.47	24.29


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28	03/01/2019	50.27	23.87	BDL*	BDL*	BDL*	BDL*	0.26	BDL*	26.51	6.35	21.64	29.37
29	07/01/2019	68.42	28.87	BDL*	BDL*	BDL*	BDL*	0.14	BDL*	19.57	9.65	18.73	20.36
30	10/01/2019	75.37	42.34	BDL*	BDL*	BDL*	BDL*	0.32	BDL*	29.38	12.44	25.63	16.28
31	15/01/2019	62.38	25.33	BDL*	BDL*	BDL*	BDL*	0.37	BDL*	32.64	14.53	27.54	25.42
32	17/01/2019	58.24	29.33	BDL*	BDL*	BDL*	BDL*	0.27	BDL*	23.45	7.50	22.38	21.71
33	21/01/2019	63.84	32.65	BDL*	BDL*	BDL*	BDL*	0.64	BDL*	17.53	16.68	23.64	15.61
34	24/01/2019	55.66	36.25	BDL*	BDL*	BDL*	BDL*	0.19	BDL*	12.35	10.30	20.35	23.30
35	28/01/2019	60.36	19.38	BDL*	BDL*	BDL*	BDL*	0.41	BDL*	28.48	13.70	26.42	19.76
36	31/01/2019	52.14	26.55	BDL*	BDL*	BDL*	BDL*	0.23	BDL*	21.57	15.63	17.61	22.36
37	04/02/2019	60.25	22.33	BDL*	BDL*	BDL*	BDL*	0.40	BDL*	10.57	9.57	19.58	25.32
38	07/02/2019	57.65	26.37	BDL*	BDL*	BDL*	BDL*	0.60	BDL*	21.52	12.41	31.38	27.36
39	11/02/2019	78.38	43.89	BDL*	BDL*	BDL*	BDL*	0.44	BDL*	26.53	14.57	24.55	19.44
40	14/02/2019	59.53	34.57	BDL*	BDL*	BDL*	BDL*	0.56	BDL*	29.48	16.55	20.31	17.28
41	18/02/2019	72.51	37.60	BDL*	BDL*	BDL*	BDL*	0.33	BDL*	11.44	10.58	18.65	22.45
42	21/02/2019	54.37	20.46	BDL*	BDL*	BDL*	BDL*	0.29	BDL*	33.67	15.42	30.23	21.65
43	25/02/2019	66.53	27.62	BDL*	BDL*	BDL*	BDL*	0.49	BDL*	23.35	6.58	27.51	20.17
44	28/02/2019	79.42	39.53	BDL*	BDL*	BDL*	BDL*	0.17	BDL*	31.64	17.63	36.24	24.52
45	04/03/2019	63.41	29.41	BDL*	BDL*	BDL*	BDL*	0.15	BDL*	19.26	18.60	26.33	18.69
46	07/03/2019	71.67	42.34	BDL*	BDL*	BDL*	BDL*	0.41	BDL*	34.51	7.60	33.76	24.56
47	11/03/2019	50.41	22.66	BDL*	BDL*	BDL*	BDL*	0.17	BDL*	31.61	11.58	28.77	21.28
48	14/03/2019	60.65	35.40	BDL*	BDL*	BDL*	BDL*	0.29	BDL*	27.24	9.61	19.61	26.75
49	18/03/2019	75.32	40.22	BDL*	BDL*	BDL*	BDL*	0.50	BDL*	37.22	13.50	35.67	23.44
50	21/03/2019	88.43	48.29	BDL*	BDL*	BDL*	BDL*	0.70	BDL*	24.34	8.48	36.24	17.65
51	25/03/2019	54.36	31.55	BDL*	BDL*	BDL*	BDL*	0.39	BDL*	13.47	17.31	29.33	29.33
52	28/03/2019	70.64	26.24	BDL*	BDL*	BDL*	BDL*	0.57	BDL*	46.38	10.20	22.55	25.63

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PC-I dt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

BDL*: - Below Detection Limit: Ozone as O_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Lead as Pb ($\mu g/m^3$): 0.5

BDL*: - Below Detection Limit - Carbon Monoxide as CO (mg/m^3): 0.01

BDL*: - Below Detection Limit - Ammonia NH_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Benzene as C_6H_6 ($\mu g/m^3$): 2

BDL*: - Below Detection Limit - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

BDL*: - Below Detection Limit - Arsenic as As (ng/m^3): 2

BDL*: - Below Detection Limit - Nickel as Ni (ng/m^3): 10



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Table-1.4: Ambient Air Quality Monitoring Results At Container Terminal

Sr. No.	Date of Sampling	Location-4: Container Terminal (N 21° 05.187'E 72° 37.774)											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2018	76.33	42.60	BDL*	BDL*	BDL*	BDL*	0.30	BDL*	28.55	18.33	36.45	17.34
2	04/10/2018	62.19	25.54	BDL*	BDL*	BDL*	BDL*	0.26	BDL*	21.53	9.64	40.87	27.25
3	08/10/2018	71.57	29.85	BDL*	BDL*	BDL*	BDL*	0.74	BDL*	26.35	17.30	31.53	21.29
4	11/10/2018	66.35	37.39	BDL*	BDL*	BDL*	BDL*	0.45	BDL*	34.24	11.56	34.61	23.33
5	15/10/2018	55.63	31.52	BDL*	BDL*	BDL*	BDL*	0.32	BDL*	20.32	12.30	22.45	19.56
6	18/10/2018	60.34	38.31	BDL*	BDL*	BDL*	BDL*	0.44	BDL*	40.29	16.20	29.46	24.57
7	22/10/2018	79.38	43.96	BDL*	BDL*	BDL*	BDL*	0.54	BDL*	23.55	6.62	25.44	25.62
8	25/10/2018	64.66	32.35	BDL*	BDL*	BDL*	BDL*	0.29	BDL*	41.20	10.27	33.48	26.45
9	29/10/2018	84.42	24.64	BDL*	BDL*	BDL*	BDL*	0.40	BDL*	27.22	15.66	32.45	16.56
10	01/11/2018	80.58	41.60	BDL*	BDL*	BDL*	BDL*	0.64	BDL*	29.44	8.53	27.65	18.50
11	05/11/2018	75.73	35.37	BDL*	BDL*	BDL*	BDL*	0.53	BDL*	23.53	11.54	23.66	26.49
12	08/11/2018	65.70	26.35	BDL*	BDL*	BDL*	BDL*	0.34	BDL*	15.68	19.38	30.59	23.43
13	12/11/2018	59.33	24.35	BDL*	BDL*	BDL*	BDL*	0.13	BDL*	33.27	15.60	25.65	14.31
14	15/11/2018	63.46	27.51	BDL*	BDL*	BDL*	BDL*	0.24	BDL*	24.51	9.58	31.22	16.31
15	19/11/2018	72.61	46.86	BDL*	BDL*	BDL*	BDL*	0.16	BDL*	30.52	10.51	22.76	25.60
16	22/11/2018	52.58	36.55	BDL*	BDL*	BDL*	BDL*	0.47	BDL*	18.40	17.57	39.58	22.61
17	26/11/2018	60.33	23.68	BDL*	BDL*	BDL*	BDL*	0.54	BDL*	12.65	14.35	36.52	17.44
18	29/11/2018	79.61	43.56	BDL*	BDL*	BDL*	BDL*	0.19	BDL*	31.53	12.66	28.51	21.37
19	03/12/2018	50.25	26.35	BDL*	BDL*	BDL*	BDL*	0.18	BDL*	10.58	15.61	26.24	15.37
20	06/12/2018	74.27	37.38	BDL*	BDL*	BDL*	BDL*	0.60	BDL*	28.42	10.46	21.54	24.40
21	10/12/2018	83.64	47.57	BDL*	BDL*	BDL*	BDL*	0.57	BDL*	23.38	14.51	29.48	26.23
22	13/12/2018	62.58	21.55	BDL*	BDL*	BDL*	BDL*	0.27	BDL*	30.18	12.36	24.69	21.68
23	17/12/2018	70.59	33.56	BDL*	BDL*	BDL*	BDL*	0.63	BDL*	34.54	11.23	35.65	23.47
24	20/12/2018	67.66	29.35	BDL*	BDL*	BDL*	BDL*	0.25	BDL*	41.36	8.64	20.24	29.45
25	24/12/2018	76.57	38.64	BDL*	BDL*	BDL*	BDL*	0.66	BDL*	19.56	18.72	35.23	19.38
26	27/12/2018	52.70	25.60	BDL*	BDL*	BDL*	BDL*	0.15	BDL*	22.42	13.55	30.23	22.33
27	31/12/2018	68.43	36.56	BDL*	BDL*	BDL*	BDL*	0.71	BDL*	11.28	9.67	33.52	18.45
28	03/01/2019	55.40	23.55	BDL*	BDL*	BDL*	BDL*	0.45	BDL*	34.47	13.46	24.56	20.44


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29	07/01/2019	77.64	46.72	BDL*	BDL*	BDL*	BDL*	0.78	BDL*	22.48	19.35	31.32	14.38
30	10/01/2019	86.53	49.65	BDL*	BDL*	2.60	BDL*	0.11	BDL*	27.51	10.56	28.62	18.64
31	15/01/2019	57.32	32.10	BDL*	BDL*	BDL*	BDL*	0.48	BDL*	19.28	6.54	18.66	27.52
32	17/01/2019	66.27	21.55	BDL*	BDL*	BDL*	BDL*	0.36	BDL*	32.51	21.55	26.38	24.35
33	21/01/2019	79.56	35.35	BDL*	BDL*	BDL*	BDL*	0.46	BDL*	39.54	9.58	16.46	22.45
34	24/01/2019	62.53	33.45	BDL*	BDL*	BDL*	BDL*	0.57	BDL*	29.34	13.43	32.47	17.52
35	28/01/2019	73.50	30.22	BDL*	BDL*	BDL*	BDL*	0.34	BDL*	25.33	8.73	23.52	15.87
36	31/01/2019	67.54	39.35	BDL*	BDL*	BDL*	BDL*	0.52	BDL*	30.25	17.62	29.62	19.54
37	04/02/2019	68.71	35.48	BDL*	BDL*	BDL*	BDL*	0.62	BDL*	14.35	6.34	18.56	21.53
38	07/02/2019	51.25	30.39	BDL*	BDL*	BDL*	BDL*	0.37	BDL*	11.61	9.34	27.44	25.44
39	11/02/2019	65.32	25.43	BDL*	BDL*	BDL*	BDL*	0.25	BDL*	37.25	20.24	32.24	16.32
40	14/02/2019	75.33	42.65	BDL*	BDL*	BDL*	BDL*	0.38	BDL*	16.54	11.19	25.85	22.84
41	18/02/2019	57.36	20.55	BDL*	BDL*	BDL*	BDL*	0.19	BDL*	26.34	16.21	33.26	20.23
42	21/02/2019	63.77	32.72	BDL*	BDL*	BDL*	BDL*	0.54	BDL*	19.28	13.21	35.56	17.36
43	25/02/2019	72.60	23.32	BDL*	BDL*	BDL*	BDL*	0.14	BDL*	32.40	8.42	24.30	23.36
44	28/02/2019	54.51	27.39	BDL*	BDL*	BDL*	BDL*	0.23	BDL*	23.52	22.98	28.38	19.18
45	04/03/2019	82.37	37.56	BDL*	BDL*	BDL*	BDL*	0.73	BDL*	25.32	9.37	31.29	28.34
46	07/03/2019	56.37	33.45	BDL*	BDL*	BDL*	BDL*	0.49	BDL*	29.33	13.36	24.65	27.62
47	11/03/2019	79.55	26.35	BDL*	BDL*	BDL*	BDL*	0.44	BDL*	22.51	6.60	17.54	19.47
48	14/03/2019	84.25	48.61	BDL*	BDL*	BDL*	BDL*	0.63	BDL*	35.31	12.48	29.61	21.76
49	18/03/2019	50.36	30.35	BDL*	BDL*	BDL*	BDL*	0.27	BDL*	12.63	7.66	32.68	16.44
50	21/03/2019	71.31	34.60	BDL*	BDL*	BDL*	BDL*	0.88	BDL*	21.58	19.22	21.66	20.25
51	25/03/2019	66.22	40.44	BDL*	BDL*	BDL*	BDL*	0.45	BDL*	18.68	23.49	36.33	18.78
52	28/03/2019	77.61	47.32	BDL*	BDL*	BDL*	BDL*	0.65	BDL*	41.61	15.11	26.48	23.39

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/20/90/PC3-I dt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values

BDL*: - Below Detection Limit: Ozone as O_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Lead as Pb ($\mu g/m^3$): 0.5

BDL*: - Below Detection Limit - Carbon Monoxide as CO (mg/m^3): 0.01

BDL*: - Below Detection Limit - Ammonia NH_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit - Benzene as C_6H_6 ($\mu g/m^3$): 2

BDL*: - Below Detection Limit - Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

BDL*: - Below Detection Limit - Arsenic as As (ng/m^3): 2

BDL*: - Below Detection Limit - Nickel as Ni (ng/m^3): 10



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Table-1.5: Ambient Air Quality Monitoring Results At Hazira Village

Sr. No.	Date of Sampling	Location-5: Hazira Village (N 21° 05.44' E 72° 38.44')											
		PM ₁₀	PM _{2.5}	Pb	BaP	As	Ni	CO	C ₆ H ₆	NH ₃	SO ₂	NO _x	O ₃
		µg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³	mg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³
1	01/10/2018	82.68	39.33	BDL*	BDL*	BDL*	BDL*	0.52	BDL*	48.81	25.49	33.38	18.00
2	04/10/2018	94.58	28.75	0.68	BDL*	BDL*	BDL*	0.94	BDL*	33.62	16.05	37.68	20.42
3	08/10/2018	84.39	37.88	0.57	BDL*	2.55	10.80	0.95	BDL*	42.38	19.47	35.66	23.10
4	11/10/2018	77.50	40.25	BDL*	BDL*	BDL*	BDL*	0.82	BDL*	56.34	22.67	41.24	27.19
5	15/10/2018	86.57	35.75	BDL*	BDL*	BDL*	BDL*	0.37	BDL*	38.51	26.39	45.69	21.10
6	18/10/2018	73.52	45.38	0.76	BDL*	2.26	BDL*	0.60	BDL*	46.53	23.61	39.52	30.40
7	22/10/2018	90.44	53.75	0.56	BDL*	2.76	10.36	0.71	BDL*	32.86	28.39	34.20	28.44
8	25/10/2018	87.23	48.29	BDL*	BDL*	BDL*	BDL*	0.55	BDL*	50.38	13.67	40.27	24.25
9	29/10/2018	76.45	41.58	0.65	BDL*	BDL*	BDL*	0.68	BDL*	33.56	18.62	43.55	29.46
10	01/11/2018	86.45	46.29	0.56	BDL*	2.65	10.81	0.85	BDL*	54.62	17.26	38.53	25.41
11	05/11/2018	90.38	48.58	0.84	BDL*	BDL*	BDL*	0.49	BDL*	39.67	24.96	44.51	19.57
12	08/11/2018	78.54	34.50	BDL*	BDL*	BDL*	BDL*	0.76	BDL*	19.52	22.37	40.66	29.52
13	12/11/2018	84.51	37.54	BDL*	BDL*	BDL*	BDL*	0.57	BDL*	46.39	20.26	35.68	26.56
14	15/11/2018	59.62	31.71	BDL*	BDL*	BDL*	BDL*	0.82	BDL*	32.54	14.54	24.66	22.76
15	19/11/2018	92.32	55.38	BDL*	BDL*	2.46	10.42	0.46	BDL*	23.62	26.33	32.57	27.52
16	22/11/2018	81.41	45.63	0.63	BDL*	2.84	10.69	0.63	BDL*	29.63	21.55	42.34	24.51
17	26/11/2018	77.65	42.63	BDL*	BDL*	BDL*	BDL*	0.26	BDL*	41.51	28.63	27.39	18.34
18	29/11/2018	88.55	39.75	0.74	BDL*	2.26	10.42	0.70	BDL*	36.42	23.63	45.65	16.86
19	03/12/2018	84.51	44.17	BDL*	BDL*	BDL*	BDL*	0.96	BDL*	24.32	10.82	39.51	27.56
20	06/12/2018	93.44	55.63	0.76	BDL*	2.41	10.40	0.73	BDL*	48.64	26.32	46.34	22.69
21	10/12/2018	89.36	50.33	BDL*	BDL*	BDL*	BDL*	0.29	BDL*	33.62	20.36	31.56	30.21
22	13/12/2018	74.51	42.63	BDL*	BDL*	BDL*	BDL*	0.37	BDL*	38.42	16.35	36.85	24.54
23	17/12/2018	92.52	57.54	0.87	BDL*	2.86	10.30	0.70	BDL*	46.38	25.36	44.28	29.38
24	20/12/2018	79.21	37.88	BDL*	BDL*	BDL*	BDL*	0.95	BDL*	52.38	11.35	33.48	23.74
25	24/12/2018	88.41	51.25	0.71	BDL*	2.64	10.14	0.81	BDL*	42.68	22.45	38.50	26.43
26	27/12/2018	58.67	28.54	BDL*	BDL*	BDL*	BDL*	0.90	BDL*	27.46	19.25	34.53	20.54
27	31/12/2018	80.23	48.25	0.58	BDL*	2.28	10.42	0.86	BDL*	32.46	21.56	30.63	28.71
28	03/01/2019	72.62	33.50	BDL*	BDL*	BDL*	BDL*	0.38	BDL*	46.21	19.71	31.24	24.17


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29	07/01/2019	86.26	51.25	0.38	BDL*	2.48	10.25	0.95	BDL*	36.55	23.52	36.38	16.63
30	10/01/2019	94.30	55.33	BDL*	BDL*	BDL*	BDL*	0.66	BDL*	22.38	26.24	44.67	25.16
31	13/01/2019	89.25	46.54	0.74	BDL*	2.78	10.51	0.96	BDL*	48.56	12.37	38.56	21.67
32	17/01/2019	71.77	36.33	BDL*	BDL*	BDL*	BDL*	0.50	BDL*	29.66	27.26	46.55	23.69
33	21/01/2019	82.62	49.46	BDL*	BDL*	BDL*	BDL*	0.84	BDL*	24.35	17.38	41.62	28.53
34	24/01/2019	75.14	50.25	0.82	BDL*	2.49	10.78	1.01	BDL*	33.65	13.56	35.84	30.40
35	28/01/2019	85.32	38.79	BDL*	BDL*	BDL*	BDL*	0.81	BDL*	52.48	25.37	39.81	22.66
36	31/01/2019	95.32	56.33	0.86	BDL*	2.56	10.66	0.93	BDL*	39.62	20.54	33.65	26.34
37	04/02/2019	89.32	28.50	0.82	BDL*	2.68	10.80	0.71	BDL*	23.48	22.44	33.52	19.60
38	07/02/2019	71.21	45.54	BDL*	BDL*	BDL*	BDL*	0.86	BDL*	29.33	18.31	30.53	30.43
39	11/02/2019	83.46	38.54	BDL*	BDL*	BDL*	10.54	0.89	BDL*	33.51	12.34	43.58	23.75
40	14/02/2019	116.4	76.83	0.65	BDL*	2.00	10.91	0.72	BDL*	39.27	21.60	39.46	29.52
41	18/02/2019	68.67	32.46	BDL*	BDL*	BDL*	BDL*	0.98	BDL*	30.31	24.57	37.51	27.67
42	21/02/2019	84.32	50.21	0.74	BDL*	2.71	10.61	0.66	BDL*	42.51	19.54	42.56	25.54
43	25/02/2019	95.46	36.42	BDL*	BDL*	BDL*	BDL*	0.93	BDL*	18.66	17.35	32.56	21.71
44	28/02/2019	80.26	42.54	BDL*	BDL*	3.03	BDL*	0.65	BDL*	46.27	27.03	31.74	28.32
45	04/03/2019	88.65	39.38	BDL*	BDL*	BDL*	BDL*	0.54	BDL*	39.45	13.27	40.22	23.51
46	07/03/2019	77.53	49.25	0.72	BDL*	2.54	10.47	0.62	BDL*	48.54	20.38	27.68	29.23
47	11/03/2019	85.36	37.33	0.84	BDL*	2.36	10.06	0.53	BDL*	34.27	17.53	35.32	24.68
48	14/03/2019	90.61	54.21	BDL*	BDL*	BDL*	BDL*	0.80	BDL*	45.31	22.39	32.76	20.52
49	18/03/2019	87.26	50.25	BDL*	BDL*	BDL*	BDL*	0.46	BDL*	23.64	19.64	42.62	28.41
50	21/03/2019	76.47	41.54	BDL*	BDL*	BDL*	BDL*	0.74	BDL*	40.25	21.30	39.54	21.56
51	25/03/2019	84.67	47.67	0.68	BDL*	2.64	10.61	0.64	BDL*	32.32	27.23	45.38	30.06
52	28/03/2019	93.73	55.33	0.56	BDL*	2.56	10.78	0.36	BDL*	28.34	24.31	36.56	26.52

Observation: Above given Result are within the norms Specified Limit as per CPCB Notification NoB-29016/2019/PCI-1 dt: 18/11/2009 National Ambient Air Quality Standards, New Delhi, for 24 hourly or 8 hourly or 1 hourly monitored values,

BDL*: - Below Detection Limit: Ozone as O_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit: Lead as Pb ($\mu g/m^3$): 0.5

BDL*: - Below Detection Limit: Carbon Monoxide as CO (mg/m^3): 0.01

BDL*: - Below Detection Limit: Ammonia NH_3 ($\mu g/m^3$): 10

BDL*: - Below Detection Limit: Benzene as C_6H_6 ($\mu g/m^3$): 2

BDL*: - Below Detection Limit: Benzo (a) Pyrene (BaP) - Particulate Phase only (ng/m^3): 0.5

BDL*: - Below Detection Limit: Arsenic as As (ng/m^3): 2

BDL*: - Below Detection Limit: Nickel as Ni (ng/m^3): 10


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	Adani Hazira Port Private Limited	From : Oct, 2018 To : Mar, 2019
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ANNEXURE-4 (B)

Ground Water Quality Monitoring For The Period From October., 2018 To March, 2019.


POLLUCON LABORATORIES PVT. LTD.
4B. GROUND WATER QUALITY MONITORING: -
Table-1.6: Ground Water Quality Results for the period: Oct, 2018 to March, 2019

Sr. NO.	TEST PARAMETERS	UNIT	GROUND WATER OPEN WELL					
			OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MARCH-19
			16/10/2018	15/11/2018	06/12/2018	15/01/2019	22/02/2019	19/03/2019
1	Colour	Hazen	4	2	1	1	1	1
2	Odour	—	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	—	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU	1.4	0.96	0.7	0.5	0.36	0.25
5	pH Value	—	7.64	8.16	7.96	8.13	7.88	7.56
6	Total Hardness as CaCO ₃	mg/L	344	208	214	334	468	488
7	Iron as Fe	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
8	Chloride as Cl	mg/L	82	86.97	76	110	121	105
9	Residual Free Chlorine	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
10	Fluoride as F	mg/L	0.42	0.36	0.46	0.32	0.4	0.35
11	Total Dissolved Solids	mg/L	644	470	434	618	960	884
12	Calcium as Ca	mg/L	66	33.6	28	56	80	89.6
13	Magnesium as Mg	mg/L	42.96	29.7	34.36	46.36	64.32	63
14	Copper as Cu	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
15	Manganese as Mn	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
16	Sulphate as SO ₄	mg/L	49.4	40	28	26	38	32
17	Nitrate Nitrogen as NO ₃	mg/L	1.22	1.08	1.2	0.98	0.65	0.4
18	Phenolic compounds as C ₆ H ₅ OH	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
19	Mercury as Hg	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
20	Cadmium as Cd	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
21	Selenium as Se	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
22	Arsenic as As	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
23	Cyanide as CN	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
24	Lead as Pb	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
25	Zinc as Zn	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
26	Anionic Detergents as MBAS	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
27	Chromiums Cr ⁺⁺	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
28	Mineral Oil	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
29	Alkalinity	mg/L	368	344	356	306	384	284
30	Aluminum as Al	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
31	Boron as B	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32	Pesticides							
32.1	Alachlor	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.2	Atrazine	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.3	Aldrin/Dieldrine	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.4	Alpha HCH	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*


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• GINZ approved schedule II auditor

• ISO 14001 : 2004 • OHSAS 18001 : 2007 • ISO 9001 : 2008

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Sr. NO.	TEST PARAMETERS	UNIT	GROUND WATER OPEN WELL					
			OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MARCH-19
			16/10/2018	15/11/2018	06/12/2018	15/01/2019	22/02/2019	19/03/2019
32.5	Beta HCH	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.6	Butachlor	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.7	Chlorpyrifos	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.8	Delta HCH	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.9	2,4- Dichlorophenoxy acetic acid	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.10	DDT (o,p&p-isomers of DDT, DDE & DDD	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.11	Endosulfan (alpha, beta, and sulphate)	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.12	Ethion	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.13	Gamma - HCH (Lindane)	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.14	Isoproturon	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.15	Malathion	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.16	Methyl Parathion	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.17	Monocrotophos	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
32.18	Phorate	µg/l	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
33	Coliform	/100 ml	Absent	Absent	Absent	Absent	Absent	Present
34	E-Coli	/100 ml	Absent	Absent	Absent	Absent	Absent	Absent

*Below detection limit.

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Ground Water.



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● GPCB approved schedule II auditor

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Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

ANNEXURE-4 (C)

Surface Water Quality Monitoring For The Period From October., 2018 To March, 2019.


POLLUCON LABORATORIES PVT. LTD.

4C. SURFACE WATER QUALITY MONITORING: -
Table-1.7: Surface Water (Pond) Quality Results for the period: Oct, 2018 to March, 2019

Sr. No.	Parameters	Unit	At Mora Village (Surface Water – Pond)					
			OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MARCH-19
			18/10/2018	15/11/2018	06/12/2018	15/01/2019	22/02/2019	19/03/2019
1	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
2	Colour	Hazen	20	40	30	40	3	4
3	Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	pH Value	--	8.1	7.91	7.8	7.93	7.48	7.48
5	Turbidity	NTU	5.4	10.6	4.4	5.2	3.9	8.25
6	Total Dissolved Solids	mg/L	622	796	648	924	835	2012
7	Total Hardness as CaCO ₃	mg/L	185	188	160	188	160	210
8	Chloride as Cl	mg/L	88	110	94	110	94	599
9	Fluoride as F	mg/L	0.84	0.72	0.56	0.42	0.33	0.4
10	Iron as Fe	mg/L	0.22	0.18	0.15	0.08	0.07	0.028
11	Coliform	/100 ml	Present	Present	Present	Present	Present	Present
12	E-Coli	/100 ml	Absent	Absent	Absent	Absent	Absent	Absent

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Surface Water.


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● GPCB approved schedule II auditor

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Annexure 4 (D)
Sea Water Monitoring


POLLUCON LABORATORIES PVT. LTD.
4D. SEA WATER QUALITY MONITORING: -
Table-1.8: Sea Water Quality Analysis Results of CB2 South End towards Landside from the Sea Basin for the period: Oct, 2018 to March, 2019

S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS											
			CB2 SOUTH END TOWARDS LANDSIDE FROM SEA BASIN(N 21° 5'1.92", E 72°37'56.58")											
			OCT-18		NOV-18		DEC-18		JAN-19		FEB - 19		MARCH - 19	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	—	8.17	8.09	8.1	8.06	8.12	8.02	8.09	8.01	8.12	8.07	8.14	8.09
2	Temperature	°C	30.4	30.2	30.1	29.6	29.9	29.8	29.6	29.3	29.5	29.1	29.8	29.3
3	Total Suspended Solids	mg/L	372	340	348	318	240	226	194	210	238	242	216	261
4	BOD (5 Days @ 27 °C)	mg/L	6	5	2	BDL*	7	BDL*	4	BDL*	5.2	BDL*	6.8	BDL*
5	Dissolved Oxygen	mg/L	6.6	6	6.2	5.9	5.8	5.6	6.1	5.8	5.9	5.6	5.6	5.4
6	Salinity	ppt	30.2	30	30.4	30.1	30.9	30.5	30.6	30.9	31.1	31.3	30.6	30.9
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
8	Nitrate as NO ₃	µmo/L	19.4	12.2	15.52	9.29	9.76	8.85	10.15	9.43	14.48	12.19	13.11	11.49
9	Nitrite as NO ₂	µmo/L	1.6	1.4	1.88	1.43	2.08	1.92	1.55	0.8	0.47	0.35	0.58	0.37
10	Ammonia/Nitrogen as NH ₃	µmo/L	3.2	2.8	3.06	2.74	2.78	2.42	4.17	3.62	3.65	3.05	3.67	2.94
11	Phosphate as PO ₄	µmo/L	2.7	2.42	2.29	2.05	2.15	1.83	1.76	1.6	2.3	1.98	2.72	2.08
12	Total Nitrogen	µmo/L	24.2	16.4	20.46	13.46	14.62	13.19	15.87	13.85	18.61	15.59	17.36	14.8
13	Petroleum Hydrocarbon	µg/L	35	18	22	16.8	24	20	16	BDL*	12.4	BDL*	BDL*	BDL*
14	Total Dissolved Solids	mg/L	34550	34327	34860	34534	35734	35248	35384	35948	36233	38190	35710	35994
15	COD	mg/L	28	16	10	BDL*	25	19	15	9	11	8	19	10
A. Flora and Fauna														
16.1	Primary Productivity	mgC/L/day	2.25	1.57	2.48	1.98	3.15	2.47	2.93	2.25	5.4	3.6	6.75	4.95
B. Phytoplankton														
17.1	Chlorophyll	mg/m ³	2.75	1.75	2.79	2.14	3.1	2.32	3.04	1.92	4	3.16	3.69	2.82
17.2	Phaeophytin	mg/m ³	1.8	1.36	1.67	0.694	2.27	1.2	2.27	1.53	3	1.2	2.84	2.33
17.3	Cell Count	No. x10 ⁶ /L	224	118	190	118	202	178	170	82	192	78	204	86
17.4	Name of Group Number and name of group members of each group	—	Navicula Clostridium Nitrochi a Thalassiosira Melosira Melosira Melosira	Nitrochi a Pseudo Melosira — —	Navicula Sp. Thalassiosira Sp. Nitrochi a Sp. Melosira Sp. Nitrochi a Sp. Gyratella Sp. Melosira Sp.	Nitrochi a Sp. Gyratella Sp. Melosira Sp. — —	Thalassiosira Sp. Nitrochi a Sp. Gyratella Sp.	Nitrochi a Sp. Leptocylindrus Sp. —	Spirulina a Sp. Coelastrum sp. Gyratella Sp. Nitrochi a Sp.	Nitrochi a Sp. Navicula sp. Gyratella Sp. —	Navicula sp. Chaetoceros sp. Thalassiosira sp. Gyratella Sp.	Gyratella Sp. Nitrochi a Sp. —	Coelastrum Sp. Thalassiosira sp. Pseudostrum sp. Navicula Sp.	Fragilaria sp. Navicula a Sp. —

Continues...

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S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS CB2 SOUTH END TOWARDS LANDSIDE FROM SEA BASIN(N 21° 5'1.92", E 72°37'56.58")											
			OCT-18		NOV-18		DEC-18		JAN-19		FEB - 19		MARCH - 19	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
C	Zooplankton													
10.1	Abundance (Population)	Nox10 ³ /100 m ³	53		60		57		39		30		37	
10.2	Name of Group Number and name of group species of each group	-	Copepods Polychaets Chaetognaths Ostracods		Copepods Ostracods Chaetognaths Polychaets		Amphipods Chaetognaths Foramifera		Copepods Ostracods Lamellibranches		Amphipod Foramifera Ostracods		Ostracods Gastropods Copepods	
10.3	Total Biomass	mg/100 m ³	9.45		9.81		8.45		3.3		1.9		2.6	
D	Microbiological Parameters													
10.1	Total Bacterial Count	CFU/ml	1860		1840		1740		1740		1740		1820	
10.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
10.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
10.4	Enterococcal species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
10.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
10.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
10.7	Vibrio species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	

BDL* - Below Detection Limit

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Water.


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POLLUCON LABORATORIES PVT. LTD.

Table-1.9: Sea Water Quality Analysis Results of MP1 West End towards Channel from the Sea Basin for the period: Oct, 2018 to March, 2019

S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS MP1 WEST END TOWARDS CHANNEL FROM SEA BASIN(N 21° 5'9.78" E 72°37'24.48")											
			OCT-18		NOV-18		DEC-18		JAN-19		FEB - 19		MARCH - 19	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	—	8.29	8.18	8.33	8.2	8.14	8.06	8.1	8.08	8.15	8.1	8.12	8.07
2	Temperature	°C	30.2	29.8	29.4	29.1	29.8	29.6	29.7	29.5	29.6	29.7	29.9	29.5
3	Total Suspended Solids	mg/L	341	307	392	376	231	204	196	215	230	246	218	286
4	BOD (3 Days @ 20°C)	mg/L	8	3	3	BDL*	6	BDL*	7	BDL*	8.4	BDL*	4.9	BDL*
5	Dissolved Oxygen	mg/L	6.6	6.2	6.1	5.6	5.9	5.7	6.2	6	6	5.8	5.7	5.4
6	Salinity	ppt	30.7	30.6	30.4	30.2	30.8	30.6	30.9	31.1	31.3	31.5	30.8	31
7	Oil & Grease	mg/L	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
8	Nitrate as NO ₃	µmo/L	14.2	9.6	12.02	9.4	9.85	8.94	10.21	9.79	14.67	12.26	14.24	11.93
9	Nitrite as NO ₂	µmo/L	2.8	2	1.78	1.04	1.53	0.98	1.63	0.71	0.54	0.39	0.68	0.31
10	Ammonia/Nitrogen as NH ₃	µmo/L	4.4	2.8	2.75	2.01	2.71	2.37	4.23	3.81	3.35	2.98	3.37	2.75
11	Phosphate as PO ₄	µmo/L	2.4	2.2	3.06	1.95	2.47	2.09	1.81	1.65	2.4	1.76	2.82	1.97
12	Total Nitrogen	µmo/L	21.4	14.4	16.55	12.45	14.09	12.29	16.07	14.31	18.56	15.63	18.28	14.99
13	Petroleum Hydrocarbon	µg/L	23	12	18	10	20	16	17	13	19	BDL*	15	BDL*
14	Total Dissolved Solids	mg/L	34918	34671	34680	34436	35548	35634	35834	36184	36842	37260	35984	36434
15	COD	mg/L	24	12	16	6	20	BDL*	22	11	16	6.8	17	10.3
A. Flora and Fauna														
16.1	Primary Productivity	mgC/L/day	2.13	1.95	2.09	1.89	2.7	1.57	3.15	2.47	4.05	3	6.57	4.05
B. Phytoplankton														
17.1	Chlorophyll	mg/m ³	2.5	1.88	2.73	2.18	2.69	1.73	2.92	1.54	3.45	2.42	3.71	2.29
17.2	Phaeophytin	mg/m ³	1.93	1.38	1.26	0.721	2.4	1.4	1.73	1.46	2.13	2.2	3.1	2.08
17.3	Cell Count	No. cell/mL	248	104	202	96	192	118	178	80	196	62	210	74
17.4	Name of Group Number and name of group species of each group	—	Thalassiosira Nitratella Navicula Chaetoceros Coscinodiscus	Navicula Nitratella Fragillaria — —	Nitratella So. Navicula a Sp. Chaetoceros Sp. Thalassiosira Sp. Coscinodiscus So.	Nitratella So. Fragillaria So. Gyrodinium So. — —	Nitratella a So. Melosira a Sp. Thalassiosira Sp.	Thalassiosira So. Nitratella So. Fragillaria Sp.	Scolecoceros sp. Thalassiosira sp. Navicula a sp. Gyrodinium sp.	Fragillaria sp. Navicula a so. Chaetoceros so. —	Nitratella sp. Thalassiosira sp. Rhizosolenia sp. Gyrodinium sp.	Melosira a sp. Chaetoceros sp. Navicula a so. —	Nitratella sp. Pediastrum sp. Fragillaria sp. Navicula a sp.	Fragillaria sp. Navicula a sp. — —

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POLLUCON LABORATORIES PVT. LTD.
Table-1.10: Sea Water Quality Analysis Results of CB1 End towards Channel from the Sea Basin for the period: Oct, 2018 to March, 2019

S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS CB1 END TOWARDS CHANNEL FROM SEA BASIN (N 21° 5'14.67" , E 72°37'40.14")											
			OCT-18		NOV-18		DEC-18		JAN-19		FEB - 19		MARCH - 19	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
1	pH	—	6	4	8.24	8.16	8.2	8.17	8.11	8.09	8.19	8.17	8.15	8.11
2	Temperature	°C	6.5	6.2	28.9	28.7	30.1	30	29.8	29.6	29.6	29.36	29.7	29.5
3	Total Suspended Solids	mg/L	30.4	30.1	334	308	271	223	203	220	239	257	226	246
4	BOD (3 Days @ 27°C)	mg/L	BDL*	BDL*	5	3	4	BDL*	6	BDL*	3.2	BDL*	5.2	BDL*
5	Dissolved Oxygen	mg/L	16.2	9.8	6.1	5.8	6	5.9	6	5.8	5.9	5.7	5.6	5.3
6	Salinity	ppt	3.8	3.2	30.6	30.3	31.1	30.9	30.8	31	31.2	31.4	30.7	31.1
7	Oil & Grease	mg/L	2.4	1.8	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
8	Nitrate as NO ₃	µmo/L	2.75	2.15	17.24	12.52	13.86	9.59	10.39	9.06	14.98	11.76	13.92	11.18
9	Nitrite as NO ₂	µmo/L	22.4	14.8	1.39	1.12	1.82	1.43	1.49	0.75	0.58	0.43	0.74	0.39
10	Ammonical Nitrogen NH ₄	µmo/L	30	16	2.49	2.13	2.31	1.94	3.99	2.96	3.23	2.8	2.63	2.02
11	Phosphate as PO ₄	µmo/L	34712	34210	2.91	1.89	2.27	2.05	1.86	1.73	2.46	1.81	2.61	1.75
12	Total Nitrogen	µmo/L	24	18	16.72	15.09	17.99	12.96	15.87	12.78	18.78	15	17.3	13.59
13	Petroleum Hydrocarbon	µg/L	6	4	22	16	16	BDL*	20	14	15	BDL*	12	BDL*
14	Total Dissolved Solids	mg/L	6.5	6.2	35218	34910	36211	35974	35763	36140	36340	39438	35843	36334
15	COD	mg/L	30.4	30.1	28	16	18	12	20	10	11.8	7	17.2	9
A. Flora and Fauna														
16.1	Primary Productivity	mgC/L/day	2.7	1.03	2.7	1.03	2.4	2.11	2.92	1.57	4.95	3.15	6.48	3.78
B. Phytoplankton														
17.1	Chlorophyll	mg/m ³	2.83	1.71	2.86	1.83	3.59	1.89	2.5	1.76	4.21	3.83	3.26	2.61
17.2	Phaeophytin	mg/m ³	1.53	1.46	2.2	1.06	2.87	0.267	1.46	1.06	3.4	2.2	2.13	2.08
17.3	Cell Count	No. x10 ⁶ /L	206	94	198	86	210	12	160	78	184	68	218	76
17.4	Name of Group Number and name of group species of each group	—	Pedastrium Rhizosolenia Nitzschia Navicula Anacystis — Scenedesmus	Fragillaria Navicula	Navicula Sp. Closterium Sp. Rhizosolenia Sp.	Navicula Sp. Thalassiosira Sp. Synderella Sp.	Coscinodiscus Sp. Thalassiosira Sp. Nitzschia Sp.	Navicula Sp. Thalassiosira Sp. —	Rhizosolenia sp. Navicula sp. Coscinodiscus sp.	Fragillaria sp. Navicula sp. Nitzschia sp.	Nitzschia sp. Thalassiosira sp. Rhizosolenia sp.	Melosira sp. Navicula sp. —	Nitzschia sp. Navicula sp. Thalassiosira sp. Coscinodiscus sp.	Melosira sp. Navicula sp. Fragillaria sp. —

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S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS											
			CB1 END TOWARDS CHANNEL FROM SEA BASIN (N 21° 5'14.67", E 72°37'40.14")											
			OCT-18		NOV-18		DEC-18		JAN-19		FEB - 19		MARCH - 19	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
C Zooplanktons														
18.1	Abundance (Population)	No/100 m ³	48		58		50		45		32		38	
18.2	Name of Group Number and name of group species of each group	—	Decapods Gastropods Copepods Ostracodes		Decapods Gastropods Copepods		Decapods Gastropods Amphipods		Decapods Ostracods Bivalves		Ostracods Copepods Foraminiferans		Copepods Gastropods Polychaete worms	
18.3	Total Biomass	mg/100 m ³	6.5		7.28		6.1		3.55		2.1		2.35	
D Microbiological Parameters														
19.1	Total Bacterial Count	CFU/ml	2080		2060		2080		2040		2040		2020	
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.7	Vibrio species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	

BDL* - Below Detection Limit,

Minimum Detection Limit, BOD: 3.0 mg/L, Oil & Grease: 1.0mg/L, Petroleum Hydrocarbon: 10µg/L, Nitrite as NO₂: 0.002 mg/L, Pheophytin: 0.1 mg/m³

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Water.



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Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

Annexure 4 (E)

Dump Pond Water Monitoring results October 2018 to March 2019


POLLUCON LABORATORIES PVT. LTD.
4E. DUMP POND DISCHARGE WATER QUALITY MONITORING: -
Table-1.11 (a): Dump Pond Water Quality Analysis Results for the Period: Oct, 2018 to March, 2019

Sr. No.	Parameters	Unit	17/11/2018	17/11/2018	17/11/2018
			NEAR PUMP HOUSE COAL YARD	OLD COAL YARD	PET COCK
1	pH	—	8.12	8.42	7.89
2	Total Dissolved Solids	mg/L	2014	2176	1832
3	Total Suspended Solids	mg/L	88	158	131
4	Turbidity	NTU	17.8	13.8	9.4
5	BOD (3 Days @ 27 °C)	mg/L	36	28	56
6	Dissolved Oxygen	mg/L	4.8	6.1	4.8
7	COD	mg/L	152	116	172
8	Salinity	ppt	1.2	1.45	0.98
9	Oil & Grease	mg/L	1	BDL*	BDL*
10	Total Hardness as CaCO ₃	mg/L	96	112	80
11	Fluoride as F	mg/L	0.58	0.24	0.18
12	Chloride as Cl	mg/L	710	810	319
13	Zinc as Zn	mg/L	0.06	0.045	0.014
14	Cadmium as Cd	mg/L	BDL*	BDL*	BDL*
15	Lead as Pb	mg/L	BDL*	BDL*	BDL*
16	Mercury as Hg	mg/L	BDL*	BDL*	BDL*

BDL*: Below Detection Limit, Minimum Detection Limit, Mercury as Hg: 0.00025 mg/L, Oil & Grease: 1.0 mg/L, Cadmium as Cd: 0.001 mg/L, Lead as Pb: 0.005 mg/L, Fluoride: 0.01 mg/L.

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Dump Pond Discharge Water.


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POLLUCON LABORATORIES PVT. LTD.

S. NO.	TEST PARAMETERS	UNIT	RESULTS OF SEA WATER QUALITY ANALYSIS											
			MP1 WEST END TOWARDS CHANNEL FROM SEA BASIN(N 21° 5'9.78",E 72°37'24.48")											
			OCT-18		NOV-18		DEC-18		JAN-19		FEB - 19		MARCH - 19	
			Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom	Surface	Bottom
C Zooplanktons														
18.1	Abundance (Population)	No/100 3/100 m ³	49		53		51		44		31		35	
18.2	Name of Group Number and name of group species of each group	-	Fish Larvae Copepods Foraminiferans Gastropods		Fish Larvae Polychaetes Copepods		Nematodes Polychaetes Foraminiferans		Copepods Amphipods Molluscs		Copepods Cheetoonathes Decapods		Gastropods Copepods Foraminiferans	
19.3	Total Biomass	mg/100 0.1 m ³	8		8.7		7.9		3.45		1.8		2.45	
D Microbiological Parameters														
19.1	Total Bacterial Count	CFU/ml	2170		2190		1720		1700		1700		1840	
19.2	Total Coliform	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.3	E.coli	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.4	Enterococcus species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.5	Salmonella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.6	Shigella species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	
19.7	Vibrio species	/ml	Absent		Absent		Absent		Absent		Absent		Absent	

BDL* - Below Detection Limit

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Water.


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Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

ANNEXURE-4 (F)

Ambient Noise Monitoring Results from October 2018 to March 2019


POLLUCON LABORATORIES PVT. LTD.

4F. AMBIENT NOISE LEVEL MONITORING: -
Table-1.12: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Near Port Gate No.: 2

Sampling Location	1 - Near Port Gate No.: 2					
Longitude Latitude	N 21° 05.426'E 72°37.739'					
Date of Monitoring	02/10/2018	02/11/2018	04/12/2018	04/01/2019	05/02/2019	05/03/2019
6:00-7:00	47.2	50.5	56.4	52.7	55.7	56.7
7:00-8:00	56.4	59.7	61.2	54.1	53.4	54.2
8:00-9:00	59.1	62.5	62.3	53	53.7	55.2
9:00-10:00	56.2	59.7	62.8	60.4	57.4	52.9
10:00-11:00	63.4	66.5	65.6	61.5	59.8	62.9
11:00-12:00	58.7	61.8	65.1	54.3	58.2	60.5
12:00-13:00	61.8	64.9	62.1	57.4	57.7	55.1
13:00-14:00	57.3	60.7	57.8	66.3	65.5	66.6
14:00-15:00	64.4	67.6	66.7	64.3	63.1	64.9
15:00-16:00	67.2	70.5	64.6	60.5	59.9	58.8
16:00-17:00	73.8	69.8	68.3	55.7	57.8	55.6
17:00-18:00	57	60.2	62.1	63.8	62.8	63.1
18:00-19:00	69.1	72.2	67.9	67	68.9	65.9
19:00-20:00	64.8	68.3	62.7	67.4	71	68.4
20:00-21:00	63.1	66.4	61.9	51.4	54.2	52.3
21:00-22:00	57.2	60.5	63.7	53.2	52.5	56.3

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.

Table-1.13: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Near Port Gate No.: 2

Sampling Location	1 - Near Port Gate No.: 2					
Longitude Latitude	N 21° 05.426'E 72°37.739'					
Date of Monitoring	02/10/2018 & 03/10/2018	02/11/2018 & 03/11/2018	04/12/2018 & 05/12/2018	04/01/2019 & 05/01/2019	05/02/2019 & 06/02/2019	05/03/2019 & 06/03/2019
22:00-23:00	69.7	66.6	67.8	51.4	51.6	53.9
23:00-00:00	63.2	65.4	65.6	57.1	54.3	51.6
00:00-01:00	59.1	61.3	60.5	54	49	50.3
01:00-02:00	51.6	53.9	53.2	50.7	51.3	55.4
02:00-03:00	48.5	55.6	57.9	57.7	53.5	54.2
03:00-04:00	46.8	48.9	53.5	51.7	46.4	50.5
04:00-05:00	46.7	49.2	51.4	48.3	49.3	52.1
05:00-06:00	46.2	50.3	52.1	50.4	54	55.1

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.


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POLLUCON LABORATORIES PVT. LTD.
Table-1.14: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At HSE Building Terrace

Sampling Location	2 - HSE Building Terrace					
Longitude Latitude	N 21° 05.043' E 72° 38.491'					
Date of Monitoring	05/10/2018	05/11/2018	07/12/2018	08/01/2019	08/02/2019	08/03/2019
6:00-7:00	62.6	65.9	65.9	52.5	54.3	55.3
7:00-8:00	68.7	71.8	68.5	54.4	56.4	58.6
8:00-9:00	64.8	68.2	68.4	56.3	56.9	52.8
9:00-10:00	63.2	66.3	60.5	53.1	53.6	54.1
10:00-11:00	72.3	70.9	68.6	59.3	58.5	59.7
11:00-12:00	63.0	66.5	61.3	56.5	57.6	55.9
12:00-13:00	62.2	65.7	64.1	51.5	55.6	51.9
13:00-14:00	68.8	72.2	69	62.6	58.0	56.4
14:00-15:00	66.6	69.8	63.9	63.7	67.3	70.5
15:00-16:00	68.3	65.5	64.8	62.2	66.4	61.5
16:00-17:00	71.0	74.5	69.6	63.9	61.2	57.9
17:00-18:00	68.6	63.2	64	69	67.9	64.8
18:00-19:00	66.4	69.4	66.6	63.3	63.7	59.6
19:00-20:00	60.3	60.6	60.6	64.7	65.6	62.5
20:00-21:00	64.6	67.7	64.6	58.1	60.1	54.6
21:00-22:00	62.1	61.8	65.6	54	57.0	60.2
*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.						
Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.						

Table-1.15: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At HSE Building Terrace

Sampling Location	2 - HSE Building Terrace					
Longitude Latitude	N 21° 05.043' E 72° 38.491'					
Date of Monitoring	05/10/2018 8 & 06/10/2018	06/11/2018 8 & 07/11/2018	07/12/2018 8 & 08/12/2018	08/01/2019 9 & 09/01/2019	08/02/2019 9 & 09/02/2019	08/03/2019 9 & 09/03/2019
22:00-23:00	69.8	65.9	66.3	52.9	52.2	55.9
23:00-00:00	65.4	67.5	63.1	49.0	50.5	49.8
00:00-01:00	58.0	57.2	57.7	52.3	49.2	47.6
01:00-02:00	61.1	63.5	63.5	49.7	48.9	49.9
02:00-03:00	63.5	65.7	60.7	49.6	53.8	52.9
03:00-04:00	62.6	64.7	62.5	49.4	51.7	54.8
04:00-05:00	67.6	66.9	61.9	47.8	51.4	56.7
05:00-06:00	62.6	65.1	63.9	54.9	50.2	54.9
*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.						
Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.						

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.


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Table-1.16: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Central Water Pump House

Sampling Location	3 - Central Water Pump House					
Longitude Latitude	N 21° 04.697' E 72° 38.420'					
Date of Monitoring	09/10/2018	09/11/2018	11/12/2018	11/01/2019	12/02/2019	12/03/2019
6:00-7:00	63.2	66.6	67.1	57.0	54.1	56.2
7:00-8:00	66.2	69.4	65.5	55.9	59.4	61.9
8:00-9:00	68.2	71.5	68.3	61.0	63.0	65.2
9:00-10:00	65.8	64.9	64.6	60.3	60.2	59.1
10:00-11:00	72.4	60.9	64.2	64.1	65.9	64.5
11:00-12:00	72.3	70.6	70.4	65.2	65.0	67.8
12:00-13:00	68.8	72.2	64.4	68.9	69.7	65.3
13:00-14:00	73.1	60.7	63.2	68.3	64.5	62.3
14:00-15:00	71.7	61.9	66.3	70.0	68.4	60.9
15:00-16:00	66.0	69.1	62.8	67.2	70.4	59.4
16:00-17:00	72.3	65.2	63.0	70.8	66.7	64.1
17:00-18:00	73.7	68.2	69.4	72.2	68.7	57.7
18:00-19:00	68.5	71.5	64.8	68.0	69.9	61.6
19:00-20:00	64.1	67.6	63.3	65.6	65.8	63.5
20:00-21:00	59.8	63.3	61.1	67.8	68.3	69.2
21:00-22:00	64.2	58.4	65.7	60.6	57.5	53.9
*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is reliable to human hearing.						
Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.						

Table-1.17: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Central Water Pump House

Sampling Location	3 - Central Water Pump House					
Longitude Latitude	N 21° 04.697' E 72° 38.420'					
Date of Monitoring	09/10/2018 10/10/2018	09/11/2018 10/11/2018	11/12/2018 12/12/2018	11/01/2019 12/01/2019	12/02/2019 13/02/2019	12/03/2019 13/03/2019
22:00-23:00	59.2	61.4	61.6	59.7	62.9	61.9
23:00-00:00	68.4	58.8	64.5	55.2	55.1	52.6
00:00-01:00	65.0	67.3	62.5	53.2	54.5	53.2
01:00-02:00	67.8	69.8	66.7	57.0	59.8	60.2
02:00-03:00	52.1	54.6	55.0	54.1	52.6	50.6
03:00-04:00	57.6	59.8	61.8	51.0	57.1	55.6
04:00-05:00	66.8	69.2	64.1	55.3	54.6	58.1
05:00-06:00	57.6	60.6	59.1	53.6	58.6	59.6
*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is reliable to human hearing.						
Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.						

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.



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Table-1.18: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Container Terminal

Sampling Location	4 - Container Terminal					
Longitude Latitude	N 21° 05.187' E 72° 37.774'					
Date of Monitoring	12/10/2018	13/11/2018	14/12/2018	15/01/2019	15/02/2019	15/03/2019
6:00-7:00	57.3	60.3	62.4	61.6	57.2	55.4
7:00-8:00	55.5	58.5	62.3	60.8	65.3	62.1
8:00-9:00	56.8	59.8	62.5	64.8	61.7	60.8
9:00-10:00	58.6	61.6	62.8	64.6	68.0	63.8
10:00-11:00	64.0	67.4	65.9	66.4	63.6	66.1
11:00-12:00	58.2	59.8	57.4	68.1	64.4	62.6
12:00-13:00	58.8	62.3	60.1	69.6	70.1	68.1
13:00-14:00	63.2	66.2	65.5	67.3	71.7	70.2
14:00-15:00	61.0	64.2	60.2	60.9	59.5	62.4
15:00-16:00	68.1	71.5	67.6	64.0	64.8	66.9
16:00-17:00	71.9	66.8	67.7	71.9	73.1	71.6
17:00-18:00	68.3	69.8	65.4	65.5	66.1	63.9
18:00-19:00	62.1	65.5	63.0	63.2	59.7	57.4
19:00-20:00	66.7	70.1	64.4	66.2	68.6	66.5
20:00-21:00	50.5	53.8	58.7	67.1	72.0	70.9
21:00-22:00	62.2	65.5	61.8	61.1	58.4	60.1
*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.						
Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.						

Table-1.19: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Container Terminal

Sampling Location	4 - Container Terminal					
Longitude Latitude	N 21° 05.187' E 72° 37.774'					
Date of Monitoring	12/10/2018 & 13/10/2018	13/11/2018 & 14/11/2018	14/12/2018 & 15/12/2018	15/01/2019 & 16/01/2019	15/02/2019 & 16/02/2019	15/03/2019 & 16/03/2019
22:00-23:00	61.6	63.6	59.2	56.7	56.8	58.3
23:00-00:00	64.1	66.6	65.5	61.1	57.0	58.6
00:00-01:00	65.4	67.6	67.1	54.6	49.8	49.2
01:00-02:00	63.0	65.5	60.9	54.2	55.2	56.6
02:00-03:00	59.0	61.3	62.2	58.5	55.5	51.9
03:00-04:00	61.0	56.8	60.4	54.3	57.3	57.7
04:00-05:00	59.8	59.8	59.6	57.9	55.6	60.3
05:00-06:00	50.2	52.5	56.8	61.0	57.8	62.9
*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.						
Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.						

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000.


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Table-1.20: Ambient Noise Level Monitoring Results during the Day Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Hazira Village

Sampling Location	5 - Hazira Village					
Longitude Latitude	N 21° 05.44' E 72° 38.44'					
Date of Monitoring	16/10/2018	16/11/2018	18/12/2018	18/01/2019	19/02/2019	19/03/2019
6:00-7:00	67.4	70.4	64.9	49.7	49.9	50.5
7:00-8:00	69.1	72.6	61.0	53.8	54.4	56.1
8:00-9:00	69.5	66.9	61.2	52.2	51.5	54.8
9:00-10:00	72.1	59.8	57.6	50.7	54.7	51.5
10:00-11:00	71.7	65.7	62.4	58.7	56.7	55.8
11:00-12:00	70.4	73.4	67.1	58.0	60.0	59.3
12:00-13:00	68.7	63.3	61.1	56.0	55.5	53.8
13:00-14:00	66.6	69.8	60.3	57.7	56.2	54.4
14:00-15:00	70.6	61.8	61.9	56.7	57.9	56.9
15:00-16:00	63.7	67.7	56.2	53.3	52.0	54.9
16:00-17:00	72.6	60.9	59.7	51.9	51.2	48.2
17:00-18:00	65.8	58.4	58.2	54.6	54.6	52.2
18:00-19:00	72.7	67.5	65.2	54.2	54.0	49.6
19:00-20:00	71.1	74.2	66.5	52.6	56.8	48.7
20:00-21:00	67.6	63.9	56.7	51.6	54.5	53.2
21:00-22:00	69.6	50.9	54.3	49.9	49.7	47.6

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.

Table-1.21: Noise Level Monitoring Results during the Night Time in Leq. dB(A) for the period: Oct, 2018 to March, 2019 At Hazira Village

Sampling Location	5 - Hazira Village					
Longitude Latitude	N 21° 05.44' E 72° 38.44'					
Date of Monitoring	16/10/2018 & 17/10/2018	16/11/2018 & 17/11/2018	18/12/2018 & 19/12/2018	18/01/2019 & 19/01/2019	19/02/2019 & 20/02/2019	19/03/2019 & 20/03/2019
22:00-23:00	53.5	55.7	51.4	47.0	52.7	49.6
23:00-00:00	60.1	49.8	59.4	45.1	48.3	45.3
00:00-01:00	62.8	51.1	57.1	41.3	45.5	41.3
01:00-02:00	69.0	61.1	64.2	40.5	40.9	42.9
02:00-03:00	65.7	68.4	64.2	41.6	43.1	45.6
03:00-04:00	60.3	62.8	59.9	42.0	46.6	42.6
04:00-05:00	64.2	66.5	66.7	43.7	47.3	45.9
05:00-06:00	65.5	67.9	65.6	48.9	48.4	41.9

*dB(A) Leq. denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

Day Time shall mean from 6:00 am to 10:00 pm and Night Time shall mean from 10:00 pm to 06:00 am.

Observation: Above given Results are within the specified norms as per The Noise Pollution (Regulation and Control) Rules 2000

Note: The Noise Level of Hazira Village is compare with the Industrial area Norms as Hazira Village is Surround By Numbers of Industries.


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Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

Annexure 4 (G)

DG Stack Emission Monitoring October 2018 to November 2019


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4G. DG SETS STACK EMISSION AND NOISE LEVEL MONITORING: -
Table-1.22: DG Sets Stack Monitoring Results for the period: Oct, 2018 to March, 2019

Sr. No.	Parameters	Unit	DG SET TOYO DENKI - 1		DG SET TOYO DENKI - 2		DG SET TOYO DENKI - 3	
			NOV-18	FEB-19	NOV-18	FEB-19	NOV-18	FEB-19
1	Particulate Matter	mg/Nm ³	16.62	20.4	19.35	18.75	22.37	12.38
2	Sulphur Dioxide	ppm	7.10	6.64	8.85	8.62	5.80	4.3
3	Oxide of Nitrogen	ppm	36.44	30.54	39.53	26.47	32.68	32.37
4	Carbon Monoxide (CO)	mg/m ³	14.47	7.63	9.82	9.82	10.57	10.31
5	Non Methyl Hydro Carbon (NMHC)	mg/m ³	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*

Table-1.23: DG Sets Noise Level Monitoring Results for the period: Oct, 2018 to March, 2019

Sr. No.	DG Set Average Noise Level In Leq. dB(A)		
	Sampling Location	At 1 M Distance From The Enclosure	
	Sampling Date	NOV-18	FEB-19
1.	DG SET TOYO DENKI -1	72.4	71.1
2.	DG SET TOYO DENKI -2	71.8	72.5
3.	DG SET TOYO DENKI -3	70.2	69.8


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Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

Annexure 4 (H)

Sea Sediment Monitoring October 2018 to March 2019


POLLUCON LABORATORIES PVT. LTD.
4H. SEA SEDIMENT QUALITY MONITORING: -
Table-1.25: Sea Sediment Quality Results of CB2 South End towards Landside for the period: Oct, 2018 to March, 2019

S. NO.	PARAMETERS	UNIT	CB2 SOUTH END TOWARDS LANDSIDE FROM SEA BASIN (N 21° 5'1.92", E 72°37'56.58")					
			OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MARCH-19
1	Organic Matter	%	0.75	0.68	0.42	0.62	0.6	0.72
2	Phosphorus as P	µg/g	610	654	592	618	730	518
3	Texture	—	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
5	Heavy Metals							
5.1	Aluminum as Al	%	5.4	5.2	5.6	5.1	4.98	5.32
5.2	Total Chromium as Cr ⁺³	µg/g	196	164	118	133	172	180
5.3	Manganese as Mn	µg/g	1464	1540	1084	1238	1364	1138
5.4	Iron as Fe	%	5.1	4.8	5.2	4.9	4.82	5.14
5.5	Nickel as Ni	µg/g	28	34	46	36	24	22
5.6	Copper as Cu	µg/g	56	32	51	29	36	34
5.7	Zinc as Zn	µg/g	318	228	196	210	250	176
5.8	Lead as Pb	µg/g	1.8	3.6	2	2.6	1.2	2.2
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	—	Amphipods Polychaetes	Polychaetes Decapods	Branchyurans Polychaetes	Decapods Bivalves	Polychaete worms Gastropods	Gastropods Polychaete worms
6.2	MeioBenthos (No and name of groups present, No and name of species of each group present)	—	Copepods Bryozoans	Nematode Bryozoans	—	Nematode Bivalves	Nematode	Nematode Copepods
6.3	Population	No./m ²	471	528	587	645	616	674

BDL* - Below Detection Limit

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Sediment.


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Table-1.26: Sea Sediment Quality Results of MP1 West End towards Channel of Sea Basin for the period: Oct, 2018 to March, 2019

S. NO.	PARAMETERS	UNIT	MP1 WEST END TOWARDS CHANNEL OF SEA BASIN (N 21° 5'9.78", E 72° 37'24.48")					
			OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MARCH-19
1	Organic Matter	%	0.45	0.62	0.48	0.69	0.58	0.7
2	Phosphorus as P	µg/g	840	870	670	718	764	638
3	Texture	--	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
5	Heavy Metals							
5.1	Aluminum as Al	%	5.1	5.18	5.42	5.2	4.9	5.16
5.2	Total Chromium as Cr ³⁺	µg/g	170	148	116	168	180	193
5.3	Manganese as Mn	µg/g	1580	1428	1132	1210	1346	1158
5.4	Iron as Fe	%	4.9	5.2	5.12	4.8	5.24	5.16
5.5	Nickel as Ni	µg/g	18	28	39	31	24	25
5.6	Copper as Cu	µg/g	64	33	40	54	46	37
5.7	Zinc as Zn	µg/g	356	320	209	288	318	190
5.8	Lead as Pb	µg/g	1.2	2.4	1.98	1.54	1.7	2.34
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	Decapods Polychaete s Mysids	Polychaete s Decapods Mysids	Polychaete s Decapods Brachyura ns	Polychaete s Bivalves	Gastropods Polychaete s	Decapods Gastropods Polychaete s
6.2	Melobenthos (No and name of groups present, No and name of species of each group present)	--	Foraminifer ans Nematodes	Foraminifer ans Bryozoans	--	Nematodes	Foraminifer ans	Copepods
6.3	Population	No./m ²	559	618	588	676	706	735

BDL* - Below Detection Limit

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Sediment.



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Table-L.27: Sea Sediment Quality Results of CB1 End towards Channel for the period: Oct, 2018 to March, 2019

S. NO.	PARAMETERS	UNIT	CB1 WEST END TOWARDS CHANNEL OF SEA BASIN (N 21° 5'14.67", E 72°37'40.14")					
			OCT-18	NOV-18	DEC-18	JAN-19	FEB-19	MARCH-19
1	Organic Matter	%	0.8	0.74	0.52	0.68	0.76	0.56
2	Phosphorus as P	µg/g	720	748	698	630	652	613
3	Texture	--	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt	Sandy Silt
4	Petroleum Hydrocarbon	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
5	Heavy Metals							
5.1	Aluminum as Al	%	4.8	4.78	4.1	4.9	5.12	4.98
5.2	Total Chromium as Cr ^{VI}	µg/g	218	148	156	170	203	164
5.3	Manganese as Mn	µg/g	1792	1614	1132	1298	1383	1170
5.4	Iron as Fe	%	4.65	4.72	5.1	4.8	4.52	5.12
5.5	Nickel as Ni	µg/g	40	38	48	31	28	21
5.6	Copper as Cu	µg/g	49	32	36	26	42	35
5.7	Zinc as Zn	µg/g	239	210	244	220	236	190
5.8	Lead as Pb	µg/g	2.4	2.6	1.96	2.1	1.8	2.16
5.9	Mercury as Hg	µg/g	BDL*	BDL*	BDL*	BDL*	BDL*	BDL*
6	Benthic Organisms							
6.1	Macrobenthos (No and name of groups present, No and name of species of each group present)	--	Bivalves Decapods Mysids	Polychaetes Echinoderms	Gastropods Amphipods Branchyurans	Bivalves Gastropods	Polychaetes Bivalves	Gastropods Amphipods
6.2	Meiobenthos (No and name of groups present, No and name of species of each group present)	--	Nematodes Foraminiferans	Nematodes Copepods	Nematodes	Nematodes Copepods	Foraminiferans	Foraminiferans Nematodes
6.3	Population	No./m ²	588	647	618	674	733	762

BDL* - Below Detection Limit

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Sea Sediment.


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Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

Annexure 4 (I)
Results of Soil Quality Monitoring October 2018 to March 2019


POLLUCON LABORATORIES PVT. LTD.
41. SOIL QUALITY MONITORING: -
Table-1.28A : Soil Quality Testing Results for the period: Oct, 2018 to March, 2019

SR. NO.	PARAMETERS	UNIT	NEAR PORT GATE NO. 2	
			31/12/2018	29/03/2019
1	Type	—	Clay	Clay
Grain Size Analysis				
2	Gravel	%	0.7	1.2
3	Coarse Sand	%	7.3	8.8
4	Medium Sand	%	15	12
5	Fine Sand	%	29	31
6	Total Sand	%	52	53
7	Silt + Clay	%	48	47
8	pH (1:5)	—	9.01	8.91
9	Electricity Conductivity	µmho/cm	1760	1890
10	Alkali matter	mg/kg	720	650
11	Cation Exchange Capacity	meq/100 gm	44	38
12	Sodium Absorption Ratio	—	12	14
13	Organic Matter	mg/kg	0.3	0.48
14	Available Nitrogen	meq/100 gm	0.15	0.2
15	Available Potassium	mg/kg	3.2	2.8
16	Available Phosphorus	mg/kg	0.4	0.58
17	Available Sodium	mg/kg	1.1	1.3
18	Permeability	cm/sec	3.6×10^{-5}	3.5×10^{-5}

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Soil Quality.


Authorized Signatory

● PSSAI Approved Lab ● Recognized by MoEF, New Delhi Under Sec. 12 of Environmental (Protection) Act-1986 ● GPCB approved - schedule II auditor ● ISO 14001 : 2004 ● OHSAS 18001 : 2007 ● ISO 9001 : 2008

"Pollucon House", Plot No.5/6, Opp.Balaji Industrial Society, Old Shantinath Silk Mill Lane, Near Gaytri Farsan Mart, Navjivan Circle,Udhana Magdalla Road, Surat-395007, Gujarat, India.

Phone : 0261-2635750, 0261-2635751, 0261-2635775, 07916605174, WEB: www.polluconlab.com, E. mail: pollucon@gmail.com, info@polluconlab.com


Table-1.28B: Soil Quality Testing Results for the period: Oct, 2018 to March, 2019

SR. NO.	PARAMETERS	UNIT	NEAR LT CANTEEN PARKING	
			31/12/2018	29/03/2019
1	Type	--	Clay	Clay
Grain Size Analysis				
2	Gravel	%	1.0	2.0
3	Coarse Sand	%	8.0	7.0
4	Medium Sand	%	16	14
5	Fine Sand	%	32	36
6	Total Sand	%	57	59
7	Silt + Clay	%	43	41
8	pH (1:5)	--	8.95	8.75
9	Electricity Conductivity	µmho/cm	2040	1990
10	Alkali matter	mg/kg	640	610
11	Cation Exchange Capacity	meq/100 gm	39	32
12	Sodium Absorption Ratio	--	14	13
13	Organic Matter	mg/kg	0.44	0.52
14	Available Nitrogen	meq/100 gm	0.18	0.25
15	Available Potassium	mg/kg	3.5	3
16	Available Phosphorus	mg/kg	0.4	0.52
17	Available Sodium	mg/kg	1.8	1.6
18	Permeability	cm/sec	3.5×10^{-4}	3.4×10^{-4}

Observation: From the above results it is concluded that there is No Significant Changes in the Quality of Soil Quality.


Authorized Signatory

● PSSAI Approved Lab ● Recognised by MoEF, New Delhi Under Sec. 13 of Environmental (Protection) Act-1986 ● GPCB approved schedule II auditor ● ISO 14001 : 2004 ● OHSAS 18001 : 2007 ● ISO 9001 : 2008

"Pollucon House", Plot No.5/8, Opp.Balaji Industrial Society, Old Shantinath Silk Mill Lane, Near Gayatri Farsan Mart, Navjivan Circle,Udhana Magdalla Road, Surat-395007, Gujarat, India.

Phone : 0261-2635750, 0261-2635751, 0261-2635775, 07918605174, WEB: www.polluconlab.com, E. mail: pollucon@gmail.com, info@polluconlab.com



Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

ANNEXURE-5:

DETAILS OF ENVIRONMENTAL MANAGEMENT CELL

PRANAV CHOUDHARY
CEO - AHPPL



RUPESH JAMBUDI
Head - HSEF
(DIS & Diploma In Civil)



VIRALKUMAR PATEL
HOS - Health, Safety & Fire
Senior Manager - HSE
(BE - Mech.)

Nandan Kumar
Dy. Manager - HSE
(M.Sc Environmental Science)



JAYDIPSINH GOHIL
Incharge - Safety (LT, DC) & Health
Deputy Manager
(DIS, B.Sc.)

CHETAN PATEL
Incharge - Safety (ES, CT, CFS)
Deputy Manager
(PGDIS & B.Sc.)

DUSHYANT JAVIYA
Incharge - Fire
Deputy Manager
(Dip. In Fire & Safety, BA)

Nikunj Patel
STP & ETP - Chemist / Supervisor

STP & ETP - Operators & Helpers
(08Nos.)

Appil Ora
Shift Officer-Saf. & Fire
Assistant Manager
(B. Tech. & M. Tech.)

ATUL KHAMKAR
Shift Officer-Saf. & Fire
Sr. Officer
(PDIS, M.Sc.)

M. JAVID A.PATHAN
Shift Officer-Saf. & Fire
Sr. Officer
(PGDIS, B.Sc.)

YOGENDRA SOLANKI
Officer - Fire (LT)
Sr. Officer
(SFO, BA)

ANSHUMAN SHARMA
Sr. Officer
(B.E. - Fire & Safety)

Shift Fire
Officers
04Nos.

Fire Crew
76Nos.



HSE - Marshals
14 Nos.

Annexure 6

Details of Environment Budget & Expenditure for FY 2018-19

Annexure 6

Details of Environment Budget & Expenditure for FY 2018-19

Sr No	Activities	Budget (In Lacs)	Expenditure (In Lacs)
1	Salary of Environmental Professionals	15.00	6.50
2	Environmental Study/Audit/Survey/Consultancy Services	21.81	23.8
3	Legal and Statutory Charges	3.0	0.01
4	Environmental Monitoring Services	15.37	14.13
5	Mangrove Afforestation/Plantation and Bio-shielding Pilot Project	12.78	4.83
6	Hazardous Waste Management	12.76	6.76
7	Horticulture Development –Greenery and Plantation	139.65	133.42
8	O&M of Sewage Treatment Plant and Effluent Treatment Plant	41.73	11.54
9	Environment Day Celebration	2.00	2.00
10	Treatment & Disposal of Bio medical Waste	1.07	0.72
11	Miscellaneous Environmental Initiatives	5.50	--
	Others	-	---
A	Water Pipe line for supply of treated Water from KRIBHCO	-	1120
C	Water Sprinkling for dust Suppression in dry cargo area	-	21
Total		270.69	1344.71

ANNEXURE-7:**Copy of renewed Public Liability Insurance**

ANNEXURE-7:
Copy of renewed Public Liability Insurance

HDFC ERGO General Insurance Company Limited


Public Liability Insurance (Under PLI Act 1991)
SCHEDULE

Policy No: 3133201064763104000

Item 1. Insured	:	Adani Hazira Port Private Limited
Pan Number	:	AAICA0970E
Item 2. Producer	:	Ace Insurance Brokers Private Limited
Item 3. Mailing address of the Insured	:	At & PO Hazira, Choryasi, Surat, Gujarat - 394270.
Item 4. Business	:	Port Operations, Cargo Handling and Stevedoring .
Item 5. Policy Period	:	From 00:01 hours: 01 April 2019 To (Midnight) : 31 March 2020
Item 6. Premium	:	Rs. 25,883.00
Item 7. Premium & Coverage Statement	:	Refer to Page 2
7.1 Premium Computation		
7.2 Insurance Limits & Excess		
Item 8. Clauses, Conditions & Warranties	:	

Form Number	Form Name	Effective Date	Date Issued
PL-02-0032	Policy Schedule	01 April 2019	01 April 2019
PL-02-0031	Insurance Contract	01 April 2019	01 April 2019

Subject otherwise to terms and conditions of Public Liability Insurance Policy.

Signed for and on behalf of HDFC ERGO General Insurance Company Limited, on 01 April 2019


Authorised Signatory

Goods & Service Tax Registration No: 24AABCL5045N1ZE

The contract will be cancelled ab initio in case; the consideration under the policy is not realized.

The stamp duty of Rs 0.50/- (Fifty Paise only) paid by Demand Draft, vide Receipt/Challan No. CSD/381/2019/1258/19 Date - 19/Mar/2019 as prescribed in Government Notification Revenue and Forest Department No Mudrank 2017/CR.97/M-1, dated the 09th January 2018

Note: Where the proposal form is not received, information obtained from insured, whether orally or otherwise, is captured in the policy document. Discrepancies, if any, in the information contained in the policy document may be pointed out by an insured within 15 days from the policy issue date after which information contained in the policy document shall be deemed to have been accepted as correct.

ANNEXURE-8:


Copy of renewed PESO Licence

ANNEXURE-8:
Copy of renewed PESO Licence

प्रत्येक XV
(प्रथम अनुसूची का अनुच्छेद 6 देखिए)
FORM XV
(see Article 6 of the First Schedule)

अधिष्ठापनों में पेट्रोलियम के आयात और भंडारण के लिए अनुमति
LICENCE TO IMPORT AND STORE PETROLEUM IN AN INSTALLATION

अनुमति सं. (Licence No.): P/HQ/GJ/15/5294(P270337)



M/s. Adani Hazira Ports Pvt Ltd , At & Post Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270 को केंवल इसमें यथा विनिर्दिष्ट वर्ग और मात्राओं में पेट्रोलियम 235900.00 KL आयात करने के लिए और उसका, वीचे वर्णित और अनुमोदित नक्शा संख्या P/HQ/GJ/15/5294 (P270337) तारीख 29/01/2016 जो कि इससे उपाबद्ध है, में दिखाए गए स्थान पर भण्डारण के लिए पेट्रोलियम अधिनियम, 1934 के उपबंधों या उसके अधीन बनाए गए नियमों तथा इस अनुमति की अतिरिक्त शर्तों के अधीन रहते हुए, यह अनुमति अनुदत्त की जाती है।

Licence is hereby granted to M/s. Adani Hazira Ports Pvt Ltd , At & Post Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270 valid only for the importation and storage of 235900.00 KL Petroleum of the class and quantities as herein specified and storage thereof in the place described below and shown on the approved plan No P/HQ/GJ/15/5294(P270337) dated 29/01/2016 attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुमति 31st day of December 2019 तक प्रवृत्त रहेगी।
The Licence shall remain in force till the 31st day of December 2019

पेट्रोलियम का विवरण /Description of Petroleum	अनुमति मात्रा (किलोलीटरों में) /Quantity licenced in KL
वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A in bulk	-235900.00 KL 379900.0000
वर्ग क प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class C, otherwise than in bulk	NIL
कुल क्षमता /Total Capacity	235900.00 KL 379900.00 KL

October 31, 2013

- 1). Amendment dated - 14/11/2013
- 2). Amendment dated - 24/01/2014
- 3). Amendment dated - 03/07/2014
- 4). Amendment dated - 16/09/2014
- 5). Amendment dated - 02/11/2015
- 6). Amendment dated - 11/12/2015

अनुमति परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुमति परिसर जिसकी विन्यास सीमाएं अन्य विशिष्टताएं संलग्न अनुमोदित नक्शों में दिखाई गई हैं Plot No: -, Hazira Port, Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270 स्थान पर अवस्थित है तथा उसमें निम्नलिखित 108 Above Ground tank(s) for CLASS A, सम्मिलित हैं।

The licensed premises, the layout, boundaries and other particulars of which are shown in the attached approved plan are situated at Plot No: -, Hazira Port, Hazira, Taluka: Choriyasi, District: SURAT, State: Gujarat, PIN: 394270 and consists of 108 Above Ground tank(s) for CLASS A, together with connected facilities.

Chief Controller of Explosives, Vadodra

उप मुख्य विस्फोटक नियंत्रक, वडोदरा
UT. CHIEF CONTROLLER OF EXPLOSIVES, VADODRA



Adani Hazira Port Private Limited


**From : Oct, 2018
To : Mar, 2019**

ANNEXURE-9:

Copy of renewed Factory Licence

ANNEXURE-9:

Copy of renewed Factory Licence



Directorate Industrial Safety & Health
Gujarat State

Registration No. **3502/51410/2013**
FIN. **S19018757A**

FORM NO. 4
(Prescribed under Rule 5)
License to work a factory

License No. **18757**
D.A. **23-Dec-2013**


License is hereby granted to
Mr. Capt. Sandeep Mehta + 4 Directors
For the premises known as
ADANI HAZIRA PORT PVT. LTD - (LIQUID TERMINAL)
situated at
AT&PO. HAZIRA
Ta.: Chorasi Dist.: Surat
for use as a factory within the limits specified in the plan approved by the
Director Industrial Safety & Health, Gujarat State
vide No. 1955 Date 18-Dec-2013 subject to provisions of the
Factories Act, 1948 and the Rules made thereunder.

The license is issued for:

- Maximum Number of workers to be employed on any day during the Year : ****500****
- Maximum installed power in B.H.P. on any day during the year : ****Above 5000****

The license is valid up to 31st December 2023,

Fees paid Rs. **198,450.00**
Fees due Rs. **198,000.00**
Excess Rs. **450.00**
Place : **Surat**
Date : **03-Nov-2018**



Signature valid
Digitally signed by TARIK A MANSURH
DHAMSHIBHAI
Date: 2018.11.03 11:05:30
Reason: Approval
Location: Surat

Deputy Director
Industrial Safety and Health
Surat

137937



Adani Hazira Port Private Limited

**From : Oct, 2018
To : Mar, 2019**

Annexure 10

Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved Third Party During period October 2018 To March , 2019

Annexure 10

Details of Liquid/Wastes Collection & Disposed off from Vessels by GPCB Approved Third Party During period October 2018 To March , 2019

Detail of Wastes Collection & Disposed Off From Vessels				
SR No.	Date	Vessel Name	Party Name	Quantity (CBM)
1	09.10.2018	MV ANEMOS	Chitrakut Trading & Industries	2.5 CBM
2	17.10.2018	MT GINGA TIGER	Chitrakut Trading & Industries	3.0 CBM
3	18.10.2018	TAG COASTAL RAMBLER	Chitrakut Trading & Industries	5.5 CBM
4	02.11.2018	SASE BO ECO	Chitrakut Trading & Industries	3.0 CBM
5	04.11.2018	BOW CLIPPER	Chitrakut Trading & Industries	3.0 CBM
6	08.11.2018	DRAGER ROTTERDAM	Chitrakut Trading & Industries	3.0 CBM
7	10.11.2018	PANBA	Chitrakut Trading & Industries	3.0 CBM
8	16.11.2018	TUG COASTAL VOYAGER	Chitrakut Trading & Industries	11.0 CBM
9	19.11.2018	SANTA CRYZ	Chitrakut Trading & Industries	7.0 CBM
10	21.11.2018	ROTTERDAM VIA COASTAL VOYAGER	Chitrakut Trading & Industries	8.0 CBM
11	27.11.2018	ROTTERDAM VIA COASTAL VOYAGER	Chitrakut Trading & Industries	19.0 CBM
12	06.12.2018	ROTTERDAM VIA COASTAL VOYAGER	Chitrakut Trading & Industries	22.0 CBM
13	13.12.2018	ROTTERDAM VIA COASTAL VOYAGER	Chitrakut Trading & Industries	18.0 CBM
14	18.12.2018	MEGHNA TUG	Chitrakut Trading & Industries	5.0 CBM
15	24.12.2018	ROTTERDAM VIA COASTAL RAMBLER	Chitrakut Trading & Industries	7.0 CBM
16	01.01.2019	AQUA PRINCESS	Chitrakut Trading & Industries	3.0 CBM
17	15.01.2019	YM SATURN	Chitrakut Trading & Industries	3.0 CBM
18	20.01.2019	MARIA	Chitrakut Trading & Industries	4.0 CBM
19	11.02.2019	MDM BALURAM	Chitrakut Trading & Industries	4.3 CBM
20	23.02.2019	NPS SENTURY	Chitrakut Trading & Industries	5.0 CBM
21	25.02.2019	MEGHNA	Chitrakut Trading & Industries	6.0 CBM

	Adani Hazira Port Private Limited	From : Oct, 2018 To : Mar, 2019
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22	28.02.2019	BOW FLOWER	Chitrakut Trading & Industries	6.0 CBM
23	13.03.2019	MTM SANGHAI	Chitrakut Trading & Industries	5.0 CBM
24	16.03.2019	IOLCOS COMMANDER	Chitrakut Trading & Industries	3.0 CBM